Environmental Authority Permit - EPML00712313

Amendment application - A-EA-AMD-100729271

General Information

EA Reference:	EPML00712313
EA Effective Date:	30-Jul-2024
Application Action:	Amend
Application Stage:	Application
Application Status:	Submitted
Submitted Date:	30-Sep-2024
Application Fee:	$367.40

Applicants

STANMORE SMC PTY LTD

Application Contact

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Amendment Details

Minor (Threshold)

Amendment Options

Conditions

Describe the Proposed Amendment

Uploaded as part of combined supporting document:

Identify the sections or pages where the relevant information is located:	Please refer to the attached supporting document, specifically: Section 2.1.2.3 (Assessment Level Decision) Section 3 (Project Description)

Describe the land that will be affected by the proposed amendment

Uploaded as part of combined supporting document:

Identify the sections or pages where the relevant information is located:	Please refer to the attached supporting document, specifically: Section 3 (Project Description)

Development Permits

Are there any development permits in effect or have any development applications been made under the Planning Act 2016 to carry out the proposed amendment?	No

Amend Conditions

Uploaded as part of combined supporting document:

Identify the sections or pages where the relevant information is located:	Please refer to the attached supporting document, specifically: Section 15 (Proposed Amendment of EA Conditions)

Activities and Locations Details. 049576498576

Activities	Location	Comply with Eligibility Criteria	Comply with Std. Conditions	New or Existing
Ancillary 60 - Waste disposal - 1(a) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - less than 50,000t	ML4750	No	No	Unmodified
Ancillary 63 - Sewage Treatment - 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated	ML4750	No	No	Unmodified

effluent is discharged from the works to an infiltration trench or through an irrigation scheme				
Schedule 3 - 13 - Mining black coal	ML4750	No	No	Unmodified
Schedule 3 - 09 - A mining activity involving drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance	ML4750	No	No	Unmodified
Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	ML4750	No	No	Unmodified
Ancillary 08 - Chemical Storage - 3 - Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML4750	No	No	Unmodified
Ancillary 62 - Resource recovery and transfer facility operation - 1(c) - Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste	ML4750	No	No	Unmodified
Ancillary 63 - Sewage Treatment - 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML70131	No	No	Unmodified
Schedule 3 - 09 - A mining activity involving drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance	ML70131	No	No	Unmodified
Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	ML70131	No	No	Unmodified
Ancillary 08 - Chemical Storage - 3 - Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70131	No	No	Unmodified
Schedule 3 - 13 - Mining black coal	ML70131	No	No	Unmodified
Ancillary 60 - Waste disposal - 1(a) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - less than 50,000t	ML70131	No	No	Unmodified
Ancillary 62 - Resource recovery and transfer facility operation - 1(c) -	ML70131	No	No	Unmodified

Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste				

ABN 46 640 294 485

Application Questions

Environmental Offsets
Will the ERA(s) being applied for cause, or be likely to cause, a significant residual impact to a prescribed environmental matter (other than a matter of local environmental significance)?

Yes	

Uploaded as part of combined supporting document:

Identify the sections or pages where the relevant information is located:	Refer to Section 11 (Terrestrial Ecology) of the supporting document.

Regional Interest Areas
The resource activity is:

Not located in an area of regional interest	

Waste Management
Detail the proposed measures for minimising and managing waste generated by any amendment(s) to the relevant activity:

Waste is to be managed in accordance with an existing Waste Management Plan.	

Existing plan references	South Walker Creek Waste Management Plan (as per Condition D1 of EPML00712313)

Environmental Management Register (EMR)
Select the relevant option in relation to any part of the land:

The land is not currently and has never been recorded in the EMR	

ANZSIC Code
Provide the ANZSIC Code(s) for the resource activity:

1101 Black coal mining	

Environmental Protection Orders (EPO) or Site Management Plans (SMP)
Is the land currently subject to an EPO or SMP?

No	

Environmental Values (EVs)
The environmental values are:

Uploaded as part of combined supporting document:

Identify the sections or pages where the relevant information is located:	Refer to the following sections of the supporting document: Water - Section 10 Groundwater - Section 9 Wetlands - Section 9 and Section 12 Land - Section 4 Land use - Section 4 Air - Section 5 Acoustic - Section 6 Waste - Section 7

Matters of National Environmental Significance (MNES)
Carrying out of the proposed ERA (or ERA project):

Is not likely to have a significant impact on MNES.	

Coal Seam Gas (CSG) activities

Does the application relate to an environmental authority for a CSG activity that is an ineligible ERA?

No	

Underground Water Rights

Is the activity proposed to be undertaken on a Mineral Development Licence (MDL), Mining Lease (ML) or Petroleum Lease (PL)?

Yes	

Does the proposed amendment involve changes to the exercise of underground water rights?

No	

Financial Assurance (FA) / Estimated Rehabilitation Cost (ERC)

Is FA or Scheme Assurance currently held for the approved environmental authority?

Yes	

Identify the relevant option:

I will be applying for a new ERC decision if this amendment application is approved.	

Environmental Impact Statement (EIS)

Has an application been made for a decision on whether an EIS would be required for the proposed amendment activity?

No	

Has an EIS process that includes the proposed amendment been completed?

No	

EIS Triggers

Is the proposed ERA amendment for: (select all that apply)

The current ERA project is for an existing mine extracting between 2-10 million tonnes per year of run of mine (ROM) ore or coal	

Is the proposed ERA amendment for an increase in the annual extraction of more than 100% or 5 million tonnes per year (whichever is the lesser)?

No	

Single Integrated Operation

Will the activities be undertaken as a single integrated operation?

Yes	

Uploaded as part of combined supporting document:

Identify the sections or pages where the relevant information is located:	Refer to Section 3 (Project Description) of the supporting document.

Website Address

Provide the website address for the application notice and application documents

Website	

Technical assessment

Name:	
Telephone:	
Email:	

Documents Uploaded

Document Name	Document Type	Document Refence
Appendix A - Noise and Vibration Impact Assessment	Application Supporting Documentation	100732051
Appendix B - Groundwater Assessment	Application Supporting Documentation	100732052
Appendix C - Surface Water Assessment	Application Supporting Documentation	100732053
Appendix D - MSES Assessment	Application Supporting Documentation	100732054
Appendix E - Aquatic Ecology Values Assessment	Application Supporting Documentation	100732055
Appendix F - Stygofauna Values Assessment	Application Supporting Documentation	100732056
Appendix G - Greenhouse Gas Assessment	Application Supporting Documentation	100732057
EA Amendment Supporting Document	Application Supporting Documentation	100732058

Privacy Statement:

The Department of Environment and Science (the Department) is collecting the information on this form in accordance with and as authorised by Chapter 5 of the *Environmental Protection Act 1994 (EP Act)*. Some of the information may be disclosed to the Department of Natural Resources, Mines and Energy and Queensland Treasury for the purpose of processing this application.

Pursuant to section 540 of the *EP Act*, the Department is required to maintain a register of certain documents and information authorised under the *EP Act*. A copy of this document will be kept on the public register. The register is available for inspection by members of the public, who are able to take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the *EP Act*. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters, please email privacy@des.qld.gov.au or telephone: 13 74 68.

Declaration

I declare that:

- If the proposed amendment is made, the relevant activities will continue to comply with the ERA Standard (eligibility criteria and standard conditions) for all eligible ERAs or, where they cannot comply, the application indicates otherwise and the required supporting information has been provided.
- If the proposed amendment is a Minor Amendment (Condition Conversion), the relevant activities can comply with the ERA Standard (eligibility criteria and standard conditions) for each of the ERAs authorised by the environmental authority.
- The information provided is true and correct to the best of my knowledge. I understand that it is an offence under section 480 and 480A of the *Environmental Protection Act 1994* to give the administering authority or an authorised person a document containing information that I know is false, misleading or incomplete in a material particular.

I/The holders understand that I am /the holders are responsible for managing the environmental impacts of these activities, and that approval of this application is not an endorsement by the administering authority of the effectiveness of management practices proposed or implemented.

NAME OF SIGNATORY: [redacted]
POSITION OF SIGNATURY: Manager Environmental Approvals
DATE: 27-Sep-2024

ENVIRONMENTAL AUTHORITY AMENDMENT APPLICATION SUPPORTING INFORMATION – SEPTEMBER 2024

STANMORE SMC PTY LTD

SOUTH WALKER CREEK MINE

MULTI-YEAR EXPLORATION PROGRAM AND GAS DRAINAGE PROJECT

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1. INTRODUCTION

1.1 The Application for Amendment

This document has been prepared to support the Environmental Authority (EA) Amendment Application under Section 226 of the *Environmental Protection Act 1994* (EP Act).

This document is referred to as the "Supporting Information documentation to the Amendment Application for Environmental Authority No. EPML00712313" (the EA Amendment Application). The EA No. EPML00712313 (the EA), effective 31 July 2024, is held by Stanmore SMC Pty Ltd (Stanmore).

This EA Amendment application seeks to secure environmental authorisation for the South Walker Creek (SWC) Coal Mine to develop a Gas Drainage Project and a Multi-Year Exploration Program (the Project). For clarity and ease of reference, these are referred to as the Gas Drainage Project and the Multi-Year Exploration Program. Collectively, these are 'the Project'.

The Project will be located adjacent and surrounding the existing SWC mining operation. The Multi-Year Exploration Program will be located within granted mining lease (ML) 4750 and ML70131, and the Gas Drainage Project will be located within ML4750.

The existing EA provides authorisation for mining activities and exploration on these mining leases. The mining leases allow for exploration activities within the lease boundaries, and ML4750 allows for access to gaseous hydrocarbons within that lease.

1.2 Structure of this Document

The structure of this document is outlined as follows:

- Section 1 – Introduction, which includes details about the Proponent and a brief Project overview and objectives.
- Section 2 – Regulatory Considerations, which provides confirmation that this EA Amendment application has been prepared to address regulatory requirements.
- Section 3 – Project Description, which includes an overview of the project location and a description of the proposed Project activities, providing context for the EA Amendment Application and associated technical assessment.
- Environmental Assessments, which provide a summary of the environmental values, technical assessments, and mitigation measures supporting this EA Amendment Application, include the following:
    - Section 4 – Soil and Land Resources.
    - Section 5 – Air Quality.
    - Section 6 – Noise and Vibration.
    - Section 7 – Non-Mining Waste.
    - Section 8 – Geochemistry.
    - Section 9 – Groundwater.
    - Section 10 – Surface Water.
    - Section 11 – Terrestrial Ecology and Groundwater Dependent Ecosystems.

  - Section 12 – Aquatic Ecology and Stygofauna.
  - Section 13 – Rehabilitation and Closure.
  - Section 14 – Greenhouse Gas Assessment.
- Section 15 – Proposed Amendment of EA Conditions, which sets out Stanmore's proposed amendment of the existing EA conditions.
- Appendices, which contain the Technical Reports for each relevant environmental assessment supporting the EA Amendment Application.

1.3 The Proponent

Stanmore Resources is an Australian based and ASX listed company with operations and exploration projects in the Bowen and Surat basins of Queensland.

Stanmore Resources is one of Australia's largest suppliers of metallurgical coals to global markets with three major coal-producing assets, including the Isaac Plains Complex, Poitrel and SWC Coal Mines.

Stanmore Resources, via Stanmore SMC Pty Ltd (previously named BHP Mitsui Coal Pty Ltd), is the owner and operator of the SWC mine, having acquired 100% of Stanmore SMC Pty Ltd from BHP and Mitsui in 2022. The SWC mine is an open-cut coal mining operation.

Stanmore SMC Pty Ltd holds the EA for the SWC mining operations.

1.4 Project Overview and Objectives

1.4.1 Project Overview

The SWC mine has been operating since 1996 and adopts a multi-bench, open-cut mining method utilising a dragline, and truck and hydraulic excavators. The SWC mine extends approximately 19 km in length, with a north-west / south-east orientation. The resource generally dips to the south-west, hence mine progression is in a south-westerly direction. The SWC mine operations occur within two granted MLs, ML4750 and ML70131.

The Project comprises two main elements:

- The Multi-Year Exploration Program - Future exploration campaigns targeted for completion across Calendar Years (CY) CY25 to CY29[1] on ML4750 and ML70131 in areas beyond those authorised for surface disturbance by the existing EA.
- The Gas Drainage Project - Development of gas field on ML4750.

A development application for a proposed gas fired power station to be located on ML4750 has been submitted. The gas fired power station project will receive gas from this Project. The power station project is being assessed under a separate process for planning permission and environmental authorisation and does not form part of this assessment.

Exploration:

The exploration activities include:

- Coal exploration drilling, sampling and analysis and seismic exploration programs. Exploration drilling will be used for coal and gas content testing (sampling and analyses) as required.

[1] The exploration program may extend beyond CY2029 into subsequent years in the event of schedule delays or a delayed start.

- Core, Rotary Chip and utilising a truck mounted exploration drill rig with ancillary support vehicles and equipment (small truck and two to three light vehicles).
- Drill pads / sites of approximately 1,400 m^2 area per drill pad.
- Seismic exploration with approximately 3 m wide seismic exploration lines. Access tracks comprising 4.5 m wide new access tracks and existing tracks, where possible.
- Drilling, track and seismic exploration locations and volumes may change (flexibility in the assessment and approvals to accommodate changes is essential).

The indicative number of proposed drill holes for each calendar year is provided in **Table 1-1**. However, the number of drill holes will change as exploration activities are planned and carried out. These exploration activities are additional to exploration activities previously authorised for the SWC mine.

Table 1-1 Indicative Number of Exploration Drill Holes for each Calendar Year – subject to change

Calendar Year	Pink Lilly	2025	2026	2027	2028	2029	Total
Number of drill holes	21	112	90	94	81	94	492

Gas Drainage:

The gas drainage field will be developed on ML4750, as shown in **Figure 1-1**. The gas drainage system may comprise single or dual lateral collection lines or a combination of both. Water occurring from this drainage system is to be integrated into the SWC Mine Affected Water System.

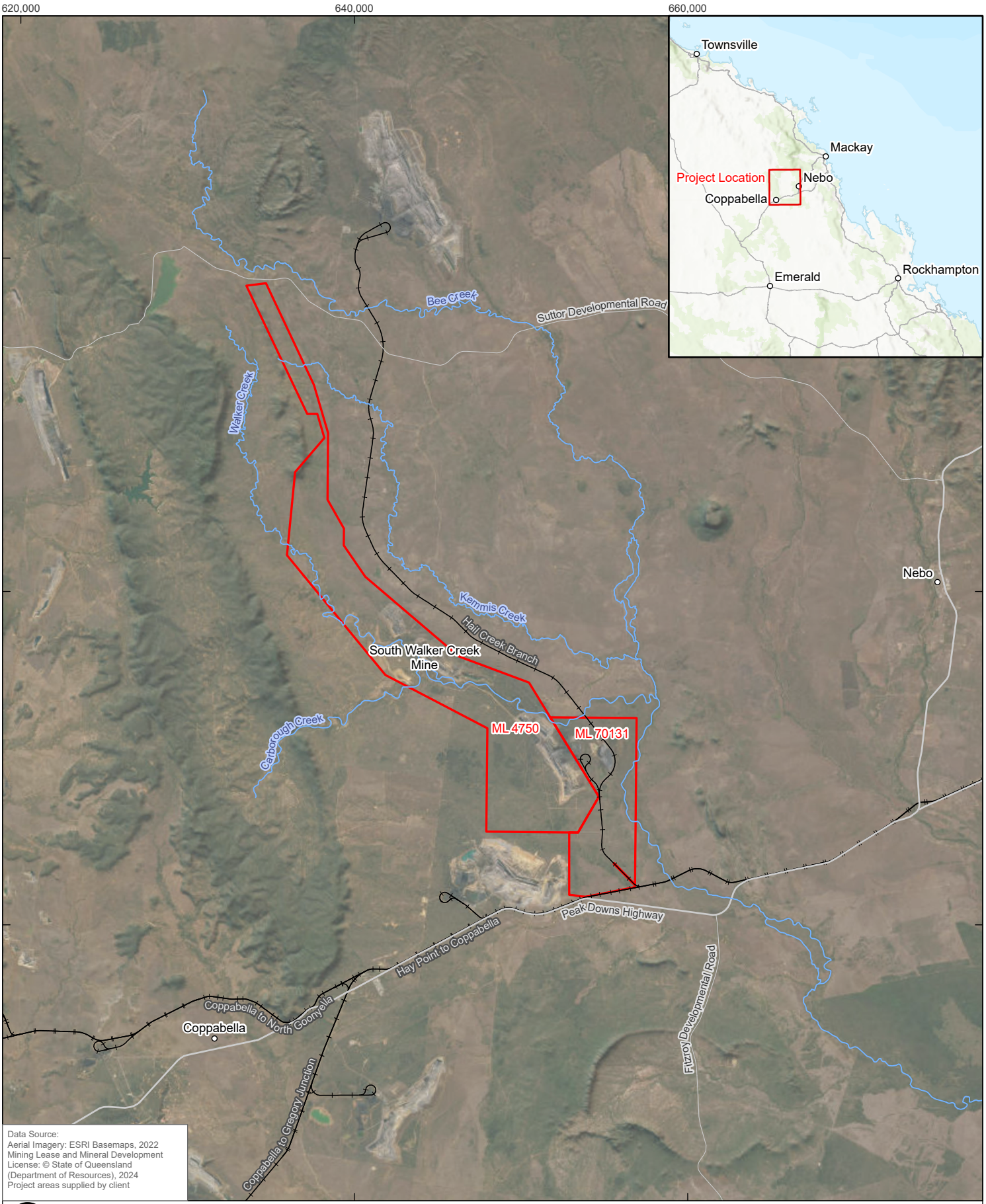
The gas drainage field is estimated to initially have a 15 year project life, although an extension of this operation may be considered based on factors including proximal pit development plans, gas collection from the drainage field, and other engineering and operational requirements (e.g. gas demand / gas use).

The proposed power station will require approximately 4 TJ/d of gas supply. The Project has scheduled an initial 14 dual lateral wells to be drilled over the first 15 year period of the gas supply. Additional wells or timing of the wells may be accelerated as necessary to sustain the targeted 4TJ/d gas supply.

1.4.2 Project Objectives

The objectives of the Project include:

- Completion of exploration activities to further inform coal resources definition, mine planning and mine optimisation in advance of mining activities, via the Multi-Year Exploration Program.
- Drainage and collection of gas (from future mining areas) to enable provision of gas to a (separate) power station to generate power for the mine. This approach has the potential to reduce the release of fugitive emissions and subsequent greenhouse gas impacts arising from coal mining at the SWC mine.



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 5 10 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:300,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Town
- Railway
- Highway
- Secondary Road
- Watercourse
- South Walker Creek Mine

SOUTH WALKER CREEK EA AMENDMENT PROJECT

PROJECT LOCATION

stanmore

FIGURE 1-1

2. REGULATORY CONSIDERATIONS

2.1 Primary State Regulatory Considerations

There are two primary pieces of Queensland State legislation which are relevant to the EA Amendment for the Project. These are:

- *Mineral Resources Act 1989* (Qld) (MR Act).
- *Environment Protection Act 1994* (Qld) (EP Act).

2.1.1 Mineral Resources Act 1989

The MR Act is administered by the Department of Resources (DoR) and provides for "the assessment, development and utilisation of mineral resources to the maximum extent practicable consistent with sound economic and land use management". The principal objectives of the MR Act are to:

- Encourage and facilitate prospecting and exploring for and mining of minerals.
- Enhance knowledge of the mineral resources of the State.
- Minimise land use conflict with respect to prospecting, exploring and mining.
- Encourage environmental responsibility in prospecting, exploring and mining.
- Ensure an appropriate financial return to the State from mining.
- Provide an administrative framework to expedite and regulate prospecting and exploring for and mining of minerals.
- Encourage responsible land care management in prospecting, exploring and mining.

The MR Act provides for the granting, conditioning and management of mining tenements, being prospecting permits, exploration permits, mineral development licences, mining leases and mining claims.

The Project footprint is wholly located within two approved ML's, namely ML4750 and ML70131, which authorise rights to access coal in the Project area, although not all of ML4750 currently has surface rights. In addition to the coal mining rights, ML4750 was varied on 15 August 1996 to include the hydrocarbon rights. The gas drainage component of the Project is located within ML4750. A separate ML Surface Area application has been submitted to the DoR to gain access to a section of ML4750 that currently has nil surface rights. This process will run in parallel with the EA Amendment, and both will be required to commence works associated with the gas drainage field and exploration holes in the area with nil surface rights.

2.1.2 Environmental Protection Act 1994

2.1.2.1 Overview of the Environmental Protection Act 1994

The EP Act was established "to protect Queensland's environment, while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends".

Resource activities carried out on mining tenure are approved via the grant of an EA under Chapter 5 of the EP Act. When deciding whether to grant or refuse an application for an EA or an amendment to an EA or deciding on the conditions of the EA, the Department of Environment, Science and Innovation (DESI), the administering authority, must consider certain matters set out in the EP Act.

The EP Act utilises several mechanisms to achieve its objectives. These include:

- Major and minor EA Amendment application processes, including where applicable, an Environmental Impact Statement (EIS) process for resource projects.
- Licensing or approving all Environmentally Relevant Activities (ERAs).
- Allowing for improvement through Transitional Environmental Programs.
- Provision of Environmental Protection Policies (EPPs).
- Regulating contaminated land.
- Creating a general environmental duty.

2.1.2.2 Environmental Authority Application Process

In particular, the EP Act allows the holder of an EA to apply to DESI for amendment to an EA under Section 224 at any time. The EA Amendment application process is described below:

- EA Amendment application.
- Assessment Level Decision.
- Information stage (if requested by DESI).
- Notification stage (if required).
- Decision Stage (including Notice of Decision).
- Draft EA issued.
- Objections and Referral to the Land Court (if objections received).
- Land Court Process (if required).
- EA Approved with Conditions.

An EA Amendment is required where there is a proposed change to the nature and extent of authorised activities on an associated ML(s) and/or the conditions of the EA need to be amended.

Operations at the SWC Mine are carried out under the conditions of the EA. The current EA for the SWC Mine is dated 31 July 2024. The EA includes authorisations for impacts to environmental values and management measures for these impacts.

An amendment is required to:

- Add the additional surface area to ML4750 and authorise disturbance within this new area for the gas field and associated infrastructure.
- Approve surface disturbance within the exploration areas.

2.1.2.3 Assessment Level Decision

Within 10 business days after receiving an EA Amendment application, DESI must make an Assessment Level Decision. The Assessment Level Decision process will determine whether the EA Amendment application is a minor or major amendment (with or without an EIS).

A major amendment for an EA under Section 223 of the EP Act "means an amendment that is not a minor amendment". An assessment of the proposed EA Amendment for the Project against the minor amendment (threshold) criteria (as outlined in Section 223 of the EP Act) is presented in **Table 2-1**. This assessment demonstrates that the proposed EA Amendment should be considered a minor amendment for the purposes of the EP Act.

Table 2-1 Minor EA Amendment Threshold Criteria

Minor EA Amendment Threshold Criteria	This EA Amendment application
The proposed amendment:	
a) is not a change to a condition identified in the authority as a standard condition, other than – (i) a change that is a condition conversion. (ii) a change that is not a condition conversion but that replaces a standard condition of the authority with a standard condition for the environmentally relevant activity to which the authority relates. (iii) a change that will not result in a change to the impact of the relevant activity on an environmental value.	The proposed amendment is not a change to a standard condition.
b) does not significantly increase the level of environmental harm caused by the relevant activity.	The proposed amendment does not significantly (or materially) increase the level of environmental harm caused by the SWC mine. The nature of the Project being broadly dispersed, small scale drill pads, tracks, gas wells, pipelines and seismic lines further limits the potential for significant environmental harm.
c) does not change any rehabilitation objectives stated in the authority in a way likely result in significantly different impacts on environmental values than the impacts previously permitted under the authority.	The proposed EA Amendment does not propose any changes to rehabilitation objectives.
d) does not significantly increase the scale or intensity of the relevant activity.	No change to the extraction rate, processing rate, or fleet are proposed as part of the implementation of the Project. The proposed increase in disturbance area is approximately 140.1 ha over the Project term. The existing approved surface disturbance area for the SWC mine is approximately 6,800 ha, making the increase in overall disturbance area approximately 2.0%, which is not a material increase. The intensity of the Project activities is considered to be minor or negligible in relation to the existing SWC activities and are consistent with the activities already undertaken on the site. While the exploration component of the project spreads across the MLs, activities more broadly on SWC are not proposed to increase in scale or intensity as a result of the proposed amendment.

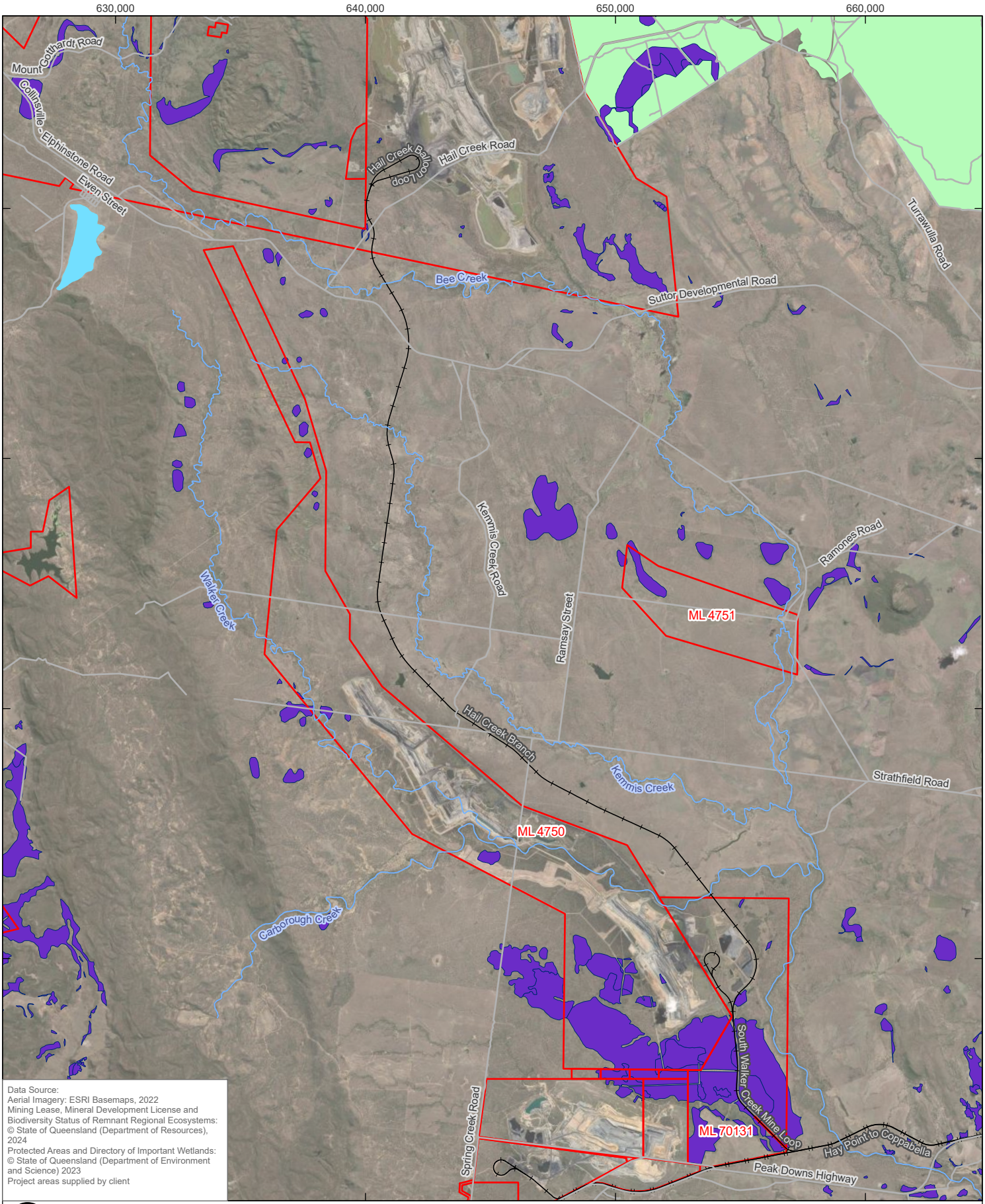
Minor EA Amendment Threshold Criteria	This EA Amendment application
e) does not relate to a new relevant resource tenure for the authority that is – (i) a new mining lease; or (ii) a new petroleum lease; or (iii) a new geothermal lease under the Geothermal Energy Act; or (iv) a new GHG injection and storage lease under the GHG Storage Act.	The proposed EA Amendment does not relate to a new resource tenure.
f) involves an addition to the surface area for the relevant activity of no more than 10% of the existing area.	The proposed amendment will result in a potential increase in area of disturbance of approximately 140.1 ha. This is additional to the existing disturbance area of 6,800 ha, meaning this Project represents a minor increased increase surface disturbance of 2.0% (i.e. <10%).
g) for an environmental authority for a petroleum activity – (i) if the amendment involves constructing a new pipeline – the new pipeline exceeds 150 km; and (ii) if the amendment involves extending an existing pipeline – the extension will exceed 10% of the existing length of the pipeline.	Not Applicable.
h) if the amendment relates to a new relevant resource tenure for the authority that is an exploration permit or GHG permit – the amendment application under section 224 seeks an amended environmental authority that is not subject to the standard condition for the relevant activity or authority, to the extent it relates to the permit.	Not Applicable.

The EA Amendment for the Project is likely to meet the definition of a minor amendment. However, the final determination of whether the amendment qualifies as minor or major rests with the administering authority.

2.1.2.4 Environmental Impact Statement Triggers

DESI must determine whether an EIS is required when considering an EA Amendment application for a resource activity. Section 143 of the EP Act describes the circumstances under which a resource activity may be assessed by an EIS process. The criteria that inform the decision-making process under Section 143 of the EP Act are outlined in the DESI Guideline: *Criteria for environmental impact statements for resource projects under the Environmental Protection Act 1994.*

A preliminary assessment of the Project against the EIS criteria was carried out. The preliminary assessment identified that the clearing of Category B ESA could potentially be considered as an EIS trigger. The Project footprint includes an area of land mapped by DESI as Category B ESA, which is not currently authorised to be cleared by the EA, shown below in **Figure 2-1**. Ground-truthed Regional Ecosystem mapping is provided in **Section 11** and **Appendix D**, together with an assessment of impacts to terrestrial ecology. Based on the results of the detailed assessment of terrestrial ecology, Stanmore does not consider that the Project should trigger the requirement for an EIS with regards to Category B ESAs.



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease, Mineral Development License and Biodiversity Status of Remnant Regional Ecosystems: © State of Queensland (Department of Resources), 2024
Protected Areas and Directory of Important Wetlands: © State of Queensland (Department of Environment and Science) 2023
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:200,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Town
- Railway
- Road
- Watercourse
- Mining Lease

State Government Mapped Environmentally Sensitive Area

Category A

- National Park

Category B

- Endangered Regional Ecosystems - regrowth and remnant (Biodveristy Status)

Others

- Directory of Important Wetlands

SOUTH WALKER CREEK EA AMENDMENT PROJECT

STATE GOVERNMENT MAPPED ENVIRONMENTALLY SENSITIVE AREAS IN THE PROJECT AREA

stanmore

FIGURE 2-1

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_F02-01_State Government Mapped Environmentally Sensitive Areas in the Project Area

2.2 Other State Regulatory Approvals

2.2.1 Mineral and Energy Resources (Financial Provisioning) Act 2018

The *Mineral and Energy Resources (Financial Provisioning) Act 2018* (Qld) (MERFP Act), passed by Parliament on 30 November 2018, amends the EP Act to require a Progressive Rehabilitation and Closure Plan (PRCP).

The PRCP requires the holder of an EA to plan for how, where and when activities will be carried out on land in a way that maximises the progressive rehabilitation of the land to a stable condition and provide for the condition to which the holder must rehabilitate the land before the EA may be surrendered.

The PRCP is required to be prepared in accordance with the PRCP guideline (*Guideline - Progressive rehabilitation and closure plans* (DES, 2023)).

The PRCP consists of two components:

- Rehabilitation planning part.
- PRCP schedule.

The rehabilitation milestone criteria sets out the requirements that must be met to achieve the agreed post-mining land uses (PMLU) and non-use management areas (NUMA). The PRCP schedule details the locations of PMLUs and NUMAs, rehabilitation and management milestones, milestone criteria and a rehabilitation schedule, which are legally binding.

Under Part 27 of the EP Act (transitional provisions for the MERFP Act), holders of EAs are required to submit a PRCP to DESI that complies with Section 126C and Section 126D of the EP Act, pertaining to the activities authorised by the EA.

A PRCP has been lodged with DESI by Stanmore for the SWC mine. The PRCP is not anticipated to be approved prior to making this application for an EA Amendment for the Project. As such, the EA Amendment will be a non-PRCP EA Amendment.

2.2.2 Water Act 2000

The *Water Act 2000* (Qld) (Water Act) provides for the management of waters and watercourses and the construction, control and management of works that affect watercourses. The purpose of the Water Act is to advance sustainable management and efficient use of water resources by establishing a system for planning, allocation and use of water.

No watercourse diversions or modifications to existing or approved watercourse diversions are proposed for the Project. SWC has diverted creeks to allow for the continuation of mining and/or diverting water away from active mining areas. The mine currently has diverted the Walker Creek system (Water Licenses WL100271 (Old Diversion), WL613491 (MRA2A)).

The Water Act, supported by the subordinate *Water Regulation 2016*, is the primary legislation regulating groundwater resources in Queensland. The statutory right of a tenure holder to take or interfere with underground water is granted as part of the ML approval under the MR Act, if the taking or interference with that water is necessarily and unavoidably obtained in the process of extracting the mineral resource. This water is termed ‘associated water’.

In developing the Project, SWC is proposing to exercise its underground water rights as part of planned mining activities. Chapter 3 of the Water Act then oversees the management of water related impacts resulting from such an exercise of underground water rights, through the development of an underground water impact report (UWIR). Based on ML4750 and ML70131 being granted before 6 December 2016 and holding associated water rights under the MR Act, a UWIR will not be required.

SWC is located in the Bee Creek catchment of the Isaac / Connors and Mackenzie water management area in the Fitzroy River Basin. The Fitzroy River drains into the Great Barrier Reef Marine Park some 650 km from the mine.

The potential for approval requirements under the Water Act is not considered likely.

2.2.3 Environmental Offsets Act 2014

The *Environmental Offsets Act 2014* (Qld) (Offsets Act) provides the framework for environmental offsets in Queensland. The Offsets Act is supported by the *Environmental Offsets Regulation 2014* (Offsets Regulation) and the Queensland *Environmental Offsets Policy 2017.* The *Significant Residual Impact Guideline* is also relevant to determining when an impact will be a significant residual impact for the purposes of the Offsets Act.

Under the Offsets Act, an administering agency, being the entity that may grant or has granted an authority under another Act for a prescribed activity, may impose an offset condition on that authority. The environmental offset framework only applies when a prescribed activity is likely to have a significant residual impact on a prescribed environmental matter. Prescribed environmental matters include MSES, defined in the Offsets Regulation as the following:

- Regulated vegetation – prescribed regional ecosystems (REs) that:
  - Are endangered REs.
  - Are of concern REs.
  - Intersect with an area shown as a wetland on a vegetation management wetland map.
  - Contain an area of essential habitat on an essential habitat map for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a plant that is critically endangered wildlife, endangered wildlife or vulnerable wildlife.
  - Are located within a defined distance from the defining banks of a relevant watercourse or drainage feature.
- Connectivity areas.
- Wetlands and watercourses that are:
  - A wetland in a wetland protection area.
  - A wetland of high ecological significance shown on the map of Queensland wetlands environmental values.
  - A wetland or watercourse in high ecological value waters.
- Designated precinct in a strategic environmental area.
- Protected wildlife habitat.
- Protected areas.
- Highly protected zones of State marine parks.
- Fish habitat areas.
- Waterway providing for fish passage.
- Marine plants.
- Legally secured offset areas.

A 'prescribed activity' is also defined under the Offsets Regulation and includes activities requiring approval under the EP Act such as resource activities.

Ecological offsets will be required for the Project to comply with the requirements of the Offsets Act. A "prescribed environmental matter" is any of the following matters prescribed under the Offsets Regulation:

- Matters of National Environmental Significance (MNES).
- Matters of State Environmental Significance (MSES).
- Matters of Local Environmental Significance (MLES).

Impacts to MSES identified within the Project footprint may require State offsets.

2.2.4 Planning Act 2016

The *Planning Act 2016* (Qld) (Planning Act) provides the framework for Queensland's planning and development assessment system. Under the Planning Act, development approvals are required for assessable development, unless an exemption applies.

The Planning Act does not generally apply to mining activities on a mining lease that are authorised under the EP Act.

This Project is linked to the proposed development of a gas fired power station to the east of the Project. The power station is a separate project to this Project, and will be the subject of a separate assessment approval process. Specifically, the development application for the power station has been made under the Planning Act.

2.2.5 Nature Conservation Act 1992

The object of the *Nature Conservation Act 1992* (Qld) (NC Act) is the conservation of nature, while allowing for the involvement of indigenous people in the management of protected areas in which they have an interest under Aboriginal tradition or Island custom.

The NC Act provides for the dedication and declaration of protected areas, protection of native wildlife and its habitat amongst other provisions.

The NC Act prescribes classes of wildlife and sets out restrictions on the taking or harm to native wildlife without a valid permit. Under the NC Act, permits and licences can be required to authorise interference with native wildlife. This includes for clearing native plants, tampering with animal breeding places and catching and relocating wildlife. There are, however, certain exemptions that may be applicable.

Under the NC Act, permits are required to:

- Tamper with an animal breeding place (i.e., a bower, burrow, cave, hollow, nest etc).
- Clear protected plants.

An approved Species Management Plan (SMP) is in place for sections of the SWC mine area. The plan will need to be revised and updated to extend coverage to the Project disturbance footprint to ensure activities are carried out in accordance with the SWC SMP.

2.2.6 Vegetation Management Act 1999

The *Vegetation Management Act 1999* (Qld) (VM Act) regulates the clearing of vegetation in Queensland in a way that (DES, 2020):

- Conserves remnant vegetation that is an endangered, of concern or a least concern REs.
- Conserves vegetation in declared areas.
- Ensures the clearing does not cause land degradation.
- Prevents the loss of biodiversity.

- Maintains ecological processes.
- Manages the environmental effects of the clearing to achieve the above matters.
- Reduces greenhouse gas emissions.
- Allows for sustainable land use.

Under the VM Act, clearing of remnant vegetation (Category B), high value regrowth (Category C), and reef catchment regrowth (Category R) vegetation requires development approval under the Planning Act, unless an exemption applies. For example, if the clearing is carried out in the course of a mining activity on a mining lease. Accordingly, any clearing of remnant vegetation conducted on a mining lease as part of the Project, will not require development approval. Authorisation for clearing of vegetation in the Project area will be sought via the EA Amendment application.

The VM Act may apply to the Project, however the framework established under the VM Act for the description of mapping of regulated vegetation including remnant and high value regrowth applies. Under the VM Act, regulated vegetation includes the following values:

- Endangered or of concern REs (VM Act class) that are remnant.
- Essential habitat.
- Regulated vegetation (remnant REs) intersecting a watercourse.
- Regulated vegetation within 100 m of a Vegetation Management wetland.

2.2.7 Regional Planning Interests Act 2014

The *Regional Planning Interests Act 2014* (Qld) (RPI Act) identifies and protects areas of regional interest throughout Queensland and aims to strike an appropriate balance between protecting priority land uses and delivering a diverse and prosperous economic future for our regions. The four areas of regional interest identified under the RPI Act include:

- Priority Agricultural Areas.
- Priority Living Areas.
- Strategic Environmental Areas.
- Strategic Cropping Areas.

A review of RPI Act mapping did not identify any areas of regional interest of relevance to the Project. The nearest area of regional interest is an area of potential Strategic Cropping Land located approximately 4 km away from the Project footprint at its nearest point.

The Project is located outside of zones mapped as Priority Agricultural Areas, Priority Living Areas, Strategic Environmental Areas and Strategic Cropping Areas under the RPI Act.

2.2.8 Biosecurity Act 2014

The purpose of the *Biosecurity Act 2014* (Qld) (Biosecurity Act) is to:

- To provide a framework for an effective biosecurity system for Queensland that helps to minimise biosecurity risks, facilitates responding to impacts on a biosecurity consideration, including responding to biosecurity events, in a timely and effective way.
- To ensure the safety and quality of animal feed, fertilisers and other agricultural inputs.
- To help align responses to biosecurity risks in the State with national and international obligations and requirements for accessing markets for animal and plant produce, including live animals and plants.

The Biosecurity Act provides a regulatory framework to safeguard the economy, agriculture, tourism, and the environment from pests, diseases, and contaminants.

All people in Queensland, including the SWC Mine, have a general biosecurity obligation under the Biosecurity Act to ensure they do not spread a pest, disease or a contaminant. No approvals or permits are anticipated to be required for the Project. All biosecurity obligations relevant to the Project will be managed appropriately and in compliance with the Biosecurity Act.

SWC has a Weed and Feral Animals Management Plan that provides a framework for site management of weeds and pest species. This plan, amongst other measures, provides a framework for addressing the requirements of the Biosecurity Act.

2.2.9 Aboriginal Cultural Heritage Act 1993

A Cultural Heritage Management Plan (CHMP) is in place. Cultural heritage clearances will be required for the exploration activities. This will be managed by Stanmore as part of its existing arrangements and agreements under the CHMP.

A cultural heritage survey and assessment will be required for the gas drainage activities. This will be managed by Stanmore in accordance with the CHMP.

2.3 Commonwealth Regulatory Approvals

2.3.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation 1999* (Cth) (EPBC Act) prescribes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of protected areas. The EPBC Act identifies nine MNES:

- World Heritage Properties.
- Ramsar Wetlands.
- Nationally listed threatened species and ecological communities.
- Listed migratory species.
- Activities related to nuclear energy, including uranium mining.
- The Commonwealth marine environment.
- National Heritage places.
- The Great Barrier Reef Marine Park.
- A water resource in relation to coal seam gas development and large coal mining development.

An assessment against the Commonwealth significant impact guidelines[2] will be prepared to determine whether the Project has the potential to, or will result in significant impacts to MNES. Stanmore's preliminary view is that it is unlikely that the Project will result in a significant impact to any MNES.

2.3.2 Native Title Act 1993

The Project area is located on land subject to a Native Title claim (QCD2016/009). The Barada Barna people represented by the Barada Barna Aboriginal Corporation (BBAC) are the determined Native Title Holders (non-exclusive).

[2] Department of the Environment, Matters of National Environmental Significance - Significant impact guidelines 1.1 (2013).

A native title project agreement was executed between the BBAC and BHP for a portion of the South Walker Creek mine in August 2016. Indigenous heritage values within the Project area are currently managed under a CHMP with the Barada Barna People. In addition, Stanmore also has several other agreements in place with the Traditional Owners of the land and Compensation Agreements with the directly affected landholders.

As clearing progresses, assessment, management and relocation of any cultural heritage sites identified within the disturbance footprint will be undertaken in accordance with the agreed processes provided in the CHMP.

2.4 Consultation Activities

The key consultation activities undertaken with DESI and Stanmore for the Project are summarised in **Table 2-2**.

Table 2-2 Consultation Activities

Date	Consultation Purpose	Attendees	Location
30/08/2024	DESI- EA Amendment Pre-Lodgement Meeting	DESI, Stanmore	DESI, Emerald

3. PROJECT DESCRIPTION

3.1 Background

The SWC mine is an open-cut coal mining operation located in the northern Bowen Basin.

Exploration drilling and seismic exploration is a critical component in informing mine planning, particularly for large and complex mining operations like the SWC mine. Stanmore proposes a Multi-Year Exploration Program to complete exploration drilling in an extended campaign. This allows for appropriate environmental impact assessment and consideration by regulators, environmental authorisation under the EP Act, and planned environmental management of exploration activities.

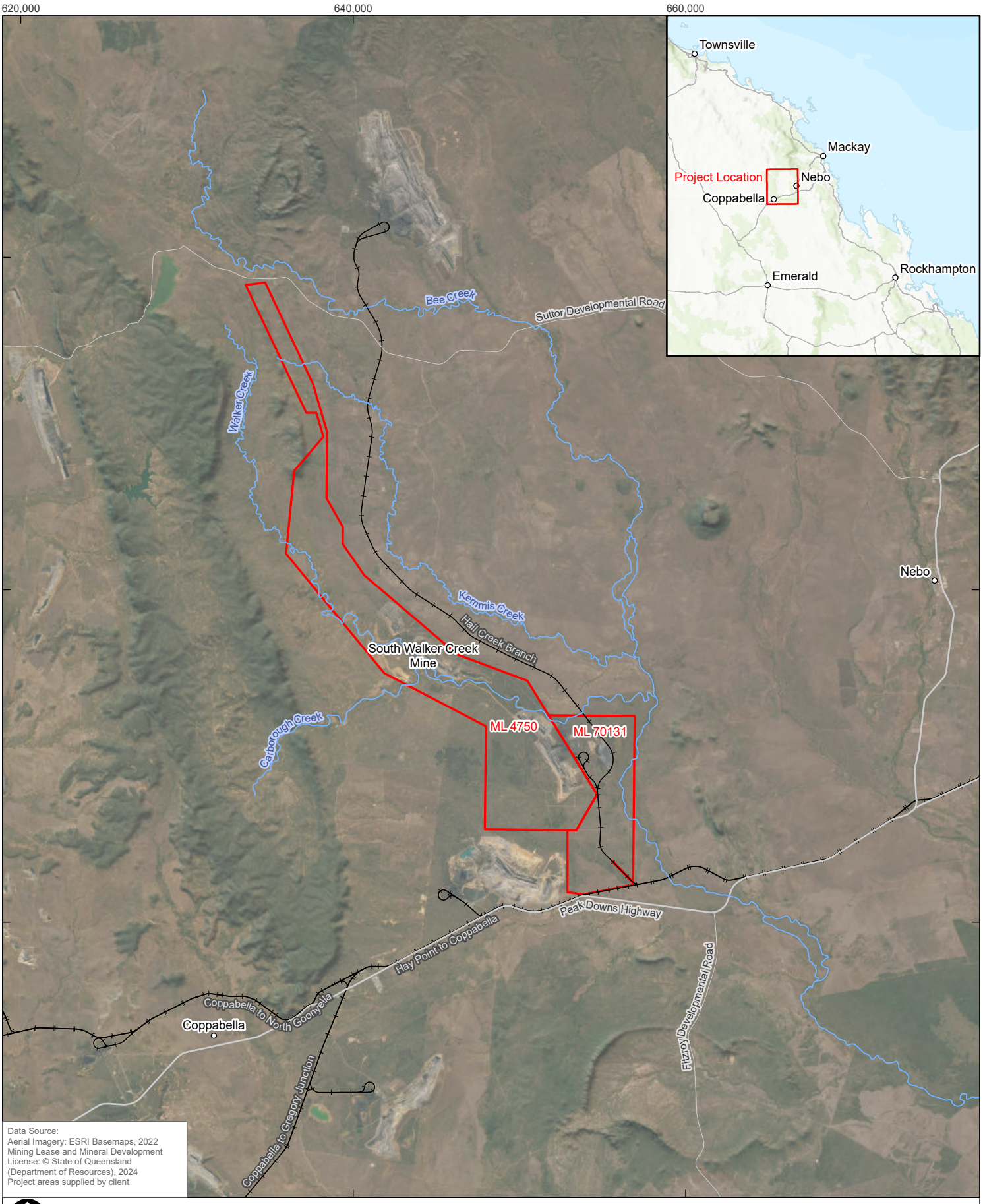
Fugitive emissions of methane from coal mining operations form a significant component of the SWC mine's greenhouse gas emissions. Currently, the site does not undertake any abatement activities for these fugitive emissions. Stanmore is seeking to change this by undertaking this Project, which will involve gas drainage in advance of mining and its use to fuel a gas-fired power station constructed on the site. In addition to reducing fugitive emissions, the electricity generated by the power station will displace electricity that is currently sourced from the Queensland grid (which is currently 73% sourced from non-renewable technologies)[3].

3.2 Project Location

The SWC mine is located in the northern Bowen Basin region, approximately 35 km west of Nebo and 125 km south-west of Mackay, Queensland. The location of the SWC Mine Project area is shown in **Figure 3-1**.

The topography of the area surrounding SWC is gently rolling hills in a rural landscape with elevated topography to the west of the SWC mine. The ground elevation ranges between 160 m to 550 m within a 30 km by 30 km area surrounding the site.

[3] In total, 27% of electricity generated in Queensland is produced from renewable energy sources (current as of 29 February 2024) (Department of Energy and Climate, 2024).



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 5 10 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:300,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Town
- Railway
- Highway
- Secondary Road
- Watercourse
- South Walker Creek Mine

SOUTH WALKER CREEK EA AMENDMENT PROJECT

PROJECT LOCATION

stanmore

FIGURE 3-1

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_PD_F03-01_Project Location

3.3 Project Components

The Project comprises two main components, shown in **Figure 3-2**:

- The Multi-Year Exploration Program - An exploration program generally planned for completion over CY 2025 to 2029 (and beyond, if required) on ML4750 and ML70131 in areas beyond those authorised by the EA.
- The Gas Drainage Project - Development of a gas drainage field on ML4750.

The components of the Multi-Year Exploration Program include:

- Exploration access tracks.
- Exploration drill pads.
- Seismic transects.

The components of the Gas Drainage Project include:

- Surface to in-seam gas drainage wells, which will be a combination of vertical and lateral lines.
- Gas drainage pipelines located at ground level or buried where necessary, linking each well head to a central gas drainage pipeline.
- Water collection pipelines to allow water to be pumped from the gas drainage wells to a set of transfer tanks which will then be transferred into the SWC mine as part the existing mine affected water management system.
- A powerline corridor from the proposed power station to a SWC mine substation.
- Access roads to maintain safe access to the gas field.

The Project components, including their construction, operation and rehabilitation are discussed in more detail in the following sections.

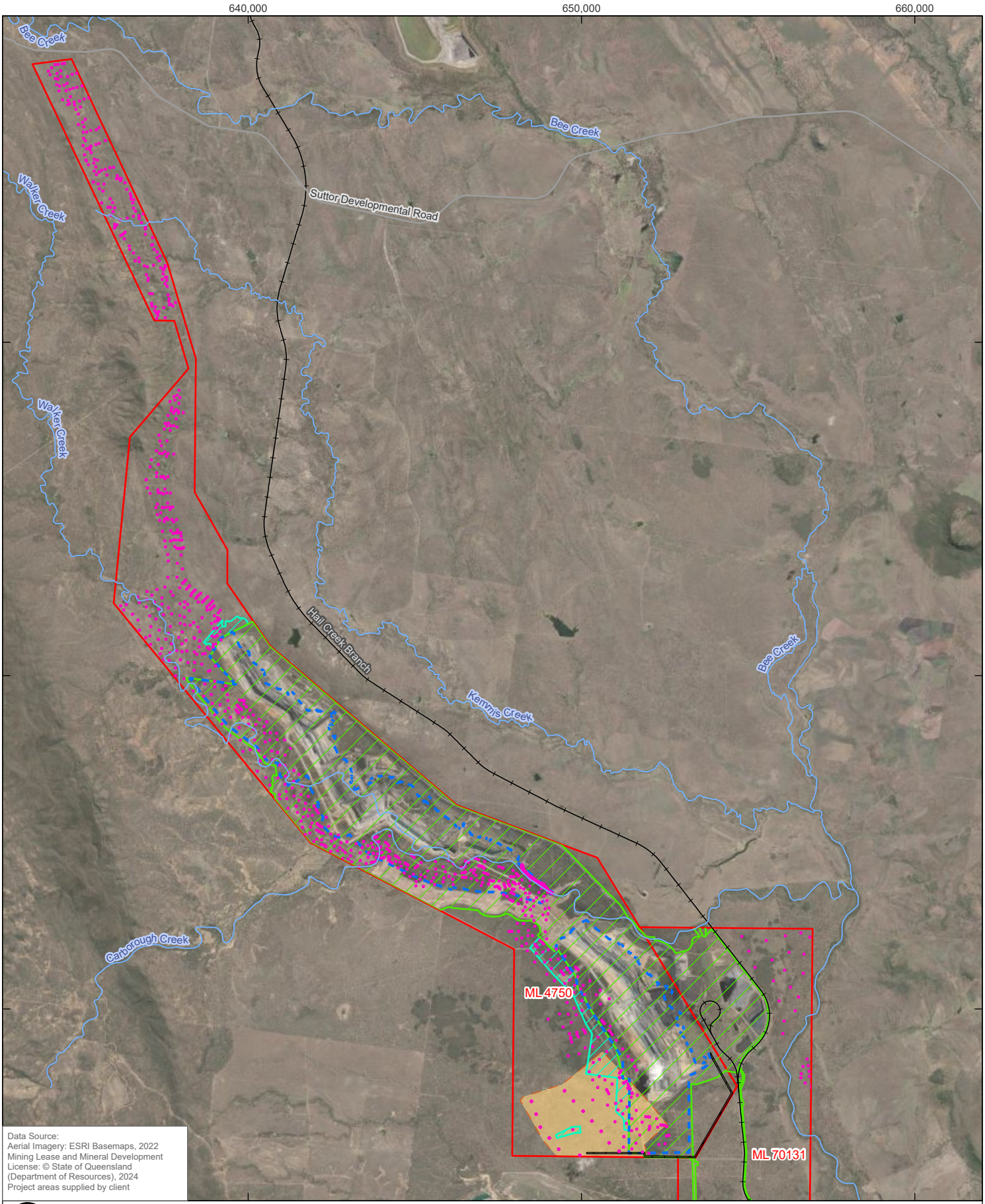
A gas fired power station is planned (under a separate project) to be situated within the existing mining leases and adjacent to the SWC mine operations. It will use methane extracted by the proposed Gas Drainage Project to generate electricity for use at the SWC mine. A separate development approval through the Isaac Regional Council under the Planning Act and environmental approval is being sought for the power station, it is not the subject of this amendment application.

3.4 Project Footprint

The Project 'footprint' is defined as the geographical extent of Project activities, as distinct from the environmental area of interest or extent of indirect and downstream potential impacts.

The Multi-Year Exploration Program footprint is shown in **Figure 3-3** (northern extent of the Multi-Year Exploration Program footprint) and **Figure 3-4** (southern extent of the Multi-Year Exploration Program footprint). The footprint comprises access tracks, drill pads and seismic transects. These are small and isolated disturbance areas located at intervals across the exploration area.

The Gas Drainage Project footprint, shown in **Figure 3-5**, will comprise up to 13 gas drainage wells and associated water pumps, gas drainage pipelines, and water collection pipelines. The gas drainage pipelines connect to the boundary of a gas fired power station located in ML4750.



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:150,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

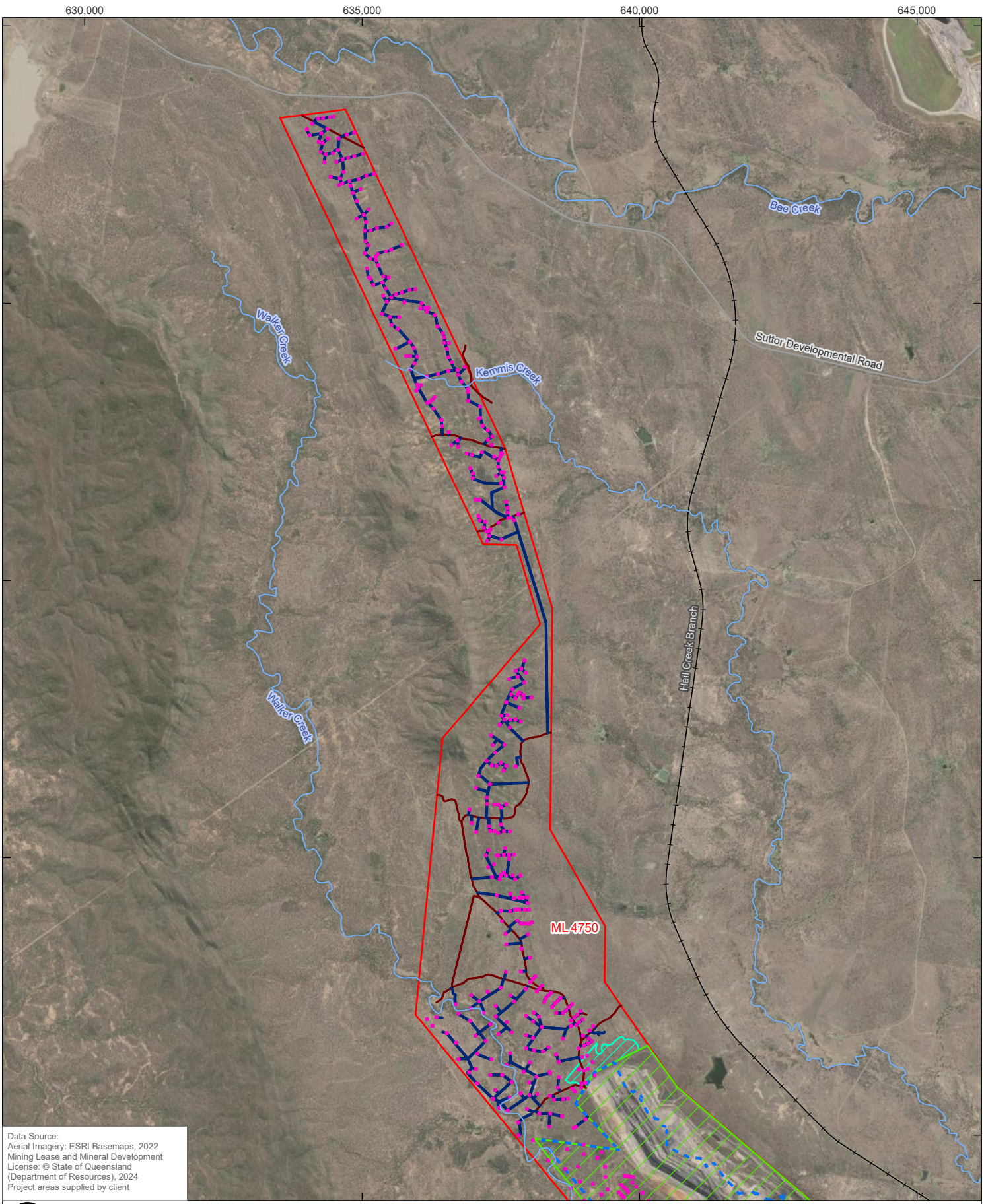
- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
- Approved Additional Exploration Area (30/7/2024)
- Gas Project Study Buffer
- Proposed Drill Pad
- Proposed Powerline Corridor from Power Station to Mine

SOUTH WALKER CREEK EA AMENDMENT PROJECT

EXPLORATION PROGRAM AND GAS DRAINAGE

stanmore

FIGURE 3-2



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:90,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
- Approved Additional Exploration Area (30/7/2024)
- Existing Track Area
- Proposed Track Area
- Proposed Drill Pad

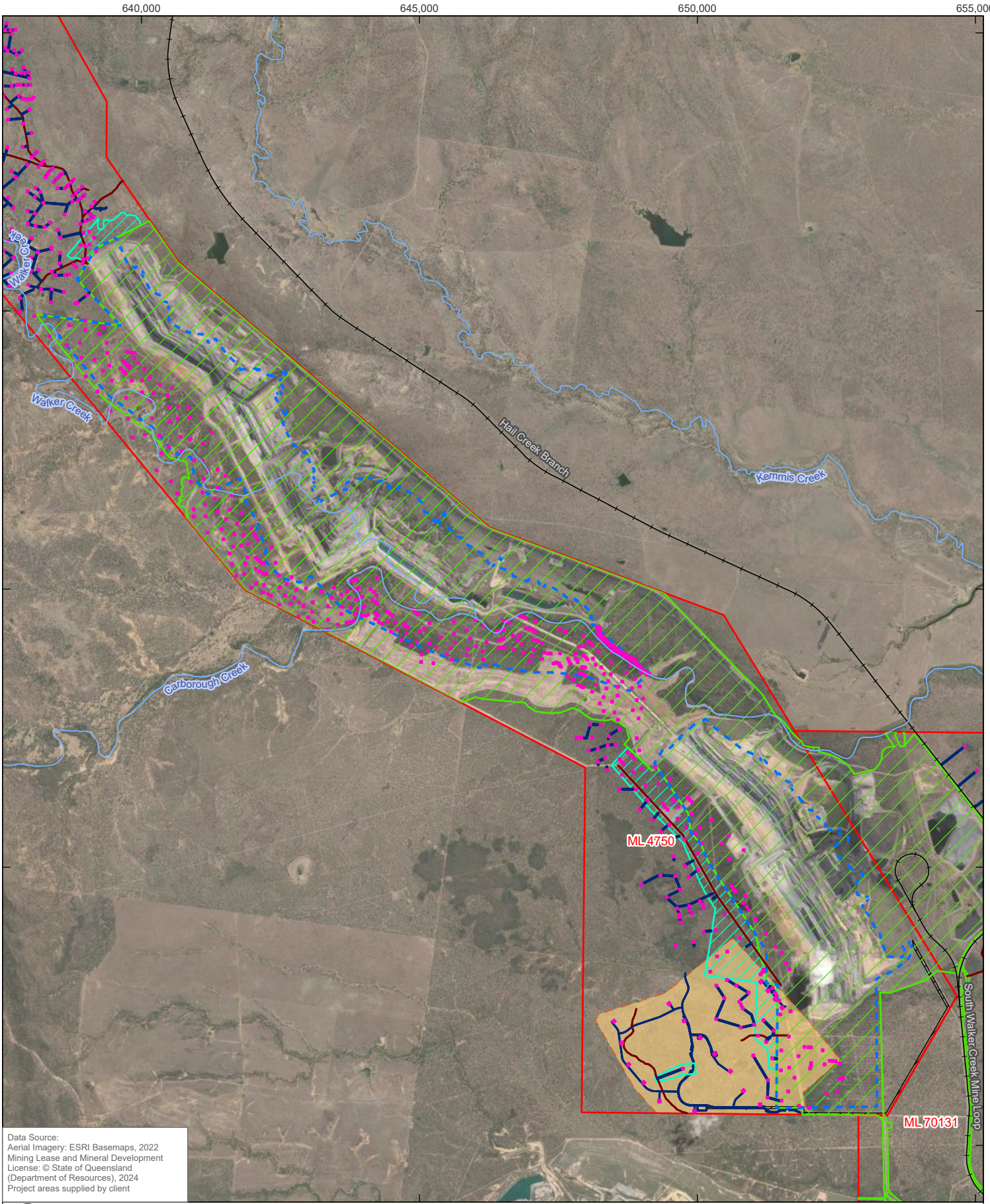
SOUTH WALKER CREEK EA AMENDMENT PROJECT

NORTHERN EXTENT OF PROJECT AREA

stanmore

FIGURE 3-3

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_PD_F03-03_Northern Extent of Project Area



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:90,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
- Approved Additional Exploration Area (30/7/2024)
- Gas Project Study Buffer
- Existing Track Area
- Proposed Track Area
- Proposed Drill Pad
- Proposed Powerline Corridor from Power Station to Mine

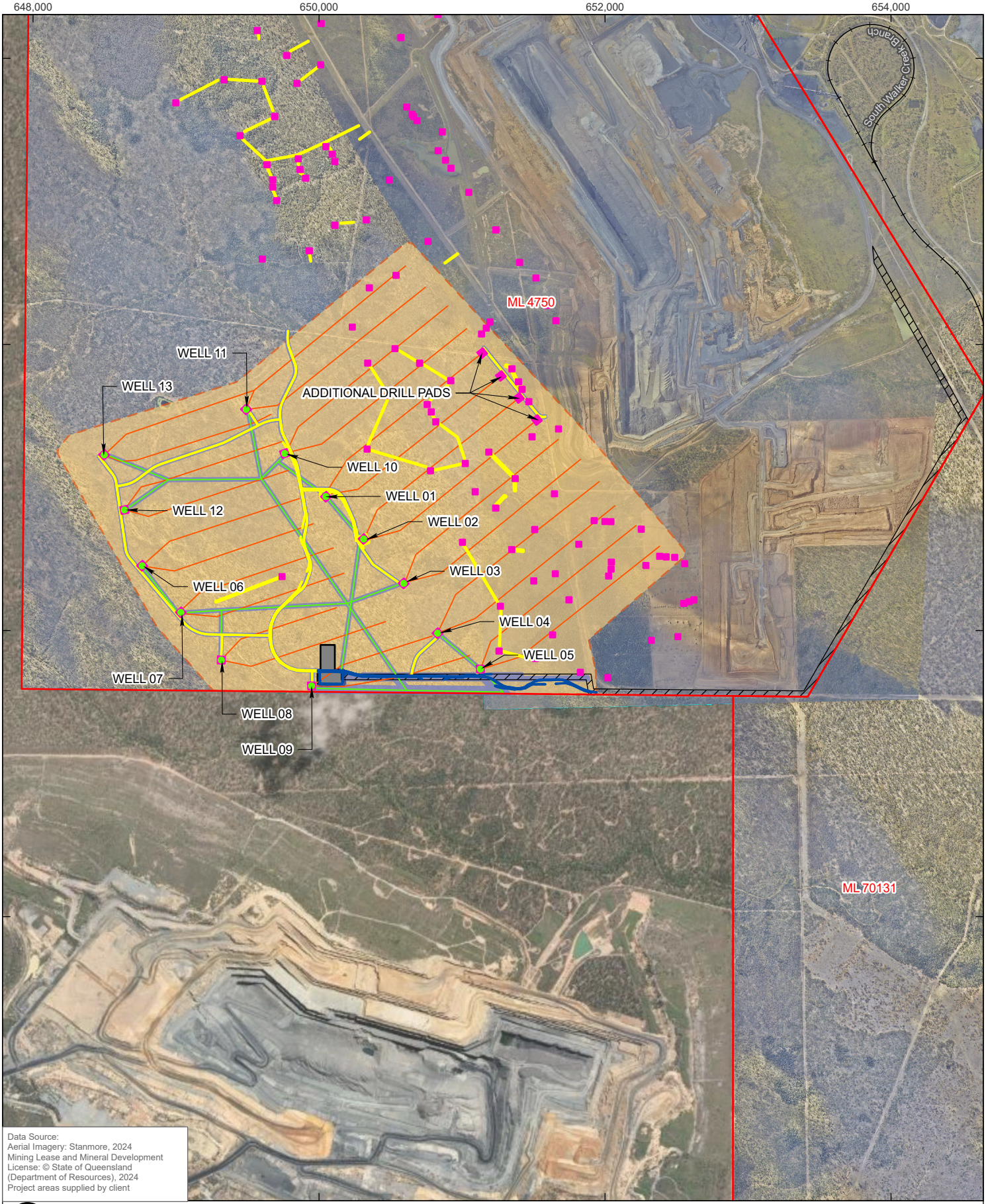
SOUTH WALKER CREEK EA AMENDMENT PROJECT

SOUTHERN EXTENT OF PROJECT AREA

stanmore

FIGURE 3-4

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_PD_F03-04_Southern Extent of Project Area



Data Source:
Aerial Imagery: Stanmore, 2024
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 0.5 1 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:35,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- South Walker Creek Mine
- Well Head
- Proposed Access Road/ Track
- Proposed Access Road from Power Station to Mine – Separate Project
- Proposed Gas/Water Gathering Lines
- Proposed Dual Lateral Holes
- Gas Project Study Buffer
- Power Station Infrastructure – Separate Project
- Drill Pad
- Proposed Powerline Corridor from Power Station to Mine
- Surface Disturbance Buffer

SOUTH WALKER CREEK EA AMENDMENT PROJECT

GENERAL GAS DRAINAGE LAYOUT

stanmore

FIGURE 3-5

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_PD_F03-05_General Gas Drainage Layout

3.5 Mining Tenure, Land Ownership and Native Title

3.5.1 Mining Tenure

The SWC mine is located on ML4750 and ML70131. The proposed exploration activities will be undertaken across the two mining leases. Gas drainage will only be undertaken within ML4750. ML4750 was granted on 1 August 1978 and amended on 15 August 1996 to authorise the extraction of mineral hydrocarbons. The MR Act authorises the extraction and commercialisation of gas from a hydrocarbon ML[4].

Stanmore holds surface area rights to part of these mining leases. Additional surface area rights are required for the Project, specifically the Gas Drainage Project footprint. Stanmore has submitted an application for the additional surface area rights under the MR Act, in parallel with this application to amend the EA for the SWC mine.

3.5.2 Land Ownership

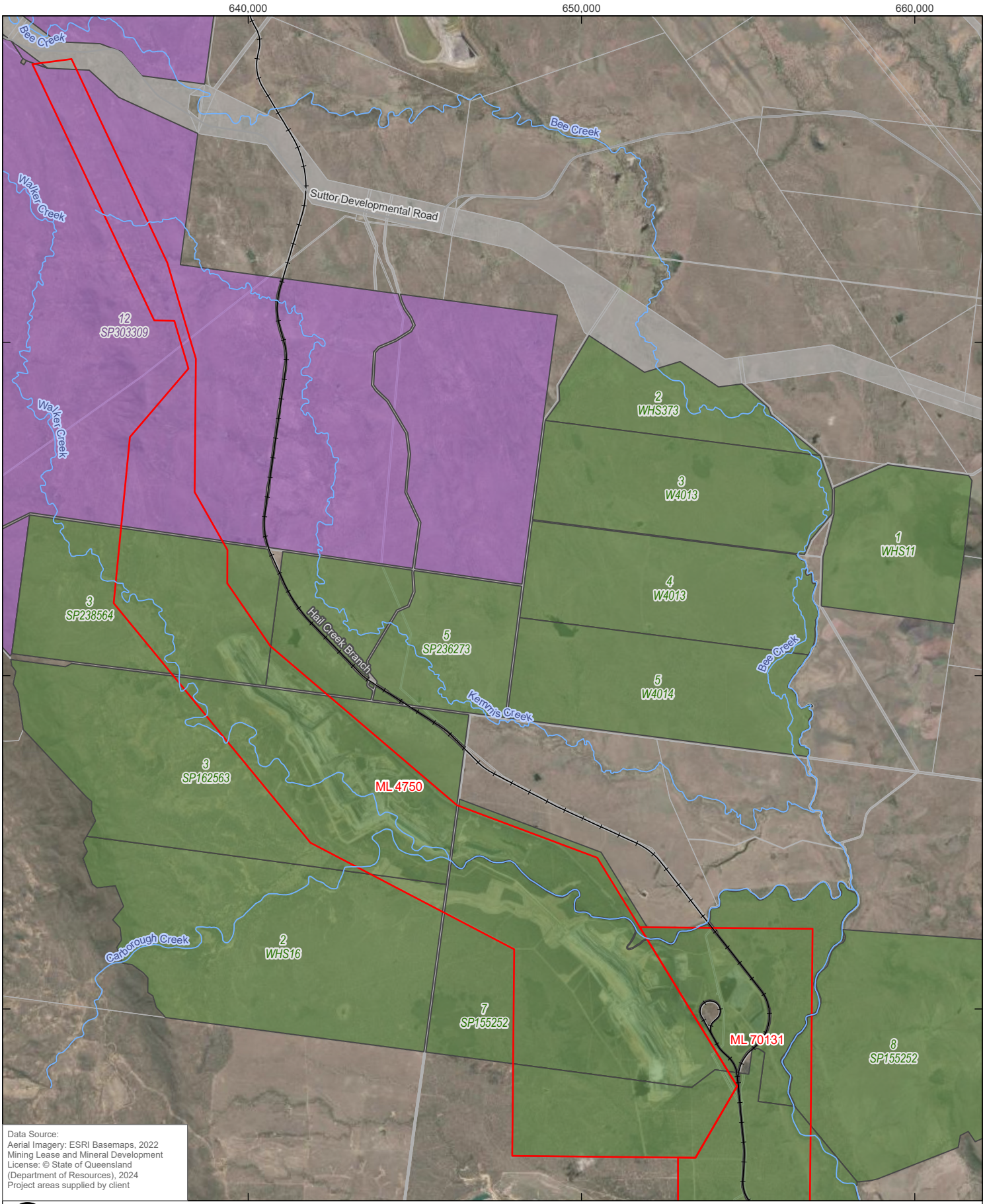
Stanmore holds a land title to a portion of the land underlying ML4750 and ML70131. Additional land tenure or agreements with the existing title holders will be required for exploration access.

The property descriptions (lot and plan numbers and land parcel boundaries) are shown in **Figure 3-6** and summarised in **Table 3-1**.

Table 3-1 Property Descriptions for Land Underlying ML4750 and ML70131.

Lot and Plan numbers	Land tenure	Property Name	Owner	ML
12SP303309	Land Lease	'Kemmis Creek'	Privately owned	ML4750
2WHS16	GHFL217873	'Mulgrave'	Stanmore entity	ML4750
3SP162563	GHFL231699	'Mulgrave'	Stanmore entity	ML4750
3SP238564	GHF214194	'Mulgrave'	Stanmore entity	ML4750
5SP236273	GHFL214216	'St Albans'	Stanmore entity	ML4750
7SP155252	Freehold	'Strathfield'	Stanmore entity	ML4750 ML70131
8SP155252	Freehold	'Tootoolah'	Stanmore entity	ML70131 ML4750
8SP155252 Easement DSP155252	Freehold	'Tootoolah'	Stanmore entity	ML70131
-	Reserve	Suttor Developmental Road	Department of Transport and Main Roads	ML4750
-	Reserve (AAP5270; Road Licence 214468)	Unnamed Road	Isaac Regional Council	ML4750
-	Reserve (AAP11159; Road)	Unnamed Road	Isaac Regional Council	ML4750

[4] *Mineral Resources Act 1989* (Qld) s 747 (definition of rights relating to a mineral hydrocarbon mining lease holder (1) (b)).



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:150,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Stanmore Owned Land
- Private Lands Lease
- Road Parcel
- Cadastre

SOUTH WALKER CREEK EA AMENDMENT PROJECT

PROJECT AREA LAND OWNERSHIP

stanmore

FIGURE 3-6

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_PD_F03-06_Project Area Land Ownership

3.5.3 Native Title

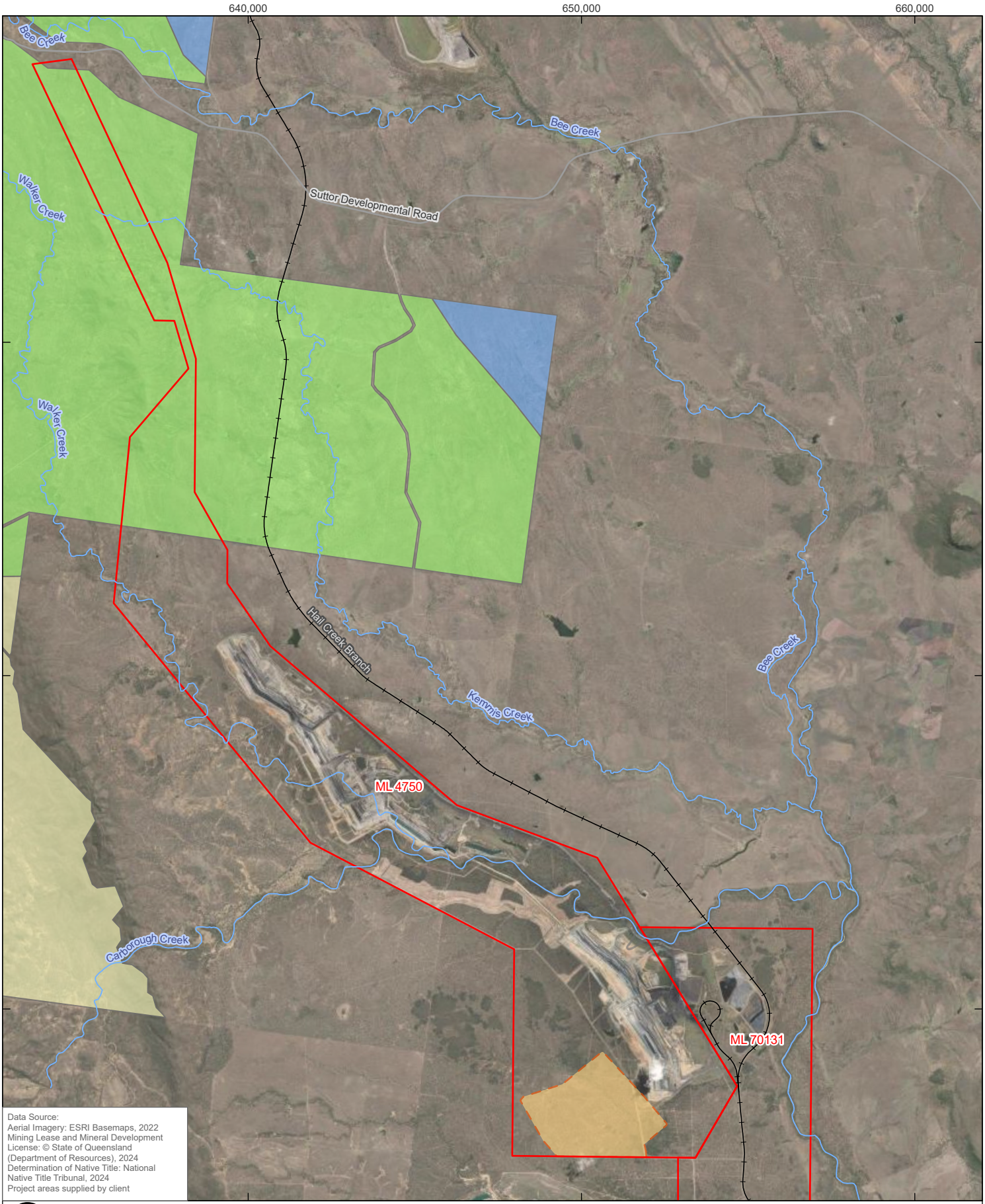
The Project area is located on land subject to two Native Title claim areas Barada Barna People (QCD2016/009) and Barada Barna People and Widi People of the Nebo Estate #2 (QC2006/009) displayed in **Figure 3-7**.

A native title project agreement was executed between the BBAC and Stanmore for the South Walker Creek mine in August 2021. The agreement relates to the Barada Barna Native Title areas and includes the Shared Country.

A further project agreement was executed between Gangali Narra Widi Aboriginal Corporation and Stanmore. This agreement relates to the Shared Country.

Indigenous heritage values within the Project area are currently managed under two CHMP's with the Barada Barna People and the Widi People.

Ahead of development, project teams arrange and complete Cultural Heritage surveys to identify any sensitive sites. Assessment, management and relocation of any items having cultural heritage value identified within the disturbance footprint will be undertaken in accordance with the agreed processes provided in the CHMP's. All Indigenous cultural heritage clearance activities will be undertaken in accordance with the Queensland *Aboriginal Cultural Heritage Act 2003*.



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Determination of Native Title: National Native Title Tribunal, 2024
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:150,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Gas Project Study Buffer

Determination of Native Title

- Barada Barna People
- Barada Barna People And Widi People Of The Nebo Estate #2 Shared-Country
- Widi People of the Nebo Estate #1

SOUTH WALKER CREEK EA AMENDMENT PROJECT

NATIVE TITLE DETERMINATION FOR THE PROJECT AREA

stanmore

FIGURE 3-7

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_PD_F03-07_Native Title Determination for the Project Area

3.6 Multi-Year Exploration Program

3.6.1 Overview

Stanmore proposes to undertake additional exploration activities through to 2029 (and beyond, if required). The purpose of the Multi-Year Exploration Program is to further define the coal resources at the SWC mine. The Multi-Year Exploration Program may also aid towards informing development of the Gas Drainage Project.

The exploration activities will include:

- Development of 4.5 m wide access tracks, with existing tracks used where possible.
- Development of drill pads of approximately 1,400 m^2 area each.
- Exploration and resource definition drilling, including gas content testing.
- Drilling via core and chip methods via a truck mounted exploration drill rig with support vehicles and equipment (small truck and two to three Light Vehicles).
- Seismic exploration with approximately 3 m wide seismic exploration lines.

The exploration activities will be completed progressively. Typically, there will be two to three drill rigs operating across the site, however this may increase or decrease depending on the weather conditions and availability of drill rigs.

3.6.2 Equipment

The following equipment will be required for the exploration program:

- Grader for new and existing track management and drill pad development.
- Dozer for pushing vegetation for new tracks and drill pads if needed.
- Truck mounted exploration ding rigs used to complete drilling.
- Medium Rigid trucks to support drill rigs (transportation of equipment including rods, compressors, materials).
- Small excavator or backhoe to dig sumps for management of water and drilling muds.
- Vegetation trimmers, slashers and mulchers to support vegetation trimming and removal, with the objective of minimising associated disturbance corresponding with accessing relevant exploration sites.
- Light vehicles to carry personnel and equipment used for relevant analytical processes.
- Compact seismic exploration rigs (agricultural all-terrain vehicles mounted with seismic energy sources).

3.6.3 Site Location

The location and construction of drill pads and holes are typically dictated by site conditions (i.e., vehicle accessibility, track conditions, land-owner permission, proximity to existing access points or previous drill pads), environmental conditions (including compliance with EA conditions), mine planning priority (i.e., gaps in coal resource data) and safety considerations.

A degree of flexibility in site selection is therefore required, noting also that efforts are always made to avoid environmentally sensitive features such as drainage lines, riparian vegetation, flood-prone areas, protected vegetation (e.g. endangered REs and threatened ecological communities (TEC)), and habitats of conservation significant species. Additionally, areas of cultural heritage significance are to be avoided or otherwise managed in accordance with the SWC CHMP to minimise associated impacts. The SWC mine site environment team will work with the Multi-Year Exploration Program team to assist with the 'micro-siting' of drill sites and access roads, to avoid and minimise impacts to environmental values.

Surveying of potential drill hole sites is essential to identify and avoid the potential for impacts on these features. Prior to or during construction, salvage of cultural heritage items, weed control, fauna monitoring during vegetation clearing, and overland flow diversion may be necessary.

3.6.4 Site Access and Ancillary Services

Existing road access to SWC mine is via the Peak Downs Highway and the South Walker Creek Mine Access Road. The existing public road access and transport arrangements will not change for the Project. The existing road infrastructure will be used for the Project and there are no off-lease road upgrades or realignments required for the Project.

Access to the actual SWC mine site will be via the Site Access Centre (SAC) and then along existing haul roads and light vehicle access roads and tracks. Alternatively access to some of the southern exploration locations may be via access gates or points along the South Walker Creek Mine Access Road, prior to reaching the SAC. For exploration sites positioned towards the northern extent of ML4750, site access may be sought via roads or tracks stemming off the Suttor Development Road, although thoroughfare from the southern/operational areas of the mine is the preferred means of access.

3.6.5 Access Tracks

Access to drill pads will be via existing tracks where possible. Existing access tracks may require vegetation trimming, slashing and/ or grading.

New access tracks will also be required, which will be a maximum of 4.5 m wide. The location of new tracks may vary slightly during construction to avoid mature trees, hollow bearing trees, and topographic features.

Vegetation trimming, clearing, slashing, mulching and blade clearing may be required depending on vegetation cover, ground conditions, and the ability to micro-site access tracks to avoid vegetation and secure safe vehicle access.

3.6.6 Workforce

The existing operational workforce drive to and from the site from nearby mine camps and towns (e.g. Coppabella, Nebo, Moranbah, Mackay) or further afield, including fly-in fly-out via the Mackay and Moranbah airports. It is anticipated that the Multi-Year Exploration Program workforce, which is extension of the general site operational workforce, will utilise the same accommodation and site access arrangements.

3.6.7 Exploration Drills Holes and Drill Pads

Exploration drill holes will require the development of drill pads to accommodate drill rigs, trucks, light vehicles, and laydown of materials. Drill pads will be placed adjacent to existing access tracks where practical.

The drill pads will be up to 1,400 m^2 in area. Drill pads will be prepared via slashing or blade clearing, shallow topsoil stripping and stockpiling, excavation of sumps to collect mud and fluids produced by drilling and fencing off these areas to manage safety risks and fauna ingress. Where plausible, pads will be located in existing cleared areas or on the margins of vegetated areas.

Occasionally, gravel or crushed rock may be required in certain circumstances to provide for a safe and stable drill pad. Localised grading to provide a level and stable drill pad may also be required in certain circumstances.

Exploration drilling operations at the SWC mine will use a combination of rotary chip and core drilling methodologies to extract samples for geological interpretation. Chip drilling involves the use of a rotating drill bit affixed to the end of a hollow drill pipe. Compressed air is injected down the drill pipe, facilitating the transport of drill cuttings or chips to the surface through the space between the drill pipe and the borehole wall. Chip drilling does not retrieve intact core samples.

Core Drilling employs a diamond or tungsten carbide-tipped drill bit to extract cylindrical rock cores from the subsurface. A core barrel attached to the end of the drill string captures these samples as the drill bit rotates, resulting in a continuous core sample from the rock formation. Core diameters vary but are typically between 60mm-100mm.

Sampling procedures include extraction of chips and cores from target geological formations, including coal seams, roof, floor, and overburden. Gas production testing, sampling and analysis work will also be performed upon/at relevant drill holes. Drill hole depths are customised to project-specific requirements and geological considerations, with depths typically ranging from 60 m up to 400 m to capture subsurface data.

Operational water demands and drilling fluid requirements are met through existing water supply sources at the SWC mine, and on-site tank water storage systems.

Typical exploration drill hole methods and purpose are described in **Table 3-2**.

Table 3-2 Summary of Exploration Drill Hole Methods and Purpose

Exploration Type	Purpose
Chip Holes	Chip holes are for initial exploration and geological mapping to identifying general location of coal seams and understanding the geological conditions of the area.
Core Holes	Core holes are for detailed exploration assessments, yielding information about coal seams such as the thickness, depth, quality, and physical properties of overburden and interburden.
Gas Exploration Holes	The gas exploration holes will identify natural gas reservoirs in the coal seams and evaluate reservoir characteristics (such as size, depth, pressure, temperature, and quality). This information will inform future mine planning, confirm future de-gassing requirements and better inform the reservoir model for the SWC mine.

3.6.8 Changes to Access Tracks and Drill Hole Locations

Due to the intricacies of resource definition, Stanmore exploration geologists may require flexibility to alter the location of drill pads as exploration data is reviewed, resource definition progresses and mine planning priorities at the SWC mine evolve. As such, the locations of drill pads and access tracks may change from that shown in **Figure 3-3** and **Figure 3-4**.

The proposed approach (change management procedure) to drill hole and access track location changes is as follows:

- Exploration geologist, or others, identify the need to change the drill hole / access track location.
- Exploration geologist, SWC mine environmental manager, and others as required, discuss proposed change of location, seeking to prevent and minimise environmental impacts of the new location.
- Exploration geologist and SWC mine environmental manager prepare a 'self-assessment' of the environmental impacts of the new drill hole / access track location. The assessment will be documented in a brief report, signed by the exploration geologist and environmental manager, and maintained in the SWC environmental management system.
- Determine if the new drill hole / access track location has less environmental impacts than the approved drill hole / access track location (shown in this document).
- If less or equivalent environmental impacts, then proceed. If more environmental impacts, do not proceed.

This change management process may also be applied to the Gas Drainage Project, where the Gas Drainage Project Manager, will take on the role of the exploration geologist (above).

This change management process seeks to ensure compliance with the EA while providing reasonable flexibility in the location of drill holes / access tracks.

3.6.9 Seismic Investigations

Seismic exploration activities will also be required to complement resource evaluation work provided through the exploration drilling program.

As the location and extent of seismic exploration is dependent upon the outcomes of the coal exploration drilling, it is not yet possible to define the exact locations where this form of exploration will take place. However, as used at other Stanmore assets including the Wards Well Project, the proposed seismic exploration activities have been designed to minimise land and vegetation disturbance; usually resulting in negligible or minimal impacts to environmental values.

This is particularly relevant when conducting seismic exploration in areas of structurally sparse vegetation (including mapped REs) such as those encountered across expanses of the SWC mine. Additionally, disturbance to other prescribed environmental matters (e.g. area of dense Brigalow) can also be avoided or at least moderated given the small scale of equipment used to perform seismic exploration and the agility of the machinery required to prepare access to exploration sites where necessary.

Typically, each proposed seismic area will be set up in a 50 m by 40 m spaced grid formation comprised of 3 m wide seismic lines. Hence, the preparation method for seismic survey lines will involve the slashing of grasses and non-wooded herbage along 3 m wide seismic lines.

Slashing will mostly provide adequate access for the survey vehicle to conduct relevant activities whilst minimising the extent of disturbance to the surrounding vegetation. Should access require the removal of wooded vegetation, branch lopping (partial plant removal) and then mulching (complete plant removal) of obstructions will occur to provide passage through more densely vegetated areas whilst averting bladed clearing techniques (e.g. bulldozers).

However, it is also anticipated some discrete zones of densely wooded vegetation may require the use of a bladed machine to negotiate otherwise impassable vegetation or complex terrain such as gullies. Noting the general canopy sparseness across the Project area, and the sparse distribution of densely wooded vegetation with regards to the proposed areas of seismic survey, it is anticipated less than 10% of the intercept or overlap between seismic survey lines and densely wooded vegetation area will require clearing.

Seismic surveying will be undertaken along the abovementioned seismic lines utilising a compact vehicle which is capable of traversing uneven terrain and narrow tracks (i.e. 3 m wide). An example of the survey vehicle is shown in **Figure 3-8**. This vehicle has been selected to limit the extent of disturbance associated with the proposed seismic survey and allows for better mobility through wooded and vegetated terrain.

It is therefore not anticipated that the proposed seismic exploration, in areas beyond which this activity is current permissible, will result in significant residual impacts to environmental values or prescribed environmental matters. Examples of proposed seismic exploration equipment are provided in **Figure 3-8.**

Figure 3-8 Example Seismic Exploration Equipment

3.6.10 Routine Environmental Management

The SWC mine's existing environmental management and monitoring program will apply to the Project and will continue to be implemented throughout the Project.

The following existing environmental management and monitoring plans in particular, will be implemented for the Project:

- DES – Species Management Program.
- SWC Dust Management Plan.
- SWC Emergency Response Plan.
- SWC Environmental Monitoring Plan.
- SWC Noise and Vibration Management Plan.
- SWC Sediment and Erosion Management Plan.
- SWC Rehabilitation Management Plan.
- SWC Tailings and Reject Management Plan.
- SWC Waste Management Plan.
- SWC Water Management Plan.
- SWC Water Release Procedure.
- Topsoil Management Procedure.
- Water Data Management Plan.
- Weeds and Feral Animals Management Plan.
- Wildlife Interactions and Handling Procedure.

SWC's Receiving Environment Monitoring Program (REMP) will continue to be implemented for the upstream and downstream environment surrounding the SWC mine. The REMP includes monitoring that will identify any impacts to surface water levels or quality that may occur as part of the Project.

3.6.11 Waste management

Waste generated on site (other than cleared vegetation, spoil and sediment contained in sumps), will be stored in appropriate waste receptacles and either removed on a daily basis or otherwise prior to site rehabilitation. Waste will be managed and disposed of in accordance with the conditions of the existing EA. The proposed EA Amendment will not significantly increase the quantity of waste generated at the SWC mine. Existing measures for minimising and managing waste generated by the operation are in place and will continue to be implemented. Detailed information regarding waste management are provided in **Section 7**.

3.6.12 Closure and Rehabilitation

Exploration drill pads will be closed and rehabilitated generally in accordance with the requirements set out in Conditions B24 to B31 of the *Eligibility criteria and standard conditions for exploration and mineral development projects* (ESR/2016/1985) and will address the requirements and conditions of the existing EA. There may be some instances where exploration drill holes are retained and converted into groundwater monitoring bores.

Access tracks will also generally be closed and rehabilitated generally in accordance with the requirements set out in Conditions B24 to B31 of the *Eligibility criteria and standard conditions for exploration and mineral development projects* (ESR/2016/1985) and will address the requirements and conditions of the existing EA. There may be instances where access tracks are retained, in agreement with land title holders, to provide for ongoing access.

In general, the closure and rehabilitation process will typically be as follows:

- Demobilisation of drill rig and support equipment.
- Backfill chip drill hole with excess chips.
- Backfill mud sumps (once sufficiently dry) back to natural ground level with subsoil and topsoil to match natural soil profile.
- Retain erosion and sediment controls. Remove all remaining materials and wastes from site.
- Restore stored subsoil and topsoil to original profile.
- Allow natural regeneration via seedbank in topsoil.
- Monitor and manage any weed infestation, monitor for revegetation success.
- Remove erosion and sediment controls following stabilisation of soils and revegetation of the drill pad / tracks.

The existing EA includes rehabilitation requirements. The draft and final PRCP for the SWC mine will also be referenced as relevant to address the rehabilitation requirements relevant to exploration activities.

3.7 Gas Drainage Project

3.7.1 Overview

Drainage of gas requires the implementation of a network of nominally 13 gas extraction wells, extending from the ground surface down to the target coal seams. These wells will be interconnected with gathering lines and supported by surface infrastructure for gas reticulation, monitoring, and control (note there is no gas processing undertaken as part of this project).

The gas drainage field will be developed in the south-western area of ML4750 (refer **Figure 3-5**). The gas drainage system may comprise single or dual lateral lines or a combination of both.

The preferred method for gas extraction typically involves Surface to In-Seam wells, displayed in **Figure 3-9**. These wells utilise directional drilling techniques to penetrate from the surface and extend laterally along the seams targeted for pre-drainage of future mining areas.

Vertical wells are also drilled from the surface. The lateral wells are drilled to intersect the vertical wells. The vertical wells are used for collecting and conveying the gas and associated water to the surface.

Water arising from the gas drainage system will be integrated into the SWC Mine-affected Water System. A transfer tank will collect the water from the gas field, and be pumped into the mine affected water system.

The gas drainage field is estimated to have an initial 15-year Project life. The drainage field will provide the gas to the power station which includes the capability for flaring excess gas.

3.7.2 Site Access, Workforce and Ancillary Services

The existing public road access and transport arrangements will not change for the Gas Drainage Project. The existing road infrastructure will be used for the Project and there are no off-lease road upgrades or realignments required for the Project. Existing road access to SWC mine is via the Peak Downs Highway and the South Walker Creek Mine Access Road.

The existing operational workforce drive to and from the site from nearby mine camps and towns (e.g. Coppabella, Nebo, Moranbah, Mackay) or further afield, including fly-in fly-out via the Mackay and Moranbah airports. It is anticipated that the Gas Drainage Project workforce, which is an extension of the general site operational workforce, will utilise the same accommodation and site access arrangements.

Access to the gas drainage field will be via the SAC and then via existing light vehicle access roads and tracks. A new dry weather access track will be established to provide ongoing access to the gas wells (as per **Figure 3-2**).

A new powerline will be installed for transmission of electricity from the power station to a SWC mine substation. The powerline will be installed within a powerline corridor (as per **Figure 3-2**).

3.7.3 Workforce

The Gas Drainage Project will require the creation of several new positions to facilitate its implementation and engagement of drilling contractors for drilling the exploration drill holes and gas wells.

Over the Multi-Year Exploration Program and Gas Drainage Project's initial construction phase, an estimated workforce of 25 to 35 individuals will be required. These roles will demand a skill set involving engineering, geology, drilling, civil earthmoving equipment operators, and various trades.

Following commencement of gas drainage operations, a permanent onsite team of approximately two to three individuals, part time, will be retained to ensure ongoing Gas Drainage Project support.

Additionally, annual drilling activities for well replacements and scheduled maintenance shutdowns at the power station are anticipated. Local sourcing of supplementary personnel will be prioritised to meet these demands.

3.7.4 Construction and installation

3.7.4.1 Access tracks

Dry weather access tracks will be constructed from the existing light vehicle access track network at the southern end of the SWC mine to the various components of the Gas Drainage Project as required. Where possible existing tracks will be utilised to minimise disturbance.

The access tracks will be constructed via earthworks (dozing / grading and compaction) of the existing subsoil / underlying rock material. Suitable waste rock from these processes, other sources from within mine site or imported materials may be used to provide a sub-base and road surface.

Channel drains and other road drainage facilities will be installed, with road drainage directed to sedimentation management features of appropriate capacity if required.

3.7.4.2 Gas Drainage Well Pads

Gas well pads will be constructed to provide vehicle access to the gas wells.

The construction of the gas well pads will be completed through the removal of vegetation by blade clearing using a bulldozer or pneumatic shovel / bask-hoe. Topsoil and upper subsoil layers will be removed and stored for immediate or future rehabilitation purposes at the SWC mine.

The gas well pad site will be levelled, and a hard stand will be constructed from compacted (non-acid forming) waste rock from the SWC mine, to approximately 150 mm above natural ground level and approximately 50 m wide by 50 m long.

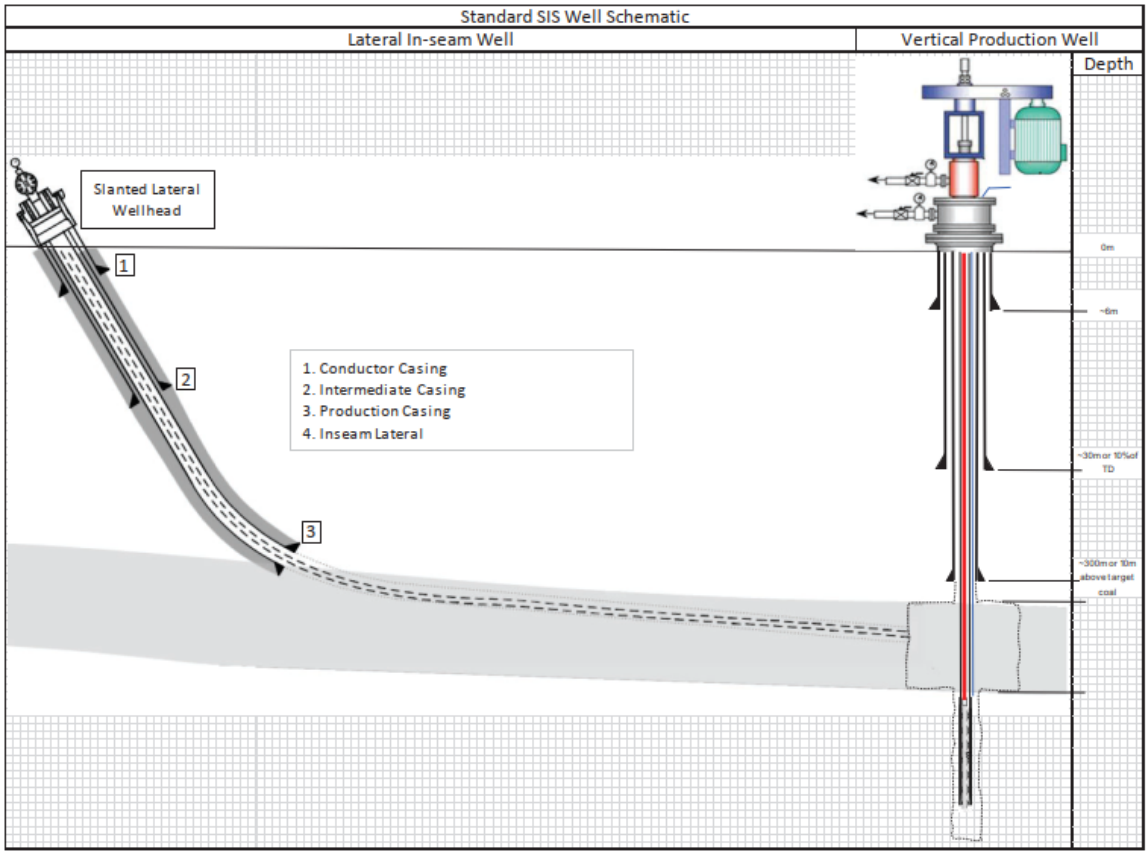
3.7.4.3 Gas Drainage Well Design

The gas well design and drilling methodology will be implemented through a two-step procedure. Initially, a vertical well will be drilled to access and extract gas and water from the targeted coal seam. This vertical well serves as the primary conduit for gas resource extraction, penetrating down to the depth of the coal seam.

Subsequently, a lateral in-seam borehole or multiple boreholes are drilled along the trajectory of the coal seam, intersecting with the previously drilled vertical well. These in-seam boreholes are strategically positioned to provide unimpeded pathways for both gas and water to migrate towards the vertical well. Once intersected, the gas is allowed to flow freely to the surface, while the water is pumped out through the vertical well.

By placing lateral in-seam boreholes and integrating them with the vertical well, the extraction process is streamlined, allowing for the continuous and effective recovery of resources from the target seam.

Depending on well performance the methodology may be adjusted to only drill surface to inseam wells, and in some circumstances only vertical wells if required.



Source: Transition Energy & Stanmore, 2023

Figure 3-9 Standard Surface to In-Seam wells and Vertical Well Diagram

3.7.4.4 Vertical Well

The general construction methodology of the vertical production well is outlined below:

- **Initial Drilling**: Large diameter hole drilled out to a depth of approximately 1 m below surface.
- **Installation of Conductor**: String of large diameter steel conductor is cemented in-place to hold back loose ground.
- **Drilling Continuation**: Drilling continues to the deeper of 10% of anticipated total depth.
- **Deployment of Surface Casing**: String of surface casing is then run to total depth and cemented in place.
- **Cementation at Base**: Cement at base of surface casing is drilled out.
- **Further Drilling**: Drilling continues to approximately 50 m below the deepest target seam[5].
- **Logging and Inspection**: The drill string is pulled out of the hole and the well wireline logged.
- **Deployment of Production Casing**: String of production casing is then run to immediately above the coal seam and cemented in by displacement.
- **Under Reaming**: The coal seam is under-reamed to providing a broader target area for the laterals to intersect.
- **Cleaning Process**: The well is flushed clean of cuttings
- **Wireline Logging**: The under-reamed section is wireline logged using a three-arm calliper to evaluate the success of under-reaming and to record the size and shape of the area to be targeted by the lateral well.

3.7.4.5 Lateral Well

The construction process ensures the structural integrity and operation of the vertical production well, assisting gas extraction and minimising impact. Construction of the Surface to In-seam laterals is outlined below:

- **Initial Drilling**: A large diameter hole is excavated to a depth approximately 1m below the surface level.
- **Installation of Conductor**: A steel conductor, possessing a significant diameter, is lowered into the hole and cemented in place. This serves to stabilise loose ground formations.
- **Drilling Continuation**: Drilling operations proceed to a depth equivalent to the greater of either 10% of the anticipated total depth.
- **Deployment of Surface Casing**: A string of surface casing is inserted to the total depth and secured in position through cementation.
- **Cementation at Base**: Cementation is performed at the base of the surface casing, ensuring structural integrity.
- **Further Drilling**: Drilling continues to approximately 50 m below the deepest targeted seam. This additional depth serves as a sump, facilitating the drainage of fines generated during the water pumping process from the production well. It minimises the necessity for excessive workovers throughout the lifespan of the well.

[5] The added depth below the deepest target seam is designed to act as a sump, collecting any fines that are created by the process of pumping water out of the producing well and minimising the need for excessive workovers during the well's lifespan.

- **Logging and Inspection**: Upon completion of drilling, the drill string is withdrawn, and the well is wireline logged for evaluation.
- **Deployment of Production Casing**: A string of production casing is then lowered into the wellbore, extending just above the coal seam. Cementation is achieved through displacement, ensuring a secure seal.
- **Under-Reaming**: The coal seam section is under-reamed, expanding the target area for future lateral intersections.
- **Cleaning Process**: The well undergoes a thorough flushing to remove any residual cuttings.
- **Wireline Logging**: The under-reamed section is wireline logged using a three-arm calliper to assess the effectiveness of under-reaming. This process records the size and shape of the area designated for lateral well targeting.

3.7.4.6 Powerline

The powerline will be constructed within the powerline corridor using standard powerline construction methods. The powerline corridor will be cleared via vegetation trimming and slashing.

3.7.5 Extraction Method

3.7.5.1 Progressive Cavity Pump

A tubing conveyed Progressive Cavity Pump will be employed for artificial lift of the water produced in the gas well. Prior to installation, the liner, tubing, and pump combination will be sized to ensure optimal down-hole separation of gas and water post-drilling.

The sizing of the down-hole pump is determined by various factors including permeability, inseam length, and the presence of existing production wells already dewatering the area.

The layout of well pads and surface equipment, encompassing telemetry and metering skids, aligns with industry standards prevalent in pre-draining coal seam gas.

3.7.5.2 Gas Commissioning

Commissioning and initial water/gas production involves:

- Initial Clean-up Phase: Dewatering of the well and gradual bleeding off of any annulus pressure to prevent violent gas desorption.
- Subsequent lowering of water level or casing pressure is executed in a controlled manner to minimise drawdown shock to the reservoir and cleat system.

3.7.5.3 Gas and Water Gathering System

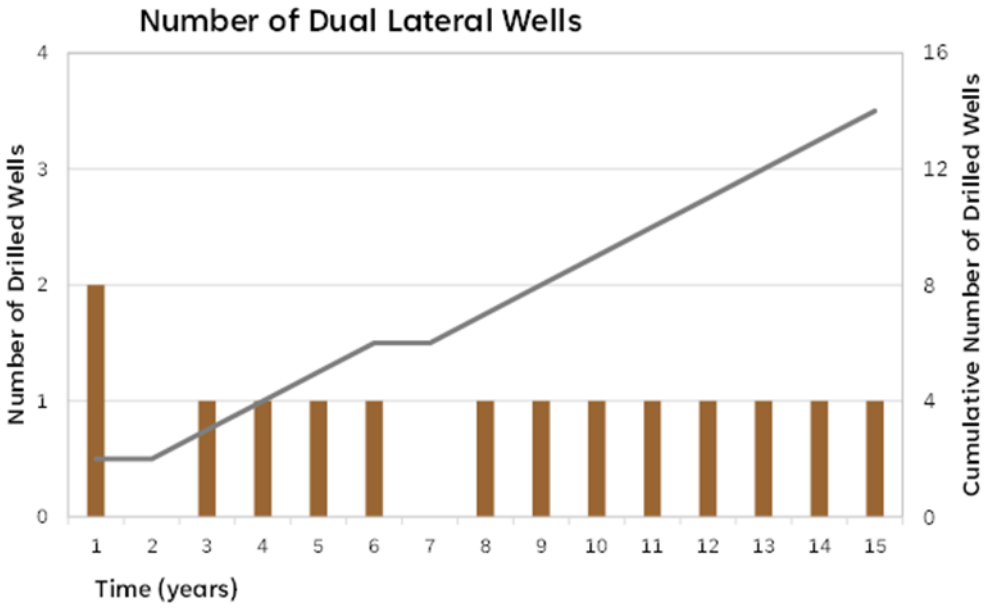
The gas produced from each production well will be routed to a main gas trunk line, leading to the power station's entry point and metering station. Gas transportation from wells to the power station is predicted to occur via wellhead pressure.

Drainage points within the gas gathering system are strategically located at natural low points to facilitate removal of any trapped waters. This water will be transported to existing SWC mine water infrastructure for beneficial reuse during mining operations.

Water is pumped from the wells via down hole pumps, and transferred via HDPE water lines to a storage tank situated at the power station. The water is then pumped from the transfer tank to the mine affected water system.

3.7.6 Extraction Schedule

The proposed power station is anticipated to require an approximate gas supply of 4 TJ/d (terajoules per day). To meet this demand, the initial indicative plan is to drill 9 dual lateral wells over the first decade of gas supply, as depicted in **Figure 3-10**. Additional wells will be drilled as necessary to sustain the targeted 4 TJ/d gas delivery.



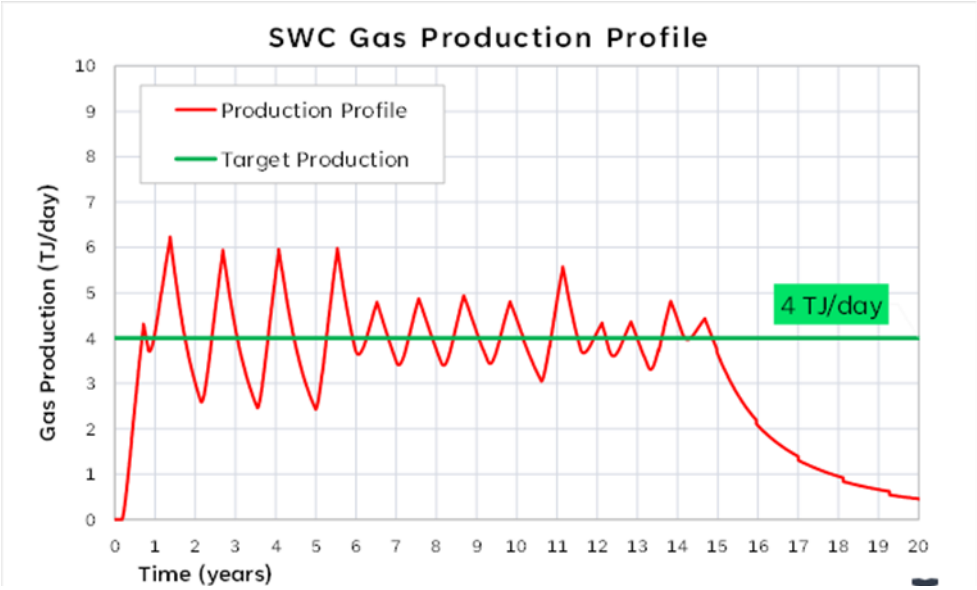
Source: Transition Energy & Stanmore, 2023

Figure 3-10 Indicative Drilling Schedule

The gas production profile, illustrated in **Figure 3-11**, presents a timeline spanning over twenty years, demonstrating the development of gas production in tandem with the number of dual lateral wells drilled (Transition Energy & Stanmore, 2023).

- Gas Production (TJ/day): The graph (**Figure 3-11**) portrays the projected gas production in terajoules per day over the timeline of twenty years.
- Number of Drilled Wells: The graph (**Figure 3-10**) delineates the number of dual lateral wells drilled at various intervals during the production period.
- Cumulative Number of Drilled Wells: The curve (**Figure 3-10**) represents the cumulative total of dual lateral wells drilled over the duration of the gas production phase.
- Production Profile Target: The target gas production rate of 4 TJ/day is emphasised as the benchmark for meeting the energy demands of the power station (**Figure 3-11**).
- Drilling Schedule: **Figure 3-10** indicates the planned progression of well drilling activities over the projected timeline. The drilling schedule correlates with the production profile target, aiming to ensure alignment between gas production rates and the requirements of the power station.

The drilling program is designed to dynamically respond to the evolving energy demands, with the flexibility to adjust drilling activities in accordance with the gas production profile. This approach ensures the reliable and sustainable supply of gas to meet the operational needs of the power station over the long term.



Source: Transition Energy & Stanmore, 2023

Figure 3-11 Indicative Gas Production Profile

3.7.7 Flaring

A gas flaring facility will be installed as part of the power station project, which is subject to a separate development approval application. The gas flare will be used when gas supply exceeds power station demands, in which case excess gas must be flared. Such events can be expected to occur during maintenance events whereby a number of generators may be shutdown at the power station. Temporary flaring may be required during commissioning of the gas drainage field, but will utilise the flaring infrastructure associated with the power station where possible.

3.7.8 Water Management

During the construction and development phases of the Gas Drainage Project, water demand remains minimal, primarily drawn from the SWC mine water management system. During operation, surplus water, abstracted from the groundwater system, will be generated. Gas production from each well will be gathered and conveyed through a main gas trunk line to the power station's entry point and metering station. This gathering process utilises appropriately sized HDPE pipes, buried at a depth of 0.75 m through trenching.

Gas transport between wells and the power station relies on wellhead pressure. Concurrently, produced water from wells, extracted using gas generators and progressive cavity pumps, will be gathered in HDPE lines alongside gas drainage lines. This water will then be taken to existing SWC mine water infrastructure for beneficial reuse during mining operations.

Detailed estimations regarding the volume and quality of excess water are provided in **Section 9**, while the capacity of the SWC mine water management system to accommodate this excess is confirmed in **Section 10**.

No alterations to the existing mine water management system or EA conditions for water management are proposed.

3.7.9 Decommissioning, Rehabilitation and Closure

The decommissioning of gas drainage infrastructure will be systematically undertaken to align with the rehabilitation conditions outlined in the EA.

This process involves the phased removal of installed wells and surface infrastructure. There will be no use of grouting or removal of gravel hardstand during this decommissioning phase.

Decommissioned areas will undergo a series of rehabilitation measures to restore environmental standards. This includes restoring near-natural surface profiles and reinstating subsoils and topsoils to approximate natural soil profiles, promoting good conditions for vegetation establishment.

Further steps may involve grading, ripping, and seeding in accordance with the SWC rehabilitation management plan. These activities are adapted to the characteristics of the terrain, aiming to promote soil stability, and foster the reestablishment of vegetation cover.

4. SOIL AND LAND RESOURCES

4.1 Regulatory Requirements

A review of applicable guidelines, standards, and legislation has been completed to summarise the regulatory framework for the assessment of impacts on land resources and for preparing approval documentation for the Project.

The following documents establish the regulatory framework and protocols for environmental and land management standards of relevance to the Project.

Legislation

- *State Development and Public Works Organisation Act 1971.*
- *Minerals Resources Act 1989.*
- *Regional Planning Interests Act 2014.*
- *Environmental Protection Act 1994.*

Guidelines

- *Soil Physical Measurement and Interpretation for Land Evaluation* (Coughlan, et. al., 2002).
- *Queensland Land Resources Assessment Guidelines, Volume 2: Field Tests, Objectives* (DES & DNRME, 2020).
- *Queensland Land Resources Assessment Guidelines, Volume 1: Soil and Land Resource Assessment* (DES, 2021).
- *Queensland Soil and Land Resource Survey Information Guideline* (DOR, 2021).
- *Guidelines for agricultural land evaluation in Queensland (Second Edition)* (DSITI & DNRM, 2015).
- *Regional Land Suitability Frameworks for Queensland* (DNRM & DSITIA, 2013).
- *RPI Act Statutory Guideline 08/14* (DSDMIP, 2019).
- *Land – EIS Information Guideline* (DESI, 2024).
- *Quarry material—EIS information guideline* (DAF, 2024).
- *The Australian Soil Classification. Third Edition* (Isbell & NCST, 2021).
- *Guidelines for Surveying Soil and Land Resources. Second Edition* (McKenzie, et al., 2008).
- *Australian Soil and Land Survey Field Handbook. Third Edition*. (The National Committee on Soil and Terrain, 2009).

Protocols

- Towards Sustainable Mining Protocols- A recognised accountability framework that establishes a consistent approach to environmental and social governance, aimed at minimising the impacts associated with mining activities in alignment with the mining industry's sustainable development framework.

4.2 Existing Environment

4.2.1 Review of Existing Information

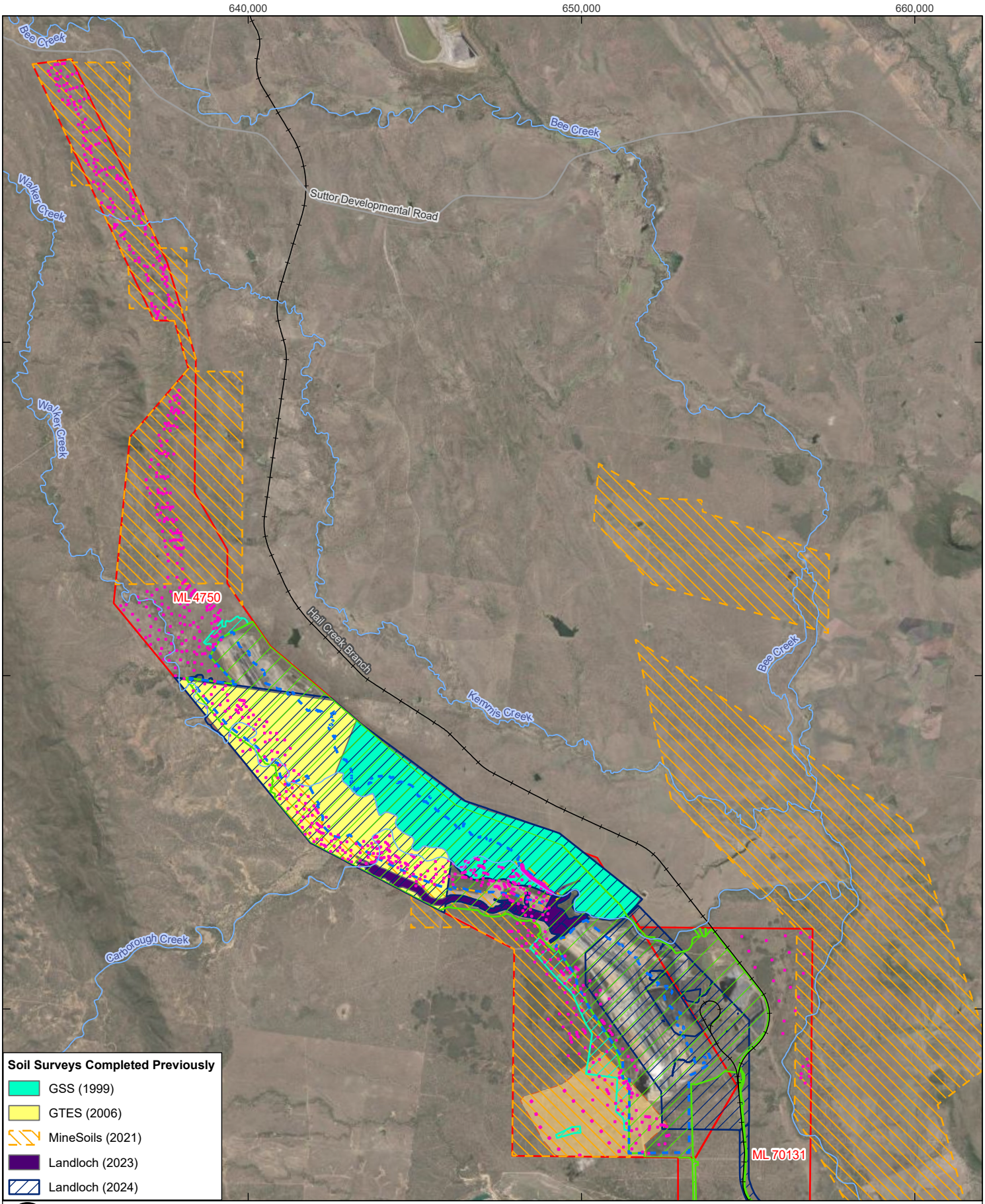
A review of publicly available information and data sources has been undertaken to establish a baseline understanding of the existing soil and land resources within the Project area. The review includes:

- Government databases and mapping.
- Aerial and satellite imagery.
- Regional Soil Mapping (State of Queensland, 2023).

Several soil surveys have been conducted across the Project area, contributing to a field-based understanding of local soil and land capabilities. These surveys include:

- Soil and Land Capability Survey Mulgrave Area, South Walker Creek – ML 4750 Existing land resource reports (GSS, 1999).
- BMA South Walker Creek Mine Surface Area 4, Soils and Land Suitability (GTES, 2006).
- Soils, Land Suitability and GQAL Baseline and Impact Assessment, South Walker Creek Mine Tailings Solutions Project (Minesoils Pty Ltd, 2021).
- South Walker Creek Mine: MRA2C Creek Diversion Soil Assessment (Landloch, 2023).
- South Walker Creek Mine: Material Characterisation Study (Landloch, 2024).

The soil surveys were conducted for the mining operations on ML70131 and the southern extent of ML4750. Areas evaluated by GSS (1999), GTES (2006), Landloch (2023) and Landloch (2024) are shown in **Figure 4-1**. Minesoils (2021) performed a desktop assessment on four discrete Project areas. Although a soil survey report by RNA Environmental Services (2019) was referenced in the Minesoils desktop assessment, this was not publicly accessible.



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Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:150,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
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- Gas Project Study Buffer
- Proposed Drill Pad

SOUTH WALKER CREEK EA AMENDMENT PROJECT

SOIL SURVEYS PREVIOUSLY COMPLETED

stanmore

FIGURE 4-1

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_LandResources_F04-01_Soil Surveys Previously Completed

4.2.2 Geological Setting

The regional geological setting at the SWC mine has been characterised by Douglas Partners (2013) as follows:

- The area is predominantly composed of Triassic and Permian sedimentary units, with additional surficial deposits from the Tertiary and Quaternary age.
- The geological framework surrounding SWC includes the following stratigraphic units, listed from youngest to oldest:
  - Unconsolidated alluvium and colluvium (Quaternary and Tertiary).
  - Rewan Group (Triassic).
  - Rangal Coal Measures (Permian).
  - Fort Cooper Coal Measures (Permian).
- Drilling records suggest that the Quaternary and Tertiary alluvium sediments (where present), are generally less than 20 m in thickness. This unit comprises clays, sandy clays and sands. Information concerning this unit is limited, however it is apparent that the unit attains a maximum thickness in proximity to present and past paleochannels associated with Walker and Carborough Creeks.
- The Triassic Rewan Group consists of thinly interbedded green to reddish brown mudstone, siltstone and fine lithic sandstone. The Rewan Group generally conformably overlies the Rangal Coal Measures. The transition between the Rewan Group and the Rangal Coal Measures is sometimes difficult to define and is often based on a change in colour.

4.2.3 Surface Geology

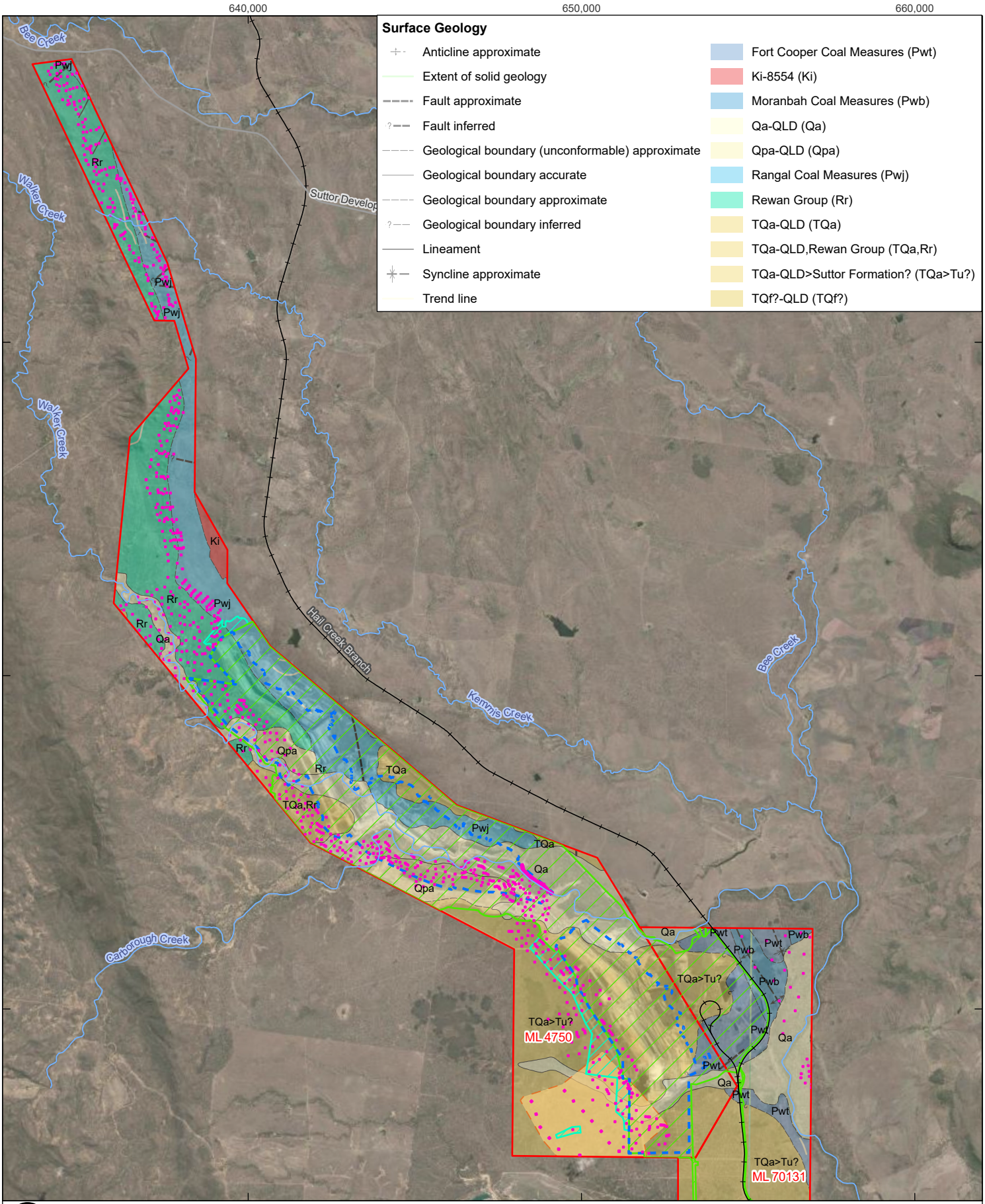
ML4750 and ML70131 cover an area of 15,179 ha. The Project includes the construction of access tracks, drill pads, seismic lines, and infrastructure developments, which are located entirely within the two mining leases.

The surface geology mapped within the mining leases is detailed in **Table 4-1**. These geological units, arranged from oldest to youngest, are based on detailed surface geology mapping conducted in Queensland. The surface geology is also visually presented in **Figure 4-2**, providing a spatial context for the geological features present within the mining leases and the Project area.

Table 4-1 Surface Geology

Geological Age	Unit Name	Unit Composition
Late Permian	Rangal Coal Measures	Calcareous sandstone, calcareous shale, mudstone, concretionary limestone, and coal.
Late Permian	Fort Cooper Coal Measures	Lithic sandstone, conglomerate, mudstone, carbonaceous shale, coal, tuff, and tuffaceous (cherty) mudstone.
Late Permian	Moranbah Coal Measures	Labile sandstone, siltstone, mudstone, coal, and conglomerate.
Early - Middle Triassic	Rewan Group	Lithic sandstone, pebbly lithic sandstone, green to reddish-brown mudstone, minor volcanilithic pebble conglomerate (at base).
Cretaceous	Ki-8554	Gabbro, leuco-diorite, quartz hornblende diorite, biotite hornblende granodiorite (intrusive unit).

Geological Age	Unit Name	Unit Composition
Late Tertiary - Quaternary	TQa	Locally red-brown mottled, poorly consolidated sand, silt, clay, minor gravel; high-level alluvial deposits related to stream valleys (commonly dissected).
Late Tertiary - Quaternary	TQf	Consolidated to non-consolidated, locally mottled clayey to sandy gravel, sand, clay; alluvial fan and slope-wash deposits forming steep to gently sloping surfaces.
Quaternary	Qpa	Clay, silt, sand, and gravel; flood-plain alluvium on high terraces.
Quaternary	Qa	Clay, silt, sand, and gravel; flood-plain alluvium.



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Coordinate System:	GDA2020 MGA Zone 55
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LEGEND

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- Gas Project Study Buffer
- Proposed Drill Pad

SOUTH WALKER CREEK EA AMENDMENT PROJECT

SURFACE GEOLOGY

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FIGURE 4-2

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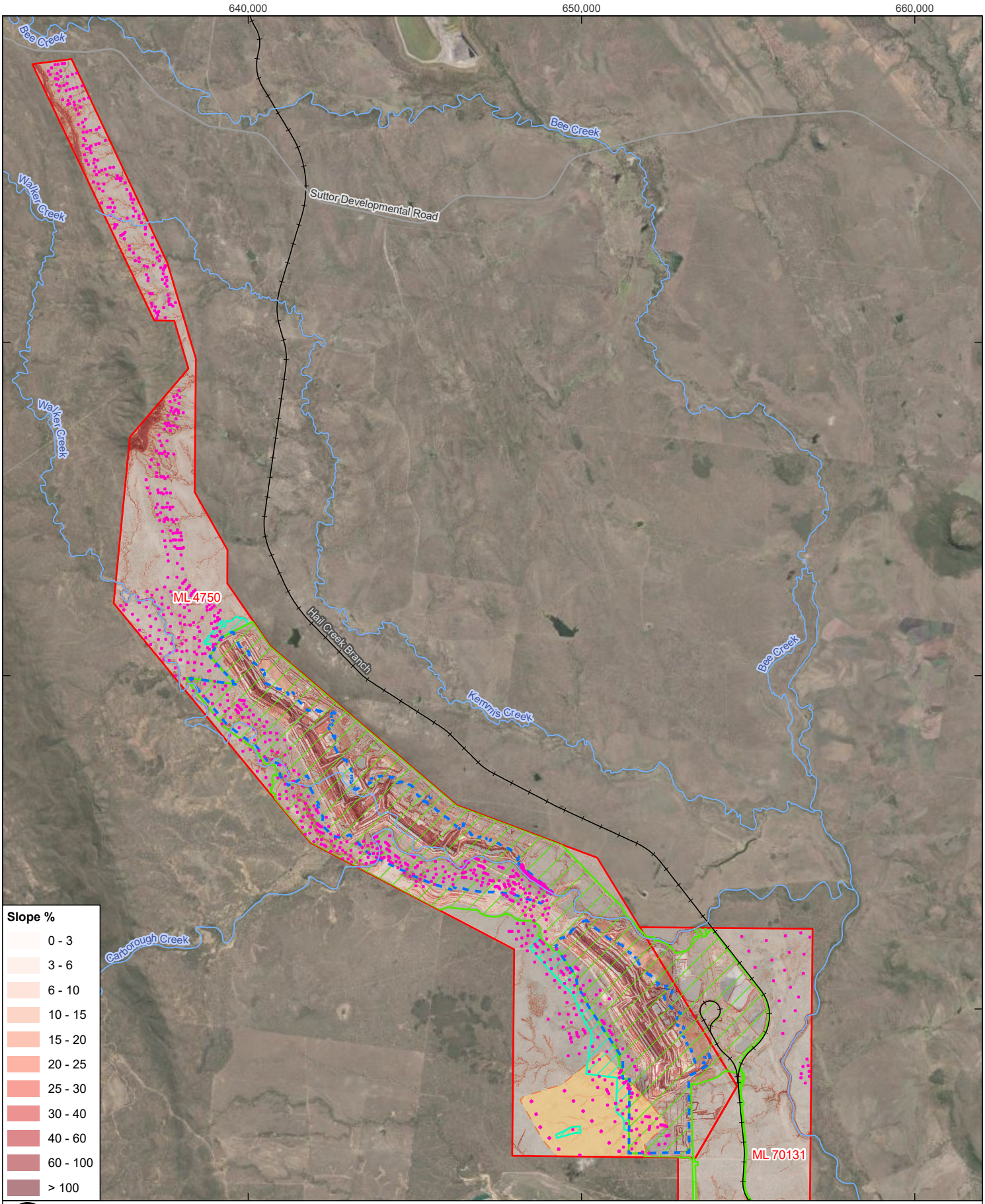
4.2.4 Slope Assessment

Slope analysis is essential for evaluating land and soil resource as it directly impacts several key factors that influence land use, agricultural potential, soil erosion, and environmental management. A slope analysis for the Project area is shown in **Figure 4-3**.

The main findings of the slope assessment, excluding mine affected areas, are summarised as follows:

- Gentle slopes: Approximately 94% of the Project area has a slope ranging from 0% and 6%. This gentle topography is conducive to a variety of land uses, including agriculture and infrastructure development, due to reduced risks of soil erosion and easier management practices.
- Areas of increased slope: Discrete areas with higher slopes are identified along the north western boundary of the Project area. These steeper regions may pose difficulties for certain land uses, particularly agriculture, as they can increase the potential for soil erosion and runoff.

This slope assessment not only highlights the general topographic characteristics of the Project area but also informs land use planning and management strategies. Understanding slope variability is important for mitigating erosion risks and optimising land use practices, ensuring sustainable development aligned with environmental considerations.



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SOUTH WALKER CREEK EA AMENDMENT PROJECT

SLOPE ASSESSMENT

stanmore

FIGURE 4-3

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_LandResources_F04-03_Slope Assessment

4.2.5 Land Systems

The Project area is characterised by 10 distinct land systems, as identified in the 1:500,000 scale Isaac-Comet Land Systems report by CSIRO (1967) (CSIRO, 1967). This classification provides information into appropriate land use potential of the region. A summary of these land systems is provided in **Table 4-2** and presented in **Figure 4-4**.

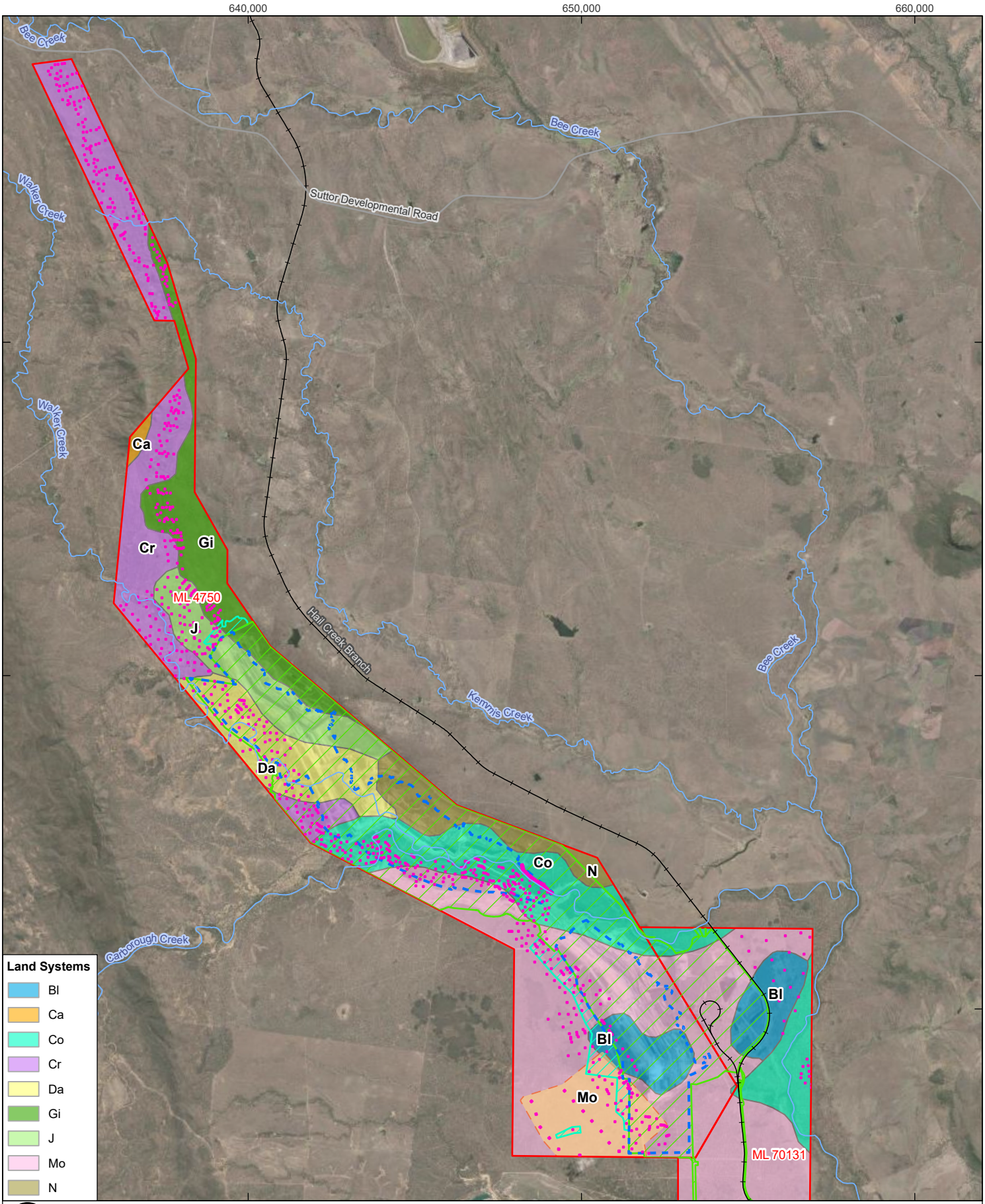
Table 4-2 Land Systems

Map Code	Full Name	Description	ASC Order	Drainage	Permeability	Surface Condition
Bl	Blackwater	Brigalow plains and cracking clays on weathered Tertiary clay and older rocks along the central axis of the area.	Vertosol	3	1	Mulch
Ca	Carborough	Mountains and hills with shallow rocky soil and narrow-leaved ironbark, bloodwood, and lacewood on quartz sandstone in the north-west and the south.	Rudosol	6	4	Loose
Co	Connors	Alluvial plains with box on texture contrast soils throughout the area.	Sodosol	3	1	Hardsetting
Cr	Cotherstone	Stony hills and lowlands on weathered Permian sandstone and shale, mainly in the west of the area; texture contrast soils; savannah woodland (ironbark) or mixed shrub woodland (box).	Sodosol	3	1	Hardsetting
Da	Daunia	Lowlands with brigalow and cracking clays on weathered and fresh Permian shales and lithic sandstone in the north and centre.	Vertosol	3	1	Mulch
Gi	Girrah	Lowlands with downs and brigalow and cracking clays on unweathered Permian shale and lithic sandstone in the north and centre.	Vertosol	3	1	Mulch
Hu	Humboldt	Blackbutt and brigalow on weathered clay plains occurring in most parts of the area; texture contrast soils and cracking clays.	Sodosol	3	1	Hardsetting

Map Code	Full Name	Description	ASC Order	Drainage	Permeability	Surface Condition
J	Junee	Tablelands and plains with narrow-leaved ironbark and red and yellow earths on intact Tertiary land surface throughout the area except in the north-east and extreme south.	Kandosol	5	3	Hardsetting
Mo	Monteagle	Lowlands with box and texture contrast soils on undissected Tertiary land surface throughout the area except in the extreme south and north-east.	Sodosol	3	1	Hardsetting
N	Nebo	Lowlands with bloodwood, box, and ironbark on Lower Bowen Volcanics and gravel derived there from in the north-east of the area; cracking clay and texture contrast soils.	Vertosol	4	2	Mulch

Legend:

- ASC Order: Classification Order (1 = highest, 6 = lowest)
- Drainage: Drainage condition (1 = good, 6 = poor)
- Permeability: Permeability level (1 = high, 6 = low)
- Surface Condition: Surface type (e.g., Mulch, Loose, Hardsetting)



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- Gas Project Study Buffer
- Proposed Drill Pad

SOUTH WALKER CREEK EA AMENDMENT PROJECT

LAND SYSTEMS CLASSIFICATION

stanmore

FIGURE 4-4

4.2.6 Soil Mapping

Regional mapping, as shown in **Figure 4-5**, provides a broad-scale overview of soil types in the area. The dominant soil types identified include texture contrast soils, particularly Sodosols. Additionally, the mapping indicates extensive areas of Vertosols (cracking clay soils) and smaller areas of Kandosols and Rudosols. For a more detailed understanding of the soil types within the Project area, land system mapping, in **Section 4.2.5** , offers improved insights, though it remains based on regional scale mapping.

Investigations by GSS (1999) and GTES (2006) identified eight (8) soil landscape units (SLU) within ML70131 and the southern extent of ML4750. A soil survey and soil recovery assessment of the MRA2C Creek Diversion area were completed by Landloch in 2023. In 2024, Landloch conducted a material characterisation study summarising the outcomes of previous soil investigations. A consolidated summary of all SLUs is presented in **Table 4-3** and shown in **Figure 4-6**.

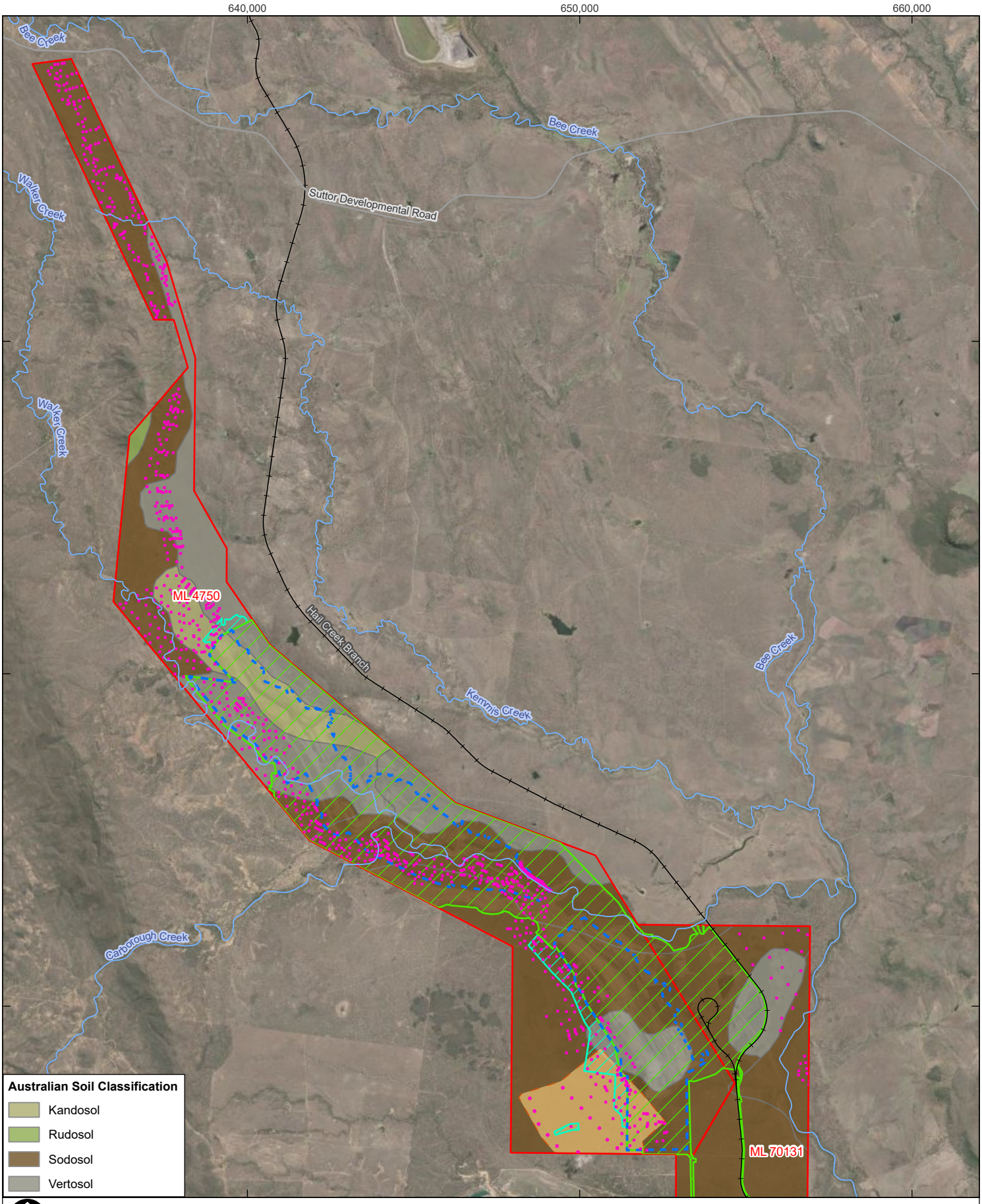
Key points from the soil mapping and investigations include:

- Field Assessments: **Figure 4-6** shows that in-field soil investigations are limited to sections of the southern extent of the Project area, much of which has been previously disturbed by mining. The soil landscape units in this area include flood plains, undulating plains, ridges, terraces, and drainage lines. These units feature various soil types, such as, loamy sands, cracking clays, and hard-setting sandy loams. The drainage and subsoil conditions vary. Vegetation includes Moreton Bay Ash, Red River Gum, and Poplar Box on flood plains, and grasslands with scattered Mountain Coolabah, and Ironbark on the plains and ridges. Some areas are prone to erosion, waterlogging, or salinity, affecting their suitability for grazing and agricultural use. Broad-scale mapping of undisturbed sections of the southern extent of the Project area predominantly shows Sodosols.
- Soil Suitability: The preferred use of the soil units is primarily grazing, with varying degrees of suitability:
    - Units A1, B2, B4, B5, and C1: Generally suitable for grazing but have limitations due to factors such as water storage, nutrient deficiencies, compaction, salinity, water logging, or surface crusting.
    - Units B1 and B3: Suitable for grazing and improved pastures but prone to erosion if overgrazed.
    - Unit D1: Marginally suitable for grazing due to poor pasture sustainability and saline sodic subsoils.
- Northern extent of the Project area: Broadscale mapping shows this area is dominated by stony hills and lowlands with Permian sandstone and shale, classified as Sodosols. Other areas include lowlands with brigalow and cracking clay on shale and sandstone (classified as Vertosols) and tablelands and plains with ironbark and red/yellow Kandosols.

Table 4-3 Summary of Representative SLUs Developed in Previous Soil Assessments (adapted from Landloch (2024))

Soil	Soil Landscape Unit Description	Topsoil Chemistry			Land Suitability	
		pHw (pH Units)	ECi (ds/m)	Dispersion (%)	Grazing Class	Preferred Use
A1	Flood plains of Walker Creek. Deep, neutral, loamy coarse sand overlaying sandy loam to medium clays. Well drained. Vegetation: Moreton Bay Ash, Red River Gum, and Poplar Box	8.4	0.08	38	3	Suitable grazing land with minor restrictions from water storage and nutrient deficiencies.
B1	Undulating plains and rises up to 3% slope. Dark brown cracking clays overlaying unconsolidated gravels. Vegetation: open grassland with scattered Mountain Coolabah and Narrow Leaf Ironbark.	8.5	N/A	N/A	2	Good quality grazing land suited to improved pastures, but potential for erosion if overgrazed.
B2	Undulating ridges and slopes to 3%. Sandy clay to clay loam with hard setting surface. Sub soils are alkaline. Vegetation: Narrow Leafed Ironbark, Bloodwood, Ghost Gum, Poplar Box and Cassia brusterii.	7.1	0.15	21	3	Suitable grazing land with some restrictions with possible compaction and susceptible to severe erosion if overgrazed.
B3	Depositional areas and drainage lines from Bl and B2 soils. Include deep cracking medium clays and non-cracking light to medium clays on Brigalow and Poplar Box.	7.3	0.18	20	2	Good quality grazing land suited to improved pastures, but potential for erosion if overgrazed.
B4	Crusting sandy brigalow clays - not gilgaied. Often occurs as small areas within Poplar Box woodlands. A thin crusting sandy surface overlies brown to grey sandy clay subsoils which become quite hard and mottled at depth.	8.2	0.13	N/A	3	Suitable grazing land with minor restrictions from water logging and surface crusting.

Soil	Soil Landscape Unit Description	Topsoil Chemistry			Land Suitability	
		pHw (pH Units)	ECi (ds/m)	Dispersion (%)	Grazing Class	Preferred Use
B5	Thick brigalow clays with melon holes. Occurs on lower lying areas above the alluvial plains in association with B4. Dark, cracking medium clays in depressions and lighter sandy non-cracking uniform clays along mounds.	8.3	0.06	N/A	3	Suitable grazing land with restrictions from salinity below 20cm.
C1	Higher alluvial terraces that rarely flood. Hard setting sandy loam surface. Vegetation: Poplar Box, Narrow Leaf Ironbark and Moreton Bay Ash.	6	0.04	56	3	Suitable grazing lands but susceptible to degradation from erosion and surface sealing if overgrazed.
D1	Flat to gently undulating up to 1% slope. Neutral to hard setting surface layer. Vegetation: stunted Poplar Box and Sandalwood.	6.5	0.08	36	4	Marginal grazing due to ability to sustain adequate pasture. Saline and sodic subsoils within 20cm of the surface limit



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Project Number:	620.040822.00001
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LEGEND

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- Proposed Drill Pad

SOUTH WALKER CREEK EA AMENDMENT PROJECT

SOIL CLASSIFICATION - REGIONAL MAPPING

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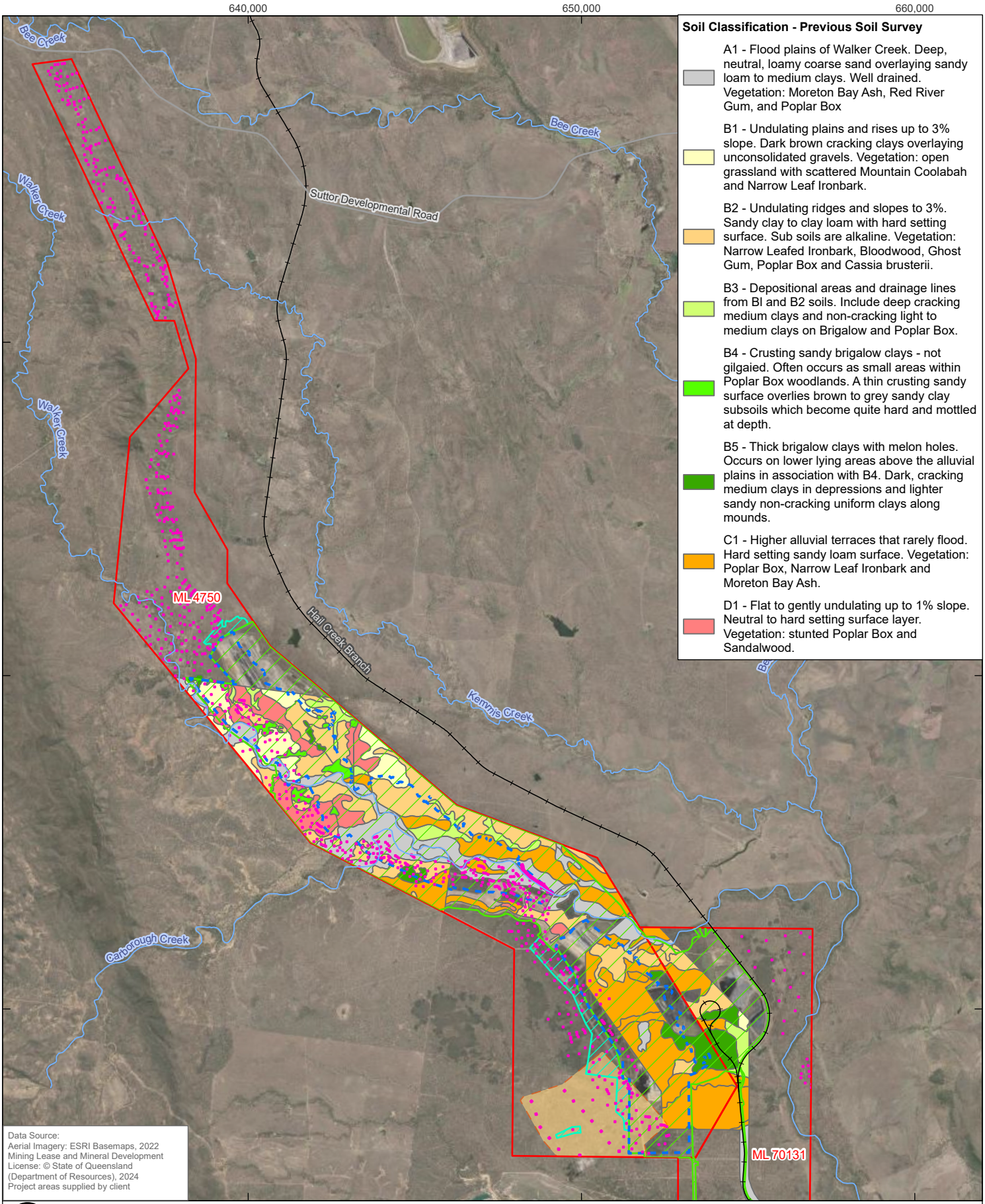
FIGURE 4-5

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_LandResources_F04-05_Soil Classification - Regional Mapping



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SOUTH WALKER CREEK EA AMENDMENT PROJECT

SOIL CLASSIFICATION - PREVIOUS SOIL SURVEYS

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FIGURE 4-6

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_LandResources_F04-06_Soil Classification - Previous Soil Surveys

4.2.7 Land Capability and Suitability

Land suitability classes in Queensland are categorised into five classes, reflecting the land's suitability for specific uses and its potential for sustainable production with current technology. These classes are designed to optimise land use while minimising degradation over short, medium or long-terms (Queensland Government, 2013).

The five land suitability classes as defined by the Queensland Government (2013) are as follows:

- **Class 1** Suitable land with negligible limitations. Highly productive, requiring only simple management practices to maintain economic production.
- **Class 2** Suitable land with minor limitations that may reduce production or require more than the simple management practices of Class 1.
- **Class 3** Suitable land with moderate limitations that further reduce production or require more than simple management practices of Class 2.
- **Class 4** Marginal land, with severe limitations. The long term impact of these limitations is uncertain and may require additional studies to determine if they can be mitigated to achieve sustainable economic production.
- **Class 5** Unsuitable land with extreme limitations, making it unsuitable for use.

Each mapping unit within the Project area is assigned an overall suitability class from 1 to 5, typically based on the most severe suitability subclass within that unit.

Several soil surveys and land suitability assessments have been conducted in the Project area, including:

- Soil and Land Capability Survey Mulgrave Area, South Walker Creek – ML 4750 Existing land resource reports (GSS, 1999).
- BMA South Walker Creek Mine Surface Area 4, Soils and Land Suitability (GTES, 2006).
- Soils, Land Suitability and GQAL Baseline and Impact Assessment, South Walker Creek Mine Tailings Solutions Project (Minesoils Pty Ltd, 2021).
- South Walker Creek Mine: Material Characterisation Study (Landloch, 2024).

The GSS (1999) report, assessed both land capability and land suitability:

- Land capability refers to the overall agricultural potential of land.
- Land suitability pertains to specific uses, such as grazing and cropping.

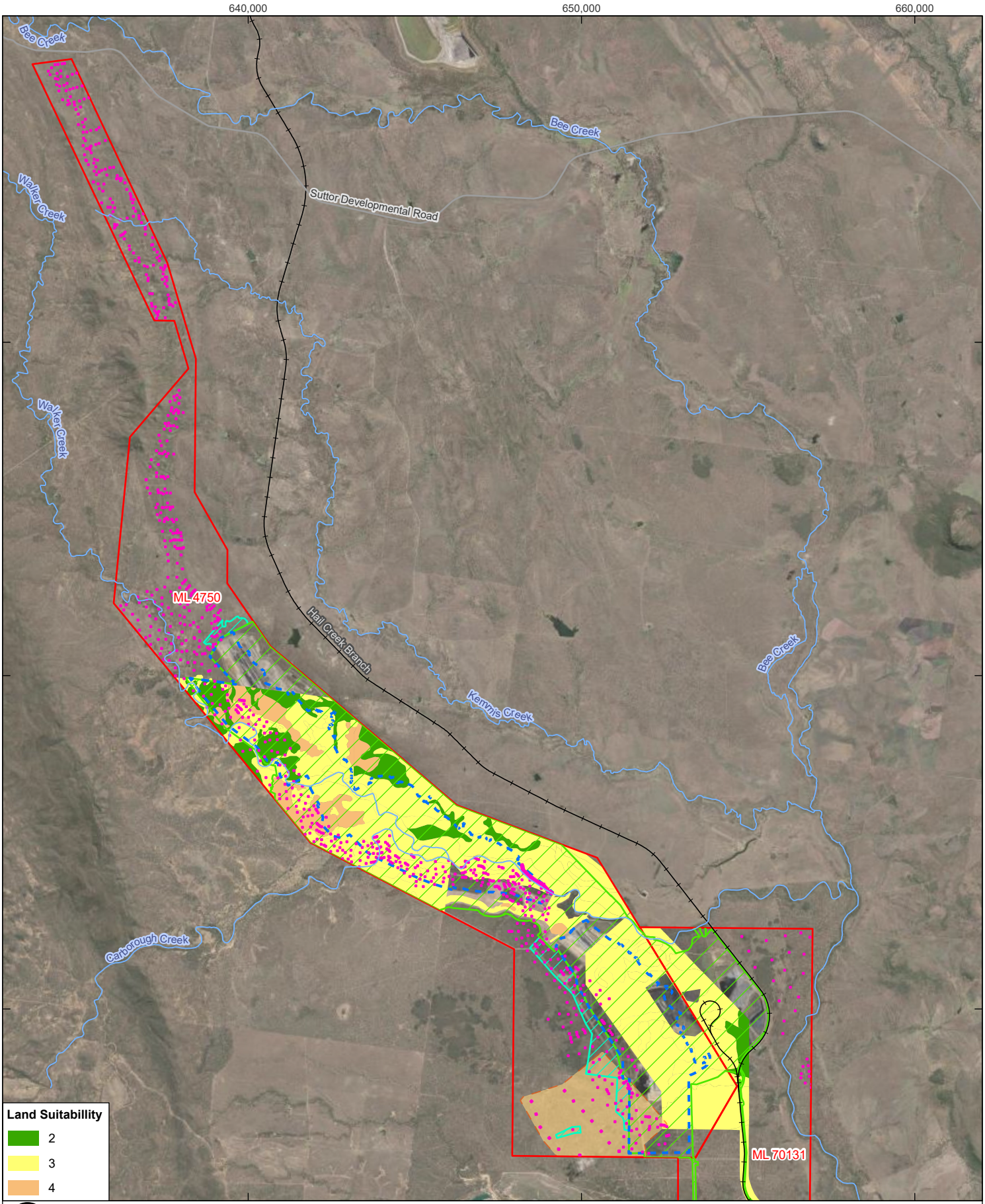
Land capability was classified using the framework established by Rosser et al. (1974). Land suitability used the Department of Minerals and Energy (1995) *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland* (1995), and the grazing and cropping guidelines in Shields and Williams (1991) *Land Resource Survey and Evaluation of the Kilcummin Area, Queensland*. GTES (2006) followed a similar approach. Minesoils (2021) undertook a desktop assessment based on regional agricultural land class (ALC) mapping, used to identify potential good quality agricultural land (GQAL) as per the *Guidelines for the identification of Good Quality Agricultural Land* (DPI, 1993) (referred to as the GQAL guidelines).

Recent updates, include the *Regional Land Suitability Frameworks for Queensland* (Land Suitability Framework) (DSITIA & DNRM, 2013) and the *Guidelines for Agricultural Land Evaluation in Queensland* (Second Edition) updated in 2015 (DNRM & DSITIA, 2015). These frameworks provide detailed criteria for assessing crop suitability for specific land or soil areas.

Landloch (2024) re-evaluated the land suitability ratings for the southern extent of the Project area using the updated land suitability classes (Department of Resources, 2021). **Table 4-3** and **Figure 4-7** summarise these findings:

- Class 2: Generally deeper, more fertile and better suited for improved pasture. They are less prone to compaction compared to soils in Class 3 and they have a lower erosion risk compared to Class 3.
- Class 3: Higher erosion risk and potential compaction issues, especially in soils like B2 an B4.
- Class 4: Often have saline and sodic subsoils, limiting their capability to sustain pastures. These soils are compact and have lower fertility and nutrient availability compared to Class 2 and Class 3.

There is no regional mapping indicating the Land Suitability as assessed per the Land Suitability Framework (DSITIA & DNRM, 2013) for the Inland Fitzroy and Southern Burdekin Area, and therefore Land Suitability of the rest of the site could not be evaluated using this Framework.



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SOUTH WALKER CREEK EA AMENDMENT PROJECT

LAND SUITABILITY

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FIGURE 4-7

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4.2.8 Agricultural Land Class and Good Quality Agricultural Land

The Project area has been evaluated based on regional ALC mapping to identify potential GQAL. This assessment follows the GQAL guideline.

Definitions:

- Agricultural land is defined as land used for crop or animal production, but excluding intensive animal uses (i.e. feedlots and piggeries).
- GQAL is land which is capable of sustainable use for agriculture, with a reasonable level of inputs, and without causing degradation of land or other natural resources.

The GQAL guideline provides a framework for local authorities and development proponents to identify and manage areas of GQAL for planning and project approval.

The ALC classification system integrates land suitability assessments for various land uses into a single classification framework. The system categorises land into four classes. Descriptions of the ALCs are provided in **Table 4-4** and the classification system summarised in **Table 4-5**.

Table 4-4 Scheme for Classifying Agricultural Land

Class	Name	Description
A	Arable land (Crop land)	Land that is suitable for current and potential crops with limitations to production which range from none to moderate levels.
B	Limited arable land (Limited crop land)	Land that is marginal for current and potential crops due to severe limitations, and suitable for pastures. Engineering and/or agronomic improvements may be required before the land is considered suitable for cropping.
C	Pastoral land	Land that is suitable only for improved or native pastures due to limitations which preclude continuous cultivation for crop production; but some areas may tolerate a short period of ground disturbance for pasture establishment.
D	Non-agricultural land	Land not suitable for agricultural uses due to extreme limitations. This may be undisturbed land with significant habitat, conservation and/or catchment values or land that may be unsuitable because of very steep slopes, shallow soils, rock outcrop or poor drainage.

Source: DPI 1993

Table 4-5 Broadacre Cropping Land Suitability Ranking and Agricultural Land Class Correlation

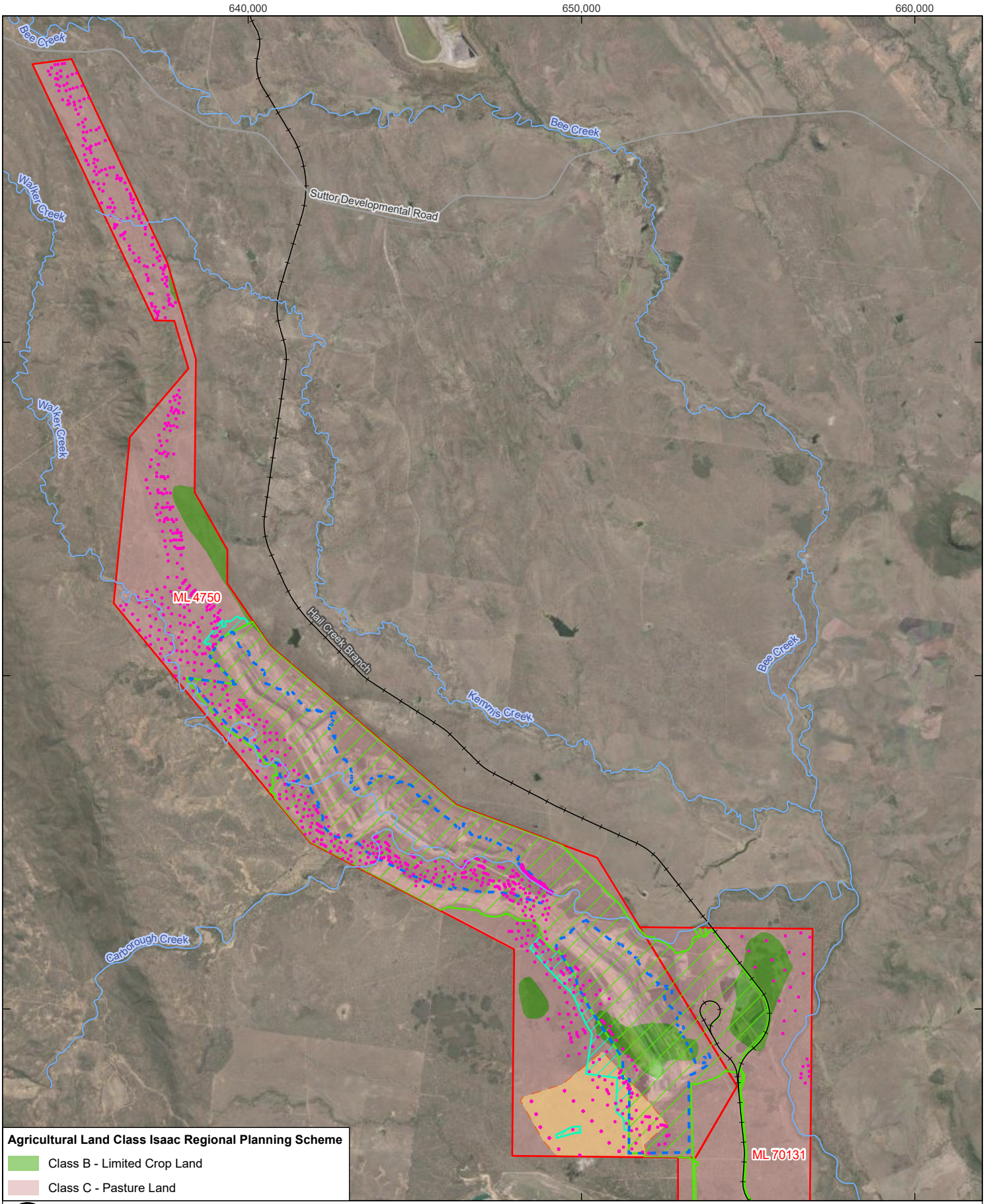
Land Suitability Ranking	Description	ALC
1	High quality land with few or minor limitations	A
2	Land with minor limitations	A
3	Moderate limitations to sustaining its use	A
4	Marginal land requiring major inputs to sustain the use	B or C
5	Unsuitable due to extreme limitations	C or D

The overall land suitability rating of 1-5 is translated into an ALC rating of A-D. Additionally, for the Central West Queensland region, ALC C is further divided into three sub-classes of C1, C2 and C3, according to potential grazing quality, as outlined in **Table 4-6**.

Table 4-6 Beef Cattle Grazing Land Suitability Ranking and ALC

LS Rating	Land Suitability Description (DME 1995)	ALC	ALC Description	General description (B. Forster DERM (per comm., 2010))
1	High quality land with few or minor limitations	C1	Good quality grazing and/or highly suitable for pasture improvement	Brigalow vegetation; appropriate for fattening beef cattle; good grazing on sown pastures and can withstand ground disturbance.
2	Land with minor limitations	C1		Brigalow vegetation and/or transitional vegetation to poplar box vegetation communities.
3	Moderate limitations to sustaining its use	C2	Moderate quality grazing and/or moderately suitable for pasture improvement	Eucalypt woodland, poplar box, narrow-leaved eucalyptus, gum-top woodlands; low-moderate Plant Available Water Capacity (PAWC) and low-moderate fertility; good grazing on native pastures without ground disturbance; appropriate for beef cattle breeders.
4	Marginal land requiring major inputs to sustain the use	C3	Low quality grazing, grazing of native pastures with limited suitability for pasture improvement	Tea-tree vegetation; usually characterised by steep country or mangrove flats.
5	Unsuitable due to extreme limitations	D	Not suitable	Unsuitable due to extreme limitations.

Figure 4-9 shows the division of Class C-Grazing land into sub-classes C1, C2, C3 and D as detailed in **Table 4-6**. Of these, only C1 is considered GQAL. The regionally mapped ALC from two data sets indicates that very limited future disturbance area is currently classified as GQAL.



Agricultural Land Class Isaac Regional Planning Scheme

- Class B - Limited Crop Land
- Class C - Pasture Land

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:150,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
- Approved Additional Exploration Area (30/7/2024)
- Gas Project Study Buffer
- Proposed Drill Pad

SOUTH WALKER CREEK EA AMENDMENT PROJECT

AGRICULTURAL LAND CLASS (ALC) ISAAC REGIONAL PLANNING SCHEME

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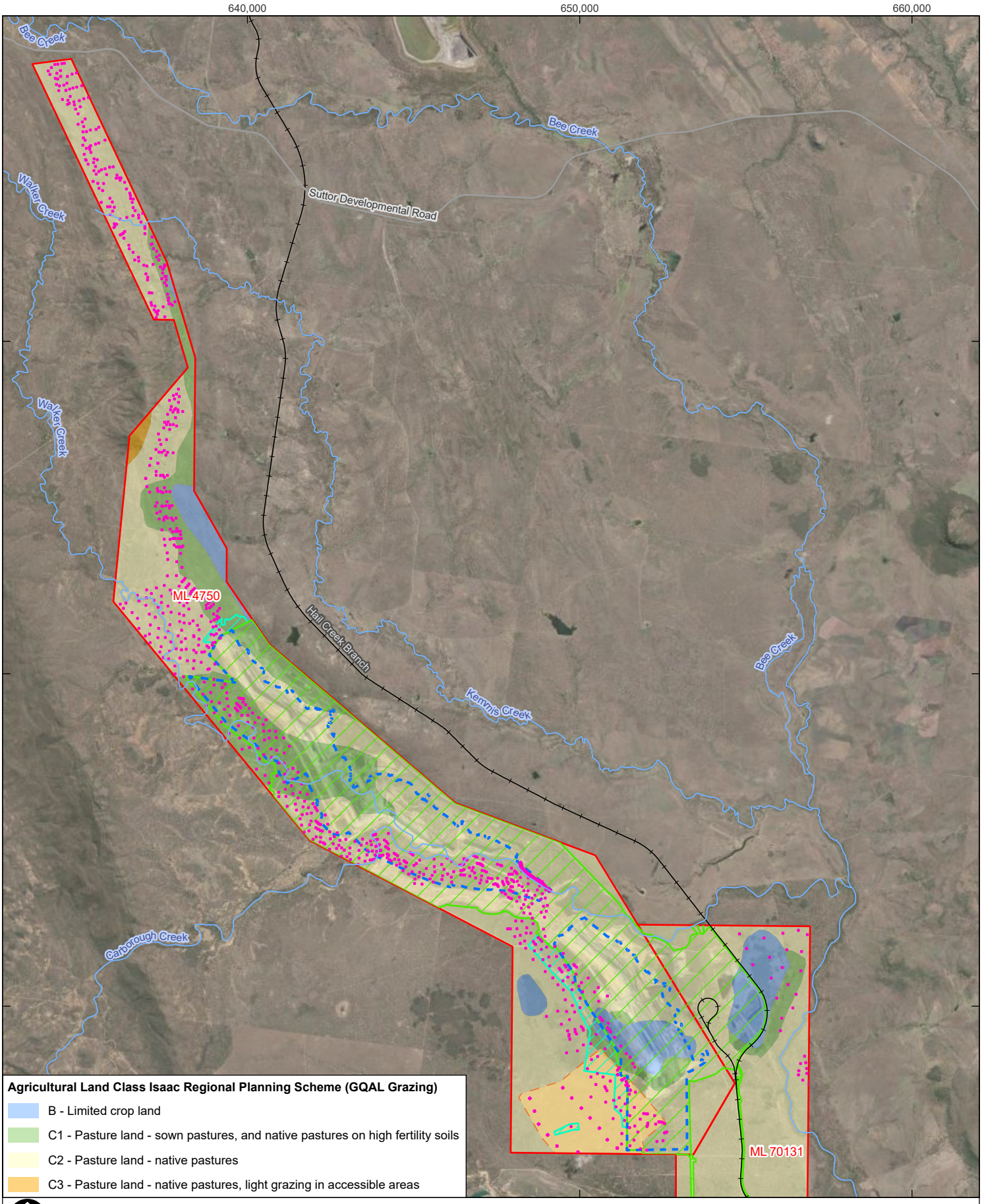
FIGURE 4-8



Agricultural Land Class Isaac Regional Planning Scheme (GQAL Grazing)

- B - Limited crop land
- C1 - Pasture land - sown pastures, and native pastures on high fertility soils
- C2 - Pasture land - native pastures
- C3 - Pasture land - native pastures, light grazing in accessible areas

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:150,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
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- Proposed Drill Pad

SOUTH WALKER CREEK EA AMENDMENT PROJECT

AGRICULTURAL LAND CLASS (ALC) ISAAC REGIONAL PLANNING SCHEME - GQAL GRAZING

stanmore

FIGURE 4-9

4.2.9 Strategic Cropping Land

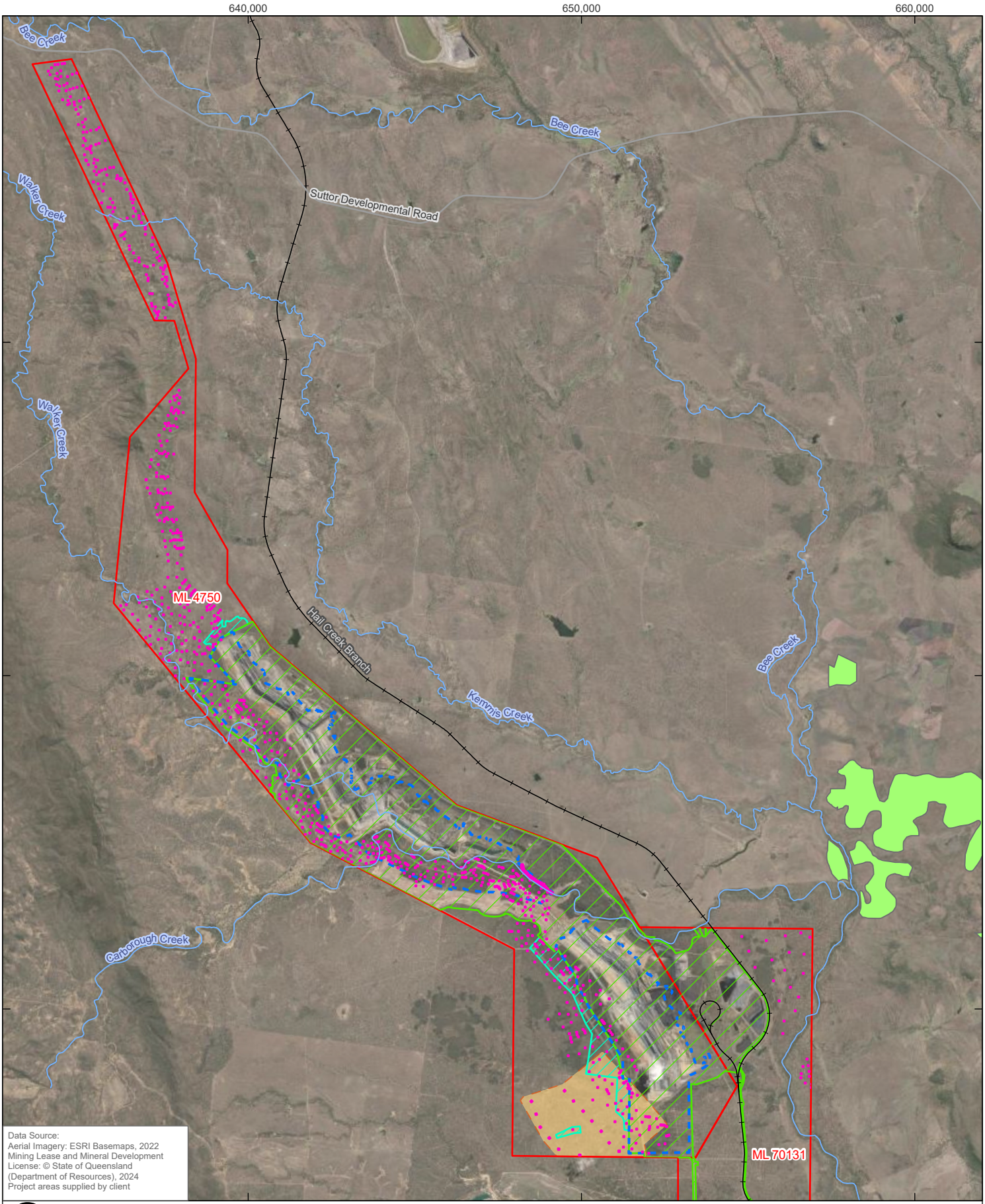
This Strategic Cropping Land (SCL) desktop assessment has been prepared generally in accordance with the requirements of the following relevant strategic land use planning documents:

- RPI Act.
- *Regional Planning Interests Regulation 2014* (RPI Regulation).
- *RPI Act Guideline 08/14: How to demonstrate that land in the strategic cropping area does not meet the criteria for strategic cropping land* (RPI Guideline).

The RPI Act, which commenced in 2014, replaced the former SCL Act. Its purpose is to manage the impact of resource activities and other regulated activities on areas of the State that contribute, or are likely to contribute, to Queensland's economic, social and environmental prosperity. The relevant aspects of the RPI Act relevant to this report include:

- The incorporation of the current SCL zonal criteria and on-ground guideline for assessing whether a property (or part of a property) is SCL.
- The RPI Act does not allow the mapping of an Area of Regional Interest (ARI) to be challenged by proponents or third parties. However, through the process of a Regional Impact Development Approval application this will in essence determine if land is SCL or not according to the Assessment Criteria contained in the RPI Guideline. These criteria detailed are generally equivalent to those in the repealed SCL Act.

The Project is located within the SCL Western Cropping Zone as shown in **Figure 4-10**. No trigger mapped SCL is identified in the Project area. The nearest trigger mapped SCL is located approximately 1.3 km to the east of ML70131.



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
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LEGEND

- Railway
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- Approved Additional Exploration Area (30/7/2024)
- Gas Project Study Buffer
- Proposed Drill Pad
- Strategic Cropping Land

SOUTH WALKER CREEK EA AMENDMENT PROJECT

STRATEGIC CROPPING LAND TRIGGER MAP

stanmore

FIGURE 4-10

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_LandResources_F04-10_Strategic Cropping Land Trigger Map

4.2.10 Topsoil Stripping

The Topsoil Management Procedure (Stanmore, 2023) provides comprehensive guidelines for topsoil management, including planning, stripping, recovery and monitoring. According to Section 7.1 of the Topsoil Management Procedure, the stripping depth for topsoil typically ranges from 10 cm to 60 cm. Efforts should be made to recover the maximum depth of topsoil.

Historical data on topsoil stripping depths, as determined by GSS (1999) and GTES (2006), indicate that actual stripping depths within the Project area may vary, influenced by specific site conditions and operational practices. A summary of the historical data on topsoil stripping depths is presented in **Table 4-7**.

Table 4-7 Summary of Representative SLUs Stripping Depths

Soil	Soil Landscape Unit Description	Stripping depth (cm) GSS (1999)	Stripping depth (cm) GTES (2006)
A1	Flood plains of Walker Creek. Deep, neutral, loamy coarse sand overlaying sandy loam to medium clays. Well drained. Vegetation: Moreton Bay Ash, Red River Gum, and Poplar Box	100	50
B1	Undulating plains and rises up to 3% slope. Dark brown cracking clays overlaying unconsolidated gravels. Vegetation: open grassland with scattered Mountain Coolabah and Narrow Leaf Ironbark.	30	30
B2	Undulating ridges and slopes to 3%. Sandy clay to clay loam with hard setting surface. Sub soils are alkaline. Vegetation: Narrow Leafed Ironbark, Bloodwood, Ghost Gum, Poplar Box and Cassia brusterii.	40	20
B3	Depositional areas and drainage lines from Bl and B2 soils. Include deep cracking medium clays and non-cracking light to medium clays on Brigalow and Poplar Box.	30	20-30
B4	Crusting sandy brigalow clays - not gilgaied. Often occurs as small areas within Poplar Box woodlands. A thin crusting sandy surface overlies brown to grey sandy clay subsoils which become quite hard and mottled at depth.	-	20-30
B5	Thick brigalow clays with melon holes. Occurs on lower lying areas above the alluvial plains in association with B4. Dark, cracking medium clays in depressions and lighter sandy non-cracking uniform clays along mounds.	-	10-15
C1	Higher alluvial terraces that rarely flood. Hard setting sandy loam surface. Vegetation: Poplar Box, Narrow Leaf Ironbark and Moreton Bay Ash.	40	-
D1	Flat to gently undulating up to 1% slope. Neutral to hard setting surface layer. Vegetation: stunted Poplar Box and Sandalwood.	10-15	10-15

4.3 Assessment of Potential Impacts

4.3.1 Environmental Protection Objectives

The environmental protection objectives for soils and land suitability are to:

- Maintain or restore soil profiles to support the intended land use.
- Maintain or restore the land to its pre-disturbance land suitability class.
- Minimise alteration of drainage systems.
- Minimise erosion and sedimentation impacts on the surrounding environment.

4.3.2 Post Development Land Uses

The main pre-mining land use was cattle grazing. The intended post mining land use for SWC mine is suitable grazing land, in addition to the preservation and enhancement of natural bushland areas. As described in the SWC Rehabilitation Management Plan (September 2021), rehabilitated land will be comparable to the surrounding land, which includes elevated Eucalypt uplands and ridgelines and undulating grazing lands.

It is assumed that all infrastructure will be removed post-development unless they are retained under formal agreement with the landholder for future use or if they are planned to be mined through by future operations.

4.3.3 Potential Impacts

4.3.3.1 Construction

The construction phase involves site preparation, road and track formation and the installation of infrastructure such as well pads and pipelines. During this phase, soil compaction, erosion and loss of topsoil are primary concerns. Impacts associated with the construction phase include:

- Increased erosion resulting from ground disturbance, vegetation clearance, alteration of natural drainage and flow concentration due to construction activities that disturbs the ground.
- Exposure of sodic and saline subsoils from soil profile inversion during ground disturbance.
- Deposition of eroded material downslope or downstream.
- Soil compaction from spoil placement or access tracks and laydown areas, potentially affecting long term cropping and grazing productivity.

4.3.3.2 Operation

During the operational phase, the risk to soil resource continues:

- Soil contamination from chemical spills, leaks from gas wells and improper wastewater management.
- Increased erosion and deposition of eroded material downslope/downstream resulting from alteration of natural drainage.
- Presence of heavy machinery during exploration operations can lead to soil compaction, reducing soil porosity and water infiltration. This may adversely affect the soil's biological activity and agricultural potential. However, it is important to note that heavy machinery is typically not used in the operation of the gas drainage field.

4.3.3.3 Closure and Rehabilitation

The closure and rehabilitation phase is focused on restoring the soil and ecosystem after exploration activities and gas drainage activities cease. During this phase, the main goal is to decompact soils, re-establish vegetation and ensure proper drainage to prevent erosion. Potential risks during this phase include:

- Increased erosion resulting from ground disturbance and vegetation clearance.
- Soil failing to meet requirements for post development land use.
- Insufficient topsoil available to reinstate vegetation.

4.4 Mitigation and Management Measures

To minimise the extent and severity of land disturbance and constraints on rehabilitation, the following mitigation strategies will be implemented:

- Clearing will be carried out within areas approved via the SWC's Permit to Disturb process.
- Minimise land disturbance by limiting the disturbed area and duration of disturbance.
- Install drainage and sediment control measures before commencing any clearing activities.
- Clearly delineate disturbance boundary limits prior to clearing and soil stripping.
- Strip topsoil prior to construction, with direct re-spread preferred to minimise topsoil handling and reduce damage to soil structure and propagules.
- Strip soil according to designated profile depths.
- Stockpile topsoil not immediately reused for later rehabilitation purposes.
- Maintain stockpile surfaces in a coarsely structured condition to promote infiltration and minimise erosion until vegetation is established or erosion controls are applied.
- Install drainage and sediment control measures, including clean water diversions, in-pit sumps, and sediment dams as outlined in the SWC Water Management Plan, before commencing any clearing activities.
- Monitor and maintain rehabilitation efforts until post-mining land use criteria are met and land is relinquished.
- Store and manage hydrocarbons and hazardous materials appropriately to prevent land contamination.

The assessment of potential impacts associated with the Project considered a range of risks to soil and land resources, primarily during the construction and operational Project phases. The main potential impacts include increased construction phase erosion, soil compaction, and loss of topsoil, which can adversely affect land suitability, and operation phase soil contamination from hazardous spills and soil compaction.

These potential impacts can be effectively controlled through the implementation of the above mitigation and management measures. By implementing these mitigation and management measures, the rehabilitation of the land to a condition suitable for post-Project land use can be achieved, ensuring that long-term effects on soil and land resources will remain minimal.

5. AIR QUALITY

5.1 Air Quality Policy and Guidance

An air quality desktop review was conducted to assess potential air quality impacts related to the Project. The assessment was prepared with reference to the following policy, guidance and approval requirements:

- *Environmental Protection (Air) Policy 2019* (EPP(Air)).
- The *National Environment Protection Measures* (NEPMs) for Air Quality.
- DESI *Guideline Application Requirements for Activities with Impacts to Air ESR/2015/1840*.
- The EA for the SWC mine.

The purpose of the EPP(Air) is to achieve the relevant qualities and environmental values that are conducive to:

- Protecting the health and biodiversity of ecosystems.
- Human health and wellbeing.
- Protecting the aesthetics of the environment, including the appearance of buildings, structures and other property.
- Protecting agricultural use of the environment.

The NEPMs set out agreed national objectives for protecting or managing aspects of the environment. The NEPM provides monitoring, assessment and reporting procedures for seven 'criteria' pollutants that are widespread in urban environments and are used as key indicators of air quality:

- PM_{10}.
- $PM_{2.5}$.
- Nitrogen dioxide (NO_2).
- Carbon monoxide (CO).
- Ozone (O_3).
- Sulphur dioxide (SO_2).
- Lead (Pb).

The desired environmental outcome of the NEPM is to achieve ambient air quality that minimises the risk of adverse health impacts from exposure to air pollution. The NEPM standards have been set at a level intended to adequately protect human health and wellbeing, and are intended to be applied to air quality experienced by the general population in a region and not to air quality in areas in the region affected by localised air emissions, such as individual industrial sources or projects. The NEPM also only provides guidance relating to air in the external environment and does not include air inside buildings or structures.

The current standards in the NEPM relevant to the Project correspond to the EPP (Air) objectives protecting the health and wellbeing environmental values. The NEPM standards relevant to the Project are consequently addressed by the air quality objectives in the EPP (Air). The EPP (Air) provides a framework for guidelines and objectives for air quality management, whereas the current EA operationalises these guidelines through specific air quality conditions, regulations, and enforcement actions. The SWC Environmental Monitoring Procedure (2021) has been developed in line with the EPP (Air) and the EA.

This section presents the air quality assessment, inclusive of a summary of management measures and a risk assessment of impacts to the air shed and sensitive receptors.

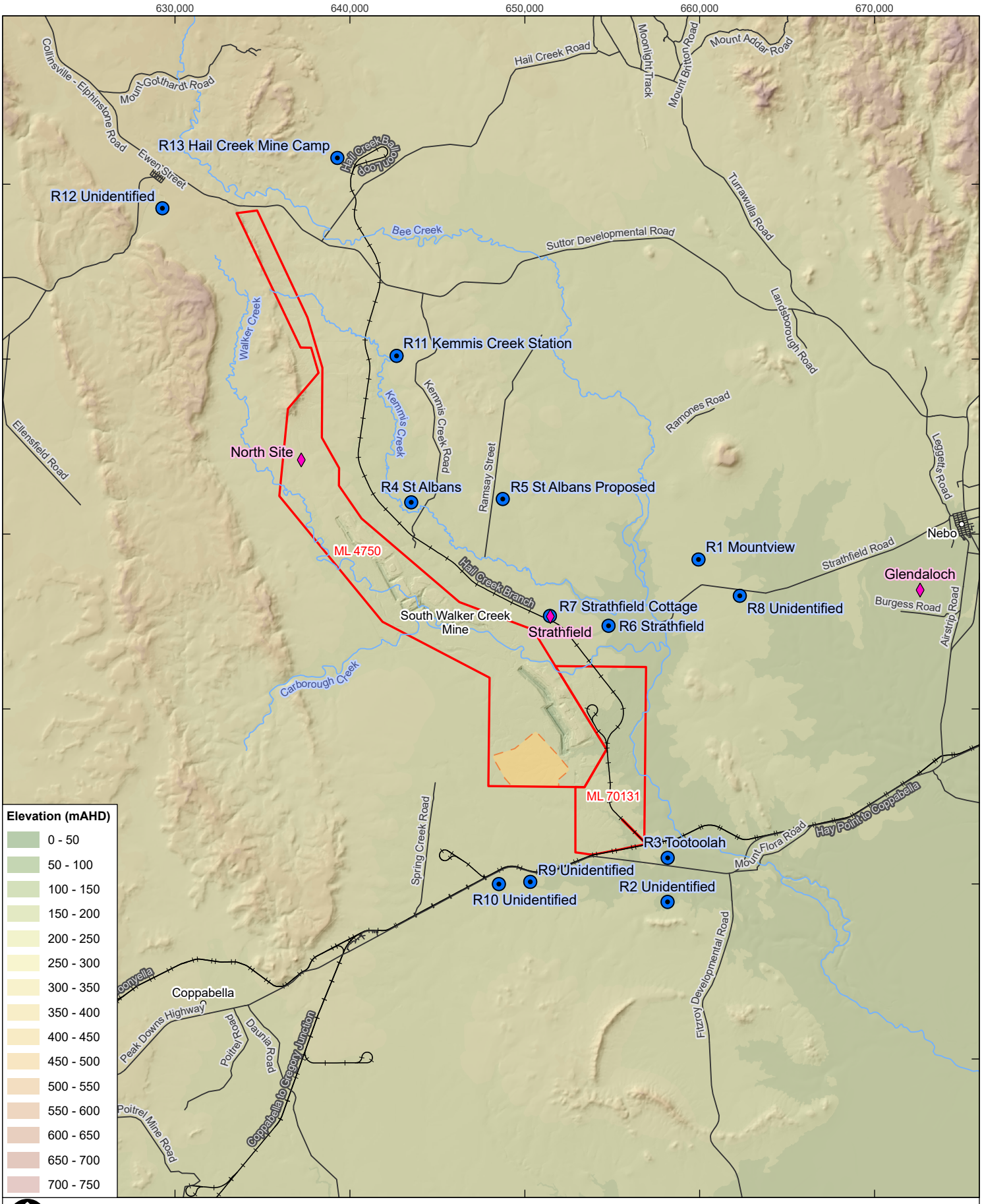
5.2 Topography and Land Use

The topography of the area surrounding SWC is gently rolling hills in a rural landscape with elevated topography to the west of the SWC mine. The ground elevation ranges between 160 m to 550 m within a 30 km by 30 km area surrounding the site.

The Project area and surrounding receptors, relative to local topographical features, are shown in **Figure 5-1** below. The Project area is bordered by the Coppabella mine to the south, and features barren land with scattered residences north, west and east of the site.

Air emissions from the existing SWC and Coppabella mine operations primarily consist of particulate matter, while the Project's emissions of interest focus on CO, NO, and NOx.

Emissions from fossil fuel combustion in mining equipment at the SWC mine and surrounding operations is spread over a wide area and are unlikely to significantly affect ambient pollutant levels at nearby sensitive receptors. Therefore, cumulative impacts from fossil fuel combustion at these mines were not detailed in this Project's assessment.



Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:285,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

SOUTH WALKER CREEK EA AMENDMENT PROJECT

TOPOGRAPHY SURROUNDING THE PROJECT AREA

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FIGURE 5-1

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_AQ_F05-01_Topography Surrounding the Project Area

5.3 Sensitive Receptors

Sensitive receptors near the Project area were identified based on a desktop review that included a review of historical information and an analysis of available aerial imagery. These locations are shown in **Table 5-1** and **Figure 5-2**.

The EA for SWC Mine provides clarification of the definition of a sensitive receptor as follows, "a sensitive place where the property is owned by Stanmore or a related entity, or there is an alternative arrangement in place, is not a potential sensitive receptor". Receptor R3 and R4 are not considered to be a 'sensitive receptor' as they are owned by Stanmore. An alternative arrangement is in place for R7 and hence this is not considered to be a sensitive receptor.

Table 5-1 Surrounding Receptors

ID	Name	Easting (m)	Northing (m)	Ownership/Agreement Status
R1	Mountview	659,930	7,598,543	Privately owned
R2	Harrybrandt	658,122	7,579,031	Privately owned
R3	Tootoolah	658,168	7,581,489	Stanmore owned
R4	St Albans (current location)	643,500	7,601,808	Stanmore owned
R6	Strathfield Homestead	654,736	7,594,782	Privately owned
R7	Strathfield Cottage	651,441	7,595,314	Privately owned, alternative arrangement (commercial agreement) in place
R8	Unidentified	662,276	7,596,476	Privately owned
R9	Unidentified	650,314	7,580,119	Privately owned
R10	Unidentified	648,522	7,579,995	Privately owned
R11	Unidentified	642,497	7,610,225	Privately owned
Shaded receptors are not considered sensitive receptors				

5.4 Monitoring Locations

Stanmore carries out air quality monitoring for the SWC mine operations for internal purposes (i.e. not EA compliance monitoring) (SLR, March 2024). The monitoring is performed at three locations as presented in **Figure 5-2** and summarised in **Table 5-2**.

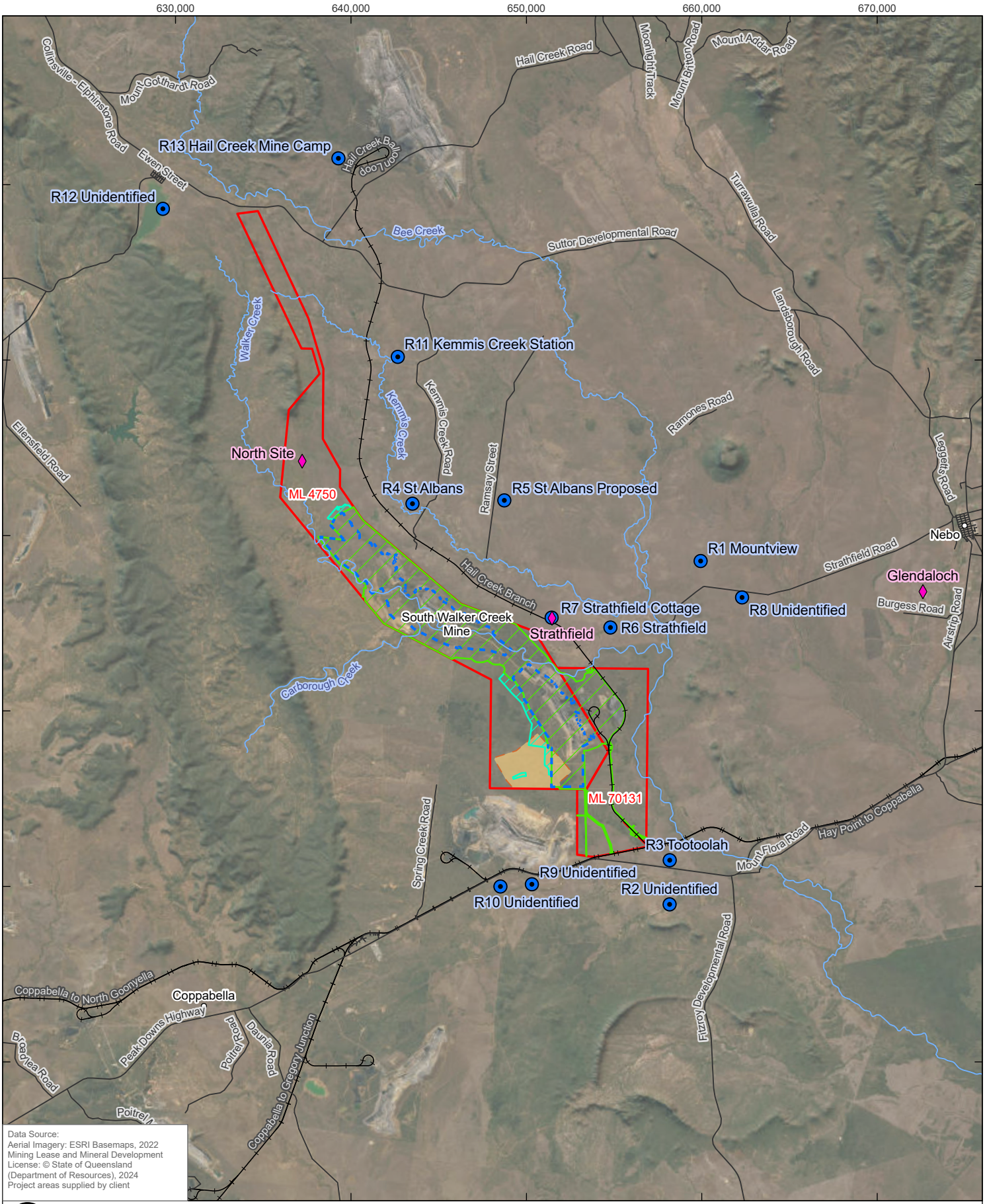
The procedures and frequency of monitoring are in accordance with the conditions outlined in the EA.

Monitoring is initiated based on complaints or requests from the administering authority and includes proactive checks at strategically identified sensitive locations. Historical monitoring of real-time dust monitors (EBAMs) at Strathfield and Glendaloch has gained sufficient monitoring data to inform a baseline. Monitoring at the North Site is undertaken to inform future expansions. The results of the air quality monitoring are set out in **Section 5.6**. All monitoring locations were selected in general accordance with AS/NZS 3580.1.1: 2016 *Methods for sampling and analysis of ambient air: Guide to siting air monitoring equipment*.

Table 5-2 Monitoring Locations

Name	Easting (m)	Northing (m)	Location Type
Glendaloch	672,604	7,596,799	Background
Strathfield Cottage	651,441	7,595,314	Residential - Considered Sensitive Receptor
North Site	6,372,14	7,604,236	Background

Source: SLR, March 2024



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 5 10 km

Coordinate System:	GDA2020 MGA Zone 55
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Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Monitoring Location
- Receptor
- Railway
- Existing Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
- Approved Additional Exploration Area (30/7/2024)
- Gas Project Study Buffer

SOUTH WALKER CREEK EA AMENDMENT PROJECT

RECEPTOR LOCATIONS

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FIGURE 5-2

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_AQ_F05-02_Receptor Locations

5.5 Air Quality Indicators

5.5.1 Particulate Matter Indicators

Air quality indicators associated with mine operations are primarily those of fugitive particulate matter (dust) emissions. Other gaseous emissions from mine operations, such as NO_x, CO, and CO_2 are typically from mobile plant operating over a large area, and hence not typically resulting in concentrations of concern. Greenhouse Gas emissions associated with the Project are discussed in **Section 14.**

Particulate matter has the capacity to affect human health and to cause nuisance effects, and is categorised by size and/or by chemical composition, with the potential for harmful effects depends on both. In air quality assessments, particulate size ranges are commonly described as:

- TSP – refers to all (total) suspended particles in the air. In practice, the upper size range is typically 30 micrometres (µm) to 50 µm.
- PM_{10} – refers to all particles with equivalent aerodynamic diameters of less than 10 µm.
- $PM_{2.5}$ – refers to all particles with equivalent aerodynamic diameters of less than 2.5 µm diameter. These are often referred to as 'fine' particles and are a sub-component of PM_{10}.
- Deposited dust – refers to particulate matter that has settled out of the air and is measured as a dust deposition rate, which is dust settled out over a given area and time under the influence of gravity. Deposited dust can include particles of any size, but it generally comprises particles larger than 20 µm in diameter that rapidly settle out of the air near the point of emission. It is measured to assess if an emission source is causing a nuisance, such as soiling of property and materials, including rainwater tanks.

Both natural and anthropogenic processes contribute to the atmospheric load of particulate matter. PM_{10} is derived primarily from mechanical processes, resulting from the suspension of dust, soil, or other crustal materials from roads, farming, quarrying, and dust storms, but can also include sea salts, pollen, mould, spores, and other plant parts.

Fine particles, or $PM_{2.5}$, are derived primarily from combustion processes, such as vehicle emissions, wood burning, gas, diesel or coal burning for power generation, hazard reduction burns, and bush fires. Fine particles also consist of transformation products, including sulphate and nitrate particles, and secondary organic aerosols formed from volatile organic compound emissions.

The size of particles determines their behaviour in the respiratory system, including how far the particles are able to penetrate, where they deposit, and how effective the body's clearance mechanisms are in removing them. Additionally, particle size is an important parameter in determining the residence time and spatial distribution of particles in ambient air, which are key considerations in assessing exposure.

While $PM_{2.5}$, and particularly the ultrafine sub-micron particles within $PM_{2.5}$, may penetrate beyond the larynx and into the thoracic respiratory tract, and therefore are considered more harmful than the coarser component of PM_{10}, mining activities have the potential to generate significantly greater emissions of PM_{10}. The monitoring program therefore focuses on PM_{10}.

5.5.2 Air Quality Assessment Criteria

Criteria adopted for this assessment are summarised in **Table 5-3**. These criteria were adopted from **Section 5.1**.

Table 5-3 Adopted Assessment Criteria

Indicator	Criteria	Units	Averaging period	Source
PM10	50	µg/m³	24 hour	EPP (Air) 2019
	50	µg/m³	24 hour	EMPL00712313*
	25	µg/m³	Annual	EPP (Air) 2019
*Exceedances due to events that cannot be managed by the environmental authority holder, such as bushfires, fuel reduction burning for fire management purposes or dust storms will not be considered to be in breach of condition B4 if the environmental authority holder can demonstrate that the exceedance was caused by such events.				

5.6 Existing Air Quality

The SWC mine maintains two EBAM real-time dust monitors. These are strategically positioned at the following locations:

- Strathfield near field monitor- Located 20 m east of the nearest sensitive receptor and approximately 200 m north-northeast of a railway line. The surrounding area is cleared land and free from obstructions.
- Glendaloch near baseline monitor - Located approximately 4 km southwest of the Town of Nebo, situated in an open paddock with no nearby obstructions. The site has the potential for air quality emissions from agricultural activities in adjacent fields.
- North Site- Located approximately 4 km northwest of the Kemmis 2 Pit, situated in an open area free from obstruction. The surrounding area is partially cleared land currently used for grazing. Intermittent mustering activity is noted to occur along a fence line situated 50 m to the north. This location is intended to provide additional background information for the mine as operations move north from the current operational activity, reflecting the impact of terrain features to the west of Kemmis pit.

The monitoring data from these monitors provide regional 'background' (Glendaloch station) and 'downwind' PM_{10} (Strathfield Cottage) concentration levels at the nearest sensitive receptor. The data collected from these monitors are provided to technical experts for assessment.

For the purposes of estimating background levels for this project the 24 hour average concentration of PM_{10}, and hourly averaged data from the Strathfield Cottage receptor has been used, due to the similarity in proximity to the SWC mine. The 70th percentile 24 hour average concentration of PM_{10} of 21.4 µg/m^3 was chosen for the purpose of this study given the similarity in proximity to the SWC mine. The Strathfield Cottage dataset recorded a total of seven annual exceedances of the EPP(Air) objective of 50 µg/m^3 for the 24 hour average concentration of PM_{10}. Exceedances of the 24-hour average criterion were recorded on different dates and were not reflected at the Glendaloch monitoring site indicating that the exceedances were contributed to by dust sources local to the monitoring location and not regional dust events.

Table 5-4 below provides a summary of the 24-hour average PM_{10} concentrations recorded at two monitoring stations, Glendaloch and Strathfield Cottage, for the period from 1 January 2023 to 31 December 2023. These values serve as basis indicators to assess the air quality in these locations.

These values show that the regional 'background' is consistently within criteria, and that the 'downwind' PM_{10} concentration levels are likely to be affected by mining operations, with higher annual average PM_{10} concentrations, and occasional exceedances.

Table 5-4 Summary of 24-Hour Average PM10 1 January 2023 to 31 December 2023#

Receptor location	Maximum PM10 24-hour average concentrations	Annual average PM10 concentrations	Exceedances to the 24-hour average project criteria
Glendaloch	24.2 µg/m3	8.8 µg/m3	0
Strathfield Cottage	78.9 µg/m3	21.4 µg/m3	7
# Both stations experienced prolonged periods (several months) of no data capture during this monitoring period potentially meaning that the 75% data capture rates recommended by NEPM were not met and some seasons were not captured in the monitoring data presented. Comparison to monitoring data captured by the Department of Environment, Science and Innovation however indicates that this is not likely to heavily influence the outcomes of the monitoring program.			

5.7 Potential Impacts

Modelling of dust from construction activities is generally not considered appropriate, as emission rates can vary significantly depending on a combination of the activity and prevailing meteorological conditions (i.e. rainfall and wind speed), which cannot be reliably predicted.

Exploration activities will include activities such as vegetation trimming, slashing, and operation of heavy and light vehicles, and drill rigs. In specific and infrequent instances, the installation of access tracks and drill pads may require minor localised earthworks. These activities may result in the following potential impacts:

- Dust and particulate matter has the potential to cause nuisance at sensitive receptors.
- Dust deposition may impact vegetation.
- Dust and particulate matter may impact human health at sensitive receptors.

The dust and particulate matter generated by the Project activities will be small scale, localised and short duration, with typically three drilling rigs (and corresponding activities) operating at any one time.

The dust and particulate matter will be controlled using existing management measures used across the SWC mine (e.g. water trucks for dust suppression).

In view of the above, the dust and particulate matter generated from the Project will likely be negligible to low and within the existing EA conditions.

5.8 Risk Assessment

The potential air quality impacts were assessed to provide an overall risk rating, of which details are provided in **Table 5-5**.

The risk of air quality impacts is low due to the scale and location of the activities, prevailing easterly and south-easterly winds in the region and the low intensity of the proposed activities. Any realised impacts to the air shed and sensitive receptors will be negligible to low.

Table 5-5 Air Quality Risk Assessment

Potential Impact	Likelihood	Consequence	Risk Rating	Justification
Dust and/ or particulate matter exceeds levels authorised by the EA at a sensitive receptor or commercial place.	Unlikely	Low	Low	Due to the minor scale of the proposed activities the risk of dust and particular matter exceeding the levels authorised by the EA is low.
Dust and/ or particulate matter causes nuisance at sensitive receptors.	Unlikely	Low	Low	Due to the minor scale of the proposed activities there is a low risk that dust and/or particulate matter causes nuisance at sensitive receptors.
Dust fall-out may impact vegetation	Unlikely	Low	Low	Due to the minor scale of the proposed activities the impact of dust fall-out to vegetation will be low.
Dust and particulate matter may impact human health at sensitive receptors.	Unlikely	Low	Low	Due to the minor scale of the proposed activities, there will be a low impact to human health at sensitive receptors.

5.9 Mitigation and Management Measures

The potential impacts to the air shed and sensitive receptors as a result of the proposed activities will be managed through current practices used to control dust and particulate releases including spraying roads for dust suppression, speed limits, and minimising clearing of vegetation. These management measures will be in line with the conditions outlined in the current SWC Dust Management Plan.

In compliance with the requirements outlined in the SWC EA, effective dust suppression measures are necessary to prevent any environmental nuisance resulting from mining activities. Dust monitoring activities at SWC are primarily initiated in response to complaints or as per requests from the DESI, as specified in the EA Conditions. Additionally, proactive monitoring is conducted at strategically identified locations sensitive to dust deposition for informational purposes. Prior notification to landowners is a courtesy extended before accessing their properties for monitoring activities.

The proposed dust management strategies will align with the current SWC Dust Management Plan to ensure coverage of all activities. The assessment predicts that the Project will not exceed any air quality objectives at the identified sensitive receptors.

6. NOISE AND VIBRATION

A Noise and Vibration Impact Assessment report (SLR, August 2024) has been prepared for the Project and is included as **Appendix A**. The assessment involved modelling of the Project's operational noise and vibration emissions and assessing these in the context of total mine noise at the nearest receptors surrounding the Project. The noise and vibration impact assessment is summarised below.

6.1 Environmental Values

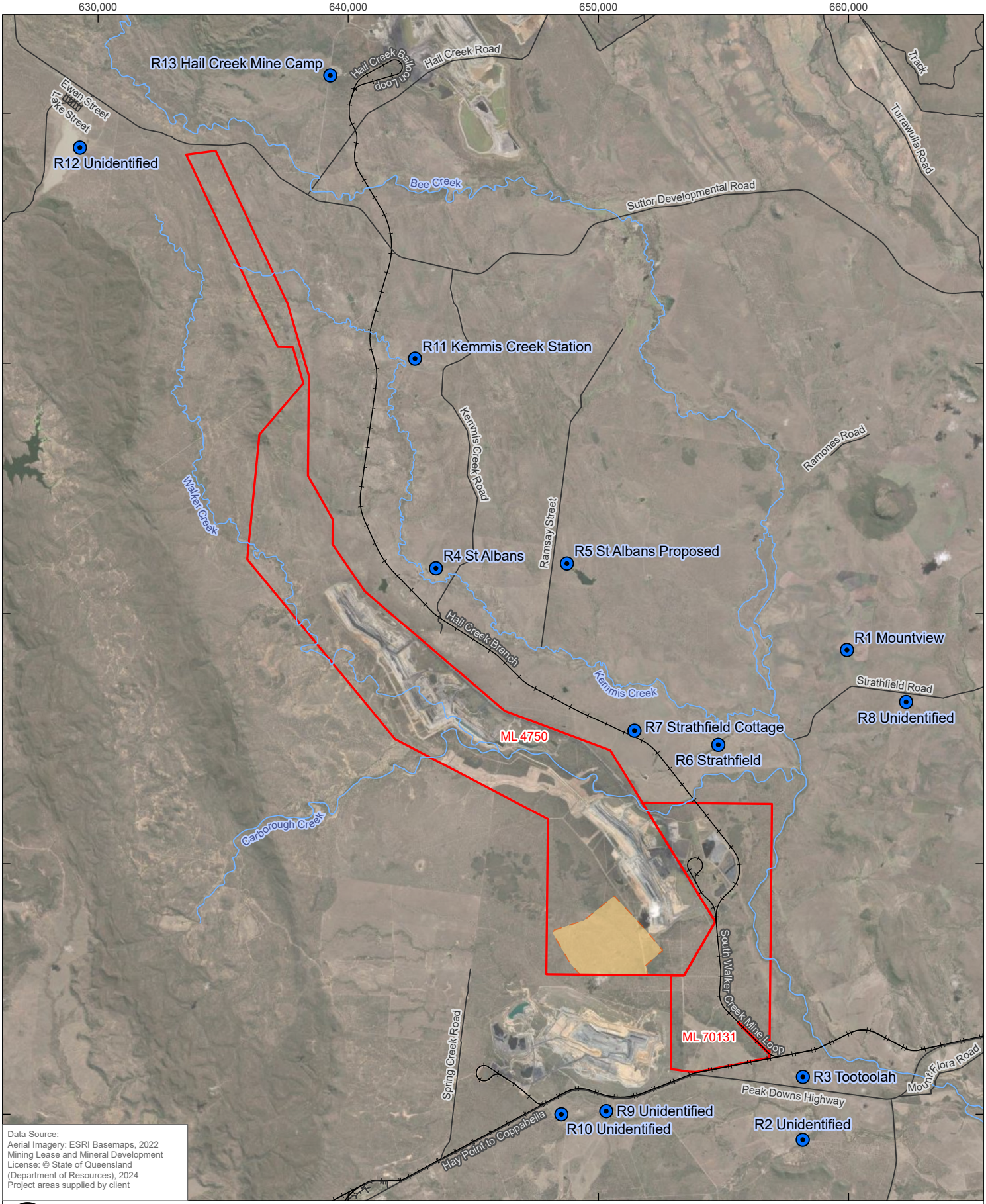
6.1.1 Sensitive Receptors

Potential sensitive receptors surrounding the SWC mine, detailed in **Table 6-1** and **Figure 6-1**, have been identified based on a desktop review that included a review of historical information and analysis of available aerial photographic images. As per the EA definitions, a potential sensitive receptor is not a sensitive place where the property is owned by Stanmore or a related entity, or there is an alternative arrangement in place.

Table 6-1 Receptors Surrounding the Project

ID	Receptor Name	Easting (m)[1]	Northing (m)[1]	Approximate Distance to Closest Drill Pad (km)	Ownership/Agreement Status
R1	Mountview	659,930	7,598,543	7.1	Privately owned
R2	Harrybrandt	658,161	7,578,973	9.1	Privately owned
R3	Tootoolah	658,168	7,581,489	6.6	Stanmore owned (not a sensitive place)
R4	St Albans (current location)	643,500	7,601,808	4.2	Stanmore owned (not a sensitive place)
R5	St Albans (proposed relocation) [2]	648,625	7,601,821	7.5	
R6	Strathfield Homestead	654,736	7,594,782	2.4	Privately owned
R7	Strathfield Cottage	651,441	7,595,314	2.7	Privately owned, alternative arrangement (commercial agreement) in place (not a sensitive place)
R8	Unidentified (7WHS139)	662,276	7,596,476	7.2	Privately owned
R9	Unidentified (5270SP144274)	650,314	7,580,119	6.0	Privately owned
R10	Unidentified (5270SP144274)	648,522	7,579,995	6.7	Privately owned

ID	Receptor Name	Easting (m)[1]	Northing (m)[1]	Approximate Distance to Closest Drill Pad (km)	Ownership/Agreement Status
R11	Kemmis Creek Station	642,497	7,610,225	4.8	Privately owned
R12	Unidentified (18SP104452)	629,160	7,618,440	4.8	Privately owned
R13	Hail Creek Mine Camp	639,167	7,621,317	5.4	Glencore owned
Note 1: GDA 1994 MGA Zone 55 projection. Note 2: No longer being considered for relocation					



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:200,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Sensitive Receptor
- Railway
- Existing Road
- Watercourse
- South Walker Creek Mine
- Gas Project Study Buffer

SOUTH WALKER CREEK EA AMENDMENT PROJECT

LOCATION OF SENSITIVE RECEPTORS

stanmore

FIGURE 6-1

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_ANV_F06-01_Location of Sensitive Receptors

6.1.2 Existing Acoustic Environment

A long-term proactive noise monitoring campaign was undertaken by the SWC mine at the St Albans Homestead (Receptor ID R4) between May 2013 and December 2021 for the purpose of monitoring SWC mine noise at the receptor. Monitoring at St Albans Homestead ceased when the property was purchased by the SWC mine.

A summary of background noise levels measured during the long-term monitoring period is summarised in **Table 6-2**.

Table 6-2 Summary of Long-term Noise Monitoring Results at R4

Monitoring Location	Ambient LAeq Noise Levels, dBA			Average Background Level LA90, dBA		
	Daytime	Evening	Night-time	Daytime	Evening	Night-time
R4 St Albans Homestead	46	39	38	27	30	27

From analysis of the noise monitoring data captured between 2013 and 2021, SLR note the following:

- In general, background noise levels during the night-time period occur in the range of 20-30 dBA L_{A90} and the average maximum noise levels typically range between 30-40 dBA.
- Dominant ambient noise sources at St Albans included:
  - The effects of weather (including wind, rain, thunder etc.).
  - Noise from insects (particularly during the warmer months of the year).
  - Noise from cattle (that can often be heard grazing close to the noise logger).
  - Bird song (which are especially prevalent during sunrise and sunset periods).
  - Occasional coal train noise.
- In the absence of the above dominant ambient noise sources, noise from operations at the SWC mine was audible at St Albans particularly during certain seasonal or weather conditions such as temperature inversion conditions. SWC mine noise, when audible at St Albans, includes haul trucks, dozers on waste dumps, occasional tonal reversing alarm noise and horn blast signals.

Of the above, the observation most relevant to this study is that background (i.e. L_{A90}) noise levels are at times below 30 dBA during the day, evening and night-time assessment periods. This is also expected to be the case at other sensitive receptor locations listed in **Table 6-1**.

6.2 Assessment Method

The SWC mine currently operates in accordance with conditions prescribed in the EA (most recent update taking effect from 16 July 2024). Condition C2 of the EA prescribes noise limits applicable at a sensitive place or commercial place (refer also to the definition of 'sensitive place' and 'alternative arrangement').

Condition C1 of the SWC mine EA states that noise is not considered to be a nuisance if monitoring confirms that noise does not exceed the noise limits specified in Table C1 of the EA. Long-term noise monitoring carried out at the St Albans homestead has previously confirmed background noise levels below 30 dBA during the day (i.e. 7:00 am to 6:00 pm), evening (i.e. 6:00 pm to 10:00 pm) and night-time (i.e. 10:00 pm to 7:00 am) periods. In accordance with Note 4 (to Table C1 of the EA), a substituted background noise level ('bg') of 30 dBA applies and therefore, in accordance with Note 3 (to Table C1 of the EA), the determined noise limits applicable to noise from the SWC mine are presented in **Table 6-3**.

Table 6-3 Summary of Project Noise Limits

Sensitive Place						
Noise level dBA measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7 am to 6 pm	**6 pm to 10 pm**	**10 pm to 7 am**	**9 am to 6 pm**	**6 pm to 10 pm**	**10 pm to 9 am**
LAeq,adj,15 mins	35	35	30	35	35	30
LA1,adj,15 mins	40	40	35	40	40	35
Commercial place						
Noise level dBA measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7 am to 6 pm	**6 pm to 10 pm**	**10 pm to 7 am**	**9 am to 6 pm**	**6 pm to 10 pm**	**10 pm to 9 am**
LAeq,adj,15 mins	40	40	35	40	40	35

Given the dominant noise emission from the Project (i.e. drill rig noise) is anticipated to be quasi-steady state in nature, the assessment herein will focus on the L_{Aeq} noise limits in **Table 6-3**.

6.3 Vibration

Condition C6 of the SWC mine EA prescribes vibration limits applicable at a sensitive place or Condition C6 of the SWC mine EA prescribes vibration limits applicable at a sensitive place or commercial place. Under Condition C6, the EA states that "*vibration is not considered an environmental nuisance under condition C5 if monitoring shows that vibration does not exceed the limits specified in Table C2*."

It is noted that the SWC mine vibration criteria specifically refers to ground vibration from blasting, however it is considered that the vibration limits relevant to the assessment of vibration from seismic investigations given the limits are comparable to the building cosmetic damage criteria recommended in British Standard 7385: Part 2-1993 Evaluation and measurement for vibration in buildings Part 2 (BS 7385). For continuous sources of vibration, BS 7385 recommends the following vibration limits:

- Peak component particle velocity limits of **7.5 mm/s** at 4 Hz increasing to **10 mm/s** at 15 Hz.
- Peak component particle velocity limits **10 mm/s** at 15 Hz increasing to **25 mm/s** at 40 Hz and above.

The BS 7385 vibration limits are also displayed graphically in **Figure 6-2**.

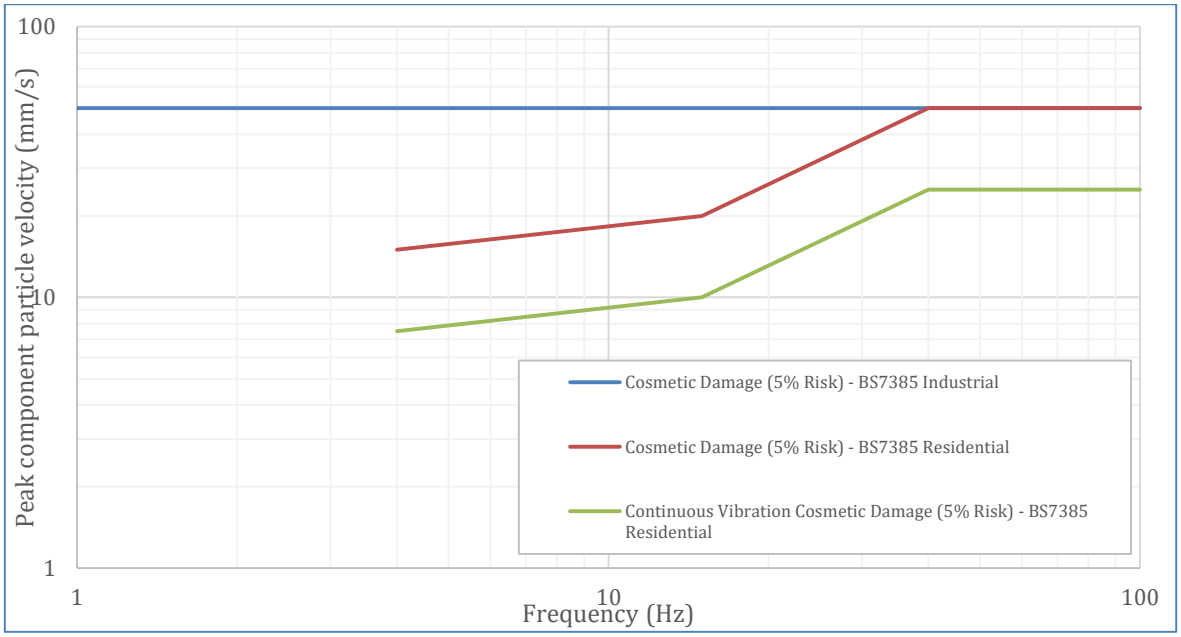


Figure 6-2 Graph of Transient and Continuous Vibration Guide Values for Cosmetic Damage

6.4 Noise Modelling

SoundPLAN modelled exploration program noise levels were predicted under neutral and adverse weather conditions and assessed against the most stringent night-time period noise limit prescribed in the current the SWC mine EA.

The results of the modelling of temperature gradient over the SWC mine indicated a greater than 30 per cent occurrence of temperature inversions during the winter period. Therefore, temperature inversions are considered to be a characteristic of the SWC mine region and must be considered as part of the noise and vibration impact assessment.

Based on the above meteorological modelling, the default weather parameters recommended by the *Planning for Noise Control Guideline* (Qld EPA, 2004) have been adopted to determine the effects of meteorology on noise emissions from the SWC mine. The weather parameters applied to the noise and vibration impact assessment are summarised in **Table 6-4**.

Table 6-4 Modelled Meteorological Conditions

Parameter	Neutral Weather	Adverse Weather
Temperature	10oC	10oC
Humidity	70%	90%
Pasqual stability class	D	F (representative of temperature inversion)
Wind speed	0 m/s	2 m/s

6.5 Potential Impacts

6.5.1 Exploration Drilling

The noise levels predicted at each receptor for exploration drilling activities under neutral weather conditions are detailed in **Table 6-5**. These predictions account for the combined effect of the three loudest drill sites being drilled concurrently, representing the worst-case scenario. The drilling is scheduled to occur only during daytime hours (typically 7:00 am to 5:30 pm), and the EA noise limits for daytime are referenced in **Table 6-5**.

Table 6-5 Predicted Worst-case Exploration Drilling Noise Levels

Receptor	EA Noise Limit LAeq,adj, 15min (dBA) 1	Predicted Exploration Drilling Noise Level LAeq,adj,15min (dBA)
		Neutral Weather
R1 Mountview	35	16
R2 Harrybrandt	35	12
R3 Tootoolah	N/A	17
R4 St Albans (current)	N/A	27
R5 St Albans (proposed)	N/A	15
R6 Strathfield Homestead	35	36
R7 Strathfield Cottage	N/A	35
R8 Unidentified	35	17
R9 Unidentified	35	19
R10 Unidentified	35	17
R11 Kemmis Creek Station	35	24
R12 Unidentified (18SP104452)	35	15
R13 Hail Creek Mine Camp	35	22

Note: Greyed cells represent receptors that are not sensitive to the Project (i.e. either owned by Stanmore or an agreement exists).

The following observations are made from the results presented in **Table 6-5**:

- The highest predicted exploration drilling noise level at a sensitive receptor is 36 dBA L_{Aeq} at R6 (Strathfield Homestead), which occurs due to the proximity of drilling activities in the northeast corner of ML 70131. This prediction is under worst-case conditions and results in a marginal exceedance of 1 dB above the EA limit at R6[6]. This potentially indicates the need for targeted noise mitigation measures. Limiting drilling to one rig in the north of ML 70131 is recommended unless detailed design demonstrates consistent compliance at R6.
- Excluding R6, predicted noise levels comply with EA limits at all other surrounding sensitive receptors.
- In the gas field, the highest predicted noise level of 19 dBA $L_{Aeq,adj,15min}$ at receptor R9 is well below the EA noise limit of 30 dBA $L_{Aeq,adj,15min}$. This suggests compliance with EA limits for all sensitive receptors in this area.

6.5.2 Seismic Investigations

Noise offset buffer distances, which represent the minimum separation distance required between source and receptor to comply with the most stringent EA noise limit of 30 dBA $L_{Aeq,adj,15min}$, are summarised in **Table 6-6**.

Table 6-6 Seismic Investigations Noise Offsets Buffer Distance

Seismic Vehicle	Required Off-set Distance to Achieve the 30 dBA LAeq,adj,15min EA Night-time Noise Criterion	
	Neutral Weather	Adverse Weather
UniVib	750 m	1,150 m

In considering the offset buffer distances between the seismic work areas and sensitive receptors, and the conservative nature of the predicted buffer distances, the noise levels from seismic investigations are unlikely to impact sensitive receptors.

6.5.3 Vibration

Based on vibration measurements, the following offset buffer distances have been calculated:

- Approximately 20 m to comply with the 5 mm/s EA vibration limit.
- Approximately 200 m to be below the threshold of human perception (i.e. <0.15 mm/s[7]).

These calculations suggest that the risk of vibration-related impacts during seismic investigations is negligible for all receptors.

[6] Change in Sound Pressure Levels
In general, for human perception, a change of 1 dBA or 2 dBA in the level of a sound is considered to be indiscernible, while a 3 dBA to 5 dBA change corresponds to a small but noticeable change in loudness. A 10 dBA change corresponds to an approximate doubling or halving in loudness.

[7] British Standard BS 5228-2:2009, *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration*, states "*Human beings are known to be very sensitive to vibration, the threshold of perception being typically in the PPV range of 0.14 mm/s to 0.3 mm/s*".

6.6 Mitigation Measures

As a result of the predicted exploration drilling noise limit exceedances at sensitive receptor R6, the following mitigation measures are recommended:

- It is recommended that, at any time, only one RC drill rig operate in proximity to sensitive receptor R6 to ensure compliance is predicted with the 35 dBA $L_{Aeq,adj,15min}$ noise limit.

Outside of the potential for noise impacts and consequently mitigation requirements for sensitive receptor R6, no specific noise mitigation measures are required as a result of the predicted compliance of the Project with the assessment criteria.

It should be noted that the actual requirement/ extent of noise mitigation will be confirmed during the detailed modelling/design stage of the Project.

7. NON-MINING WASTE

This section addresses non-mining waste associated with the Project (i.e. not drill chips, topsoil, subsoil, coal or carbonaceous material, which are addressed in **Section 8**).

The overall waste management strategy for the Project will consider the values and objectives of the following pieces of legislation:

- EP Act.
- EP Regulation.
- *National Waste Policy: Less Waste, More Resources 2018.*
- *Waste Reduction and Recycling Act 2011.*
- *Waste Reduction and Recycling Regulation 2011.*
- *Waste Reduction and Recycling (Waste Levy) Amendment Act 2019.*

This section was prepared in consultation with the DES *Application requirements for activities with waste impacts*. This guideline sets the environmental objective of 'any waste generated, transported, or received as part of carrying out the activity is managed in a way that protects all environmental values'. This environment objective can be achieved by either:

- Waste generated, transported or received, is managed in accordance with the waste and resource management hierarchy in the *Waste Reduction and Recycling Act 2011*.
- If waste is disposed of, it is disposed of in a way that prevents or minimises adverse effects on environmental values.

7.1 Environmental Values

The environmental values to be enhanced or protected through waste management include the following:

- The life, health and wellbeing of people.
- The diversity of ecological processes and associated ecosystems.
- Land use capability, having regard to economic considerations.

The Project will utilise the existing waste management system in place at the SWC mine that has been developed in accordance with all relevant legislation and existing EA conditions in Schedule D.

7.2 Potential Risks and Impacts

The following potential risks and impacts associated with the handling of identified wastes during reuse, recycling, transport, treatment, and disposal have been identified, and are addressed in **Section 7.4**:

- Incorrect segregation of wastes, particularly regulated waste.
- Improper transport offsite and disposal at non-licensed facilities.
- Inadequate reprocessing of wastes onsite.
- Insufficient record maintenance associated with waste management, including waste transport certificates for regulated wastes.

Potential sources of waste and land contamination associated with the Project include:

- Vehicle and plant maintenance operations.
- Refuelling and associated storage.
- Tyres.
- Waste disposal.

The waste that is generated at SWC mine more broadly can be segregated into the following main groups:

- General waste.
- Recycled waste.
- Regulated waste – hydrocarbons, oils, batteries and septic waste.
- Scrap metal.
- Scrap timber.
- Bulk rubber.

7.3 Waste Generation

The waste anticipated to be generated from the Project are presented below in **Table 7-1**.

Table 7-1 Anticipated Waste Generation

Multi-Year Exploration Program				
Waste Type	**Source Details**	**Description**	**Rate / Quantity Generated**	**Waste Classification**
Liquid Wastes				
Dirty water	Transporting drill cuttings Drilling Operations Site Runoff Equipment Cleaning	Generated primarily during drilling and site preparation. This can result from the interaction of water with drilling fluids, soil, and machinery, leading to the introduction of pollutants. Water is used for cooling drill bits, stabilising boreholes, dust suppression, and equipment cleaning and transporting drill cuttings.	Limited.	Regulated waste
Contaminated and oily water	Drilling Operations	Contaminated and oily water is generated primarily during drilling and site preparation activities. Oil and grease from machinery, and chemicals used during the drilling process to lubricate the drill bit and carry rock cuttings to the surface.	Limited.	Regulated waste
Waste Oil/ Lubricant/ Coolant	Machinery Operations Maintenance Activities	Waste oil and coolant are by-products of equipment operation and maintenance of equipment and machinery during mining exploration.	Generated sporadically during maintenance activities.	Regulated waste
Solid Wastes				
Rock Cuttings	Drilling Operations	Inert rock drill chips, topsoil and sub-soil. Discussed in **Section 8**.	Discussed in **Section 8**.	Discussed in **Section 8**.

Multi-Year Exploration Program				
Waste Type	**Source Details**	**Description**	**Rate / Quantity Generated**	**Waste Classification**
Used Operational Equipment	Machinery Operations Maintenance Activities	Drilling equipment components (e.g., worn drill bits, used casings), used oil filters and batteries.	Generated sporadically during maintenance activities.	Regulated Waste
Scrap Light and Heavy Vehicle Tyres	Machinery Operations Maintenance Activities	Any tyre from a vehicle, that is no longer required for us.	Generated sporadically during maintenance activities.	Bulk Rubber
General Construction	Vegetation Clearing	Generated from site preparation and the construction of infrastructure necessary for exploration.	Limited.	Green Waste
Where rate/quantity provided is considered 'limited' this indicates the waste stream is likely to be very small, or generated during campaign (e.g., maintenance) events. SLR has not quantified these volumes.				

Gas Drainage Project				
Waste Type	**Source**	**Description**	**Rate / Quantity Generated**	**Waste Classification**
Liquid Wastes				
Waste Oil/ Lubricant/ Coolant	Machinery Operations Maintenance Activities	Waste oil and coolant are by-products of equipment operation and maintenance during gas drilling preparation.	Generated sporadically during maintenance activities.	Regulated waste
Contaminated and oily water	Drilling Operations	Contaminated and oily water is generated primarily during drilling and site preparation activities. Oil and grease from machinery, and chemicals generated during the drilling process to lubricate the drill bit and carry rock cuttings to the surface.	Limited.	Regulated waste
Dirty water	Drilling Operations Maintenance Activities	Water used for site operations, including dust suppression, equipment washing, and sanitation.	Limited.	Regulated waste
Produced Water	Drilling Operations	Water that comes to the surface well head with the gas drainage and collection. This will be deposited back into the current SWC waste management system, following the SWC waste management and SWC water management practices.	Limited.	Regulated waste
Mud and Slurry	Drilling Operations Maintenance Activities	Drilling mud is continuously circulated down the well to the drill bit and back up to the surface to remove cuttings. The used mud, which picks up contaminants and particles, becomes a waste liquid.	Limited.	Regulated waste

Gas Drainage Project				
Waste Type	**Source**	**Description**	**Rate / Quantity Generated**	**Waste Classification**
Solid Wastes				
Drill Cuttings	Drilling Operations	Generated during drilling as the drill bit penetrates and breaks up rock and soil. As drilling progresses, these materials are brought to the surface along with drilling fluids.	Limited.	Regulated waste
Produced Solids	Drilling Operations Maintenance Activities	As gas is extracted natural impurities and particulates (such as sand and minerals) can be carried up with the gas or settle in the production equipment. These solids can accumulate in separators and other equipment used in the gas collection process.	Generated sporadically during maintenance activities.	Regulated Waste
Used filters, spent catalysts and other operational residual wastes.	Drilling Operations Maintenance Activities	Wastes generated from routine operational maintenance activities at the project.	Generated sporadically during maintenance activities.	Regulated Waste
Where rate/quantity provided is considered 'limited' this indicates the waste stream is likely to be very small, or generated during campaign (e.g., maintenance) events. SLR has not quantified these volumes.				

7.4 Mitigation and Management Measures

7.4.1 Waste Management Hierarchy

Waste is managed by implementing the hierarchy of management principles:

Avoid and Reduce

Avoiding and reducing the use of unnecessary resources is the optimal waste management strategy. Stanmore has adopted this policy across many activities at site. The planning stage of operations considers the materials that will need to be used as well as the quantity. This means that their waste generation is effectively minimised. This can be demonstrated in the planned construction of the proposed project in which material quantities are estimated as per the design as to not waste any resources. Purchasing materials in bulk also helps to reduce the amount of packaging waste created.

Reuse

Reusing waste resources reduces the amount of material needed to complete a process, as well as reducing the waste generation. As the Project is a new development, the potential for waste reuse is limited.

Recycle and Other Recovery

Where possible, wastes that can be recycled or recovered will be, however the location is remote and there is a lack of recycling and resource recovery infrastructure in the Isaac region and surrounds.

Treat

The treatment of waste should be undertaken where practicable, particularly for any hazardous wastes; however, it is not envisaged that any waste treatment will be required.

Dispose

Where a material cannot be processed or reprocessed or recycled by any alternative methods, its disposal may be necessary. Stanmore strives to use this method of waste management as a last resort.

The proposed amendments do not propose any change to the amount or type of waste, including regulated waste, being generated, handled or disposed of.

The SWC Waste Management Plan has been developed and implemented for SWC which includes management and mitigation measures around the generation, handling and disposal of waste as is required by Schedule D: Waste of the EA.

7.4.2 Waste Management Practices

- Segregation: Separation of waste streams (liquid and solid) at source to facilitate recycling and proper disposal.
- Containment and Storage: Use of lined pits or containment areas to prevent groundwater contamination.
- Transport and Disposal: Compliance with regulations for transporting hazardous and non-hazardous wastes to designated disposal facilities.
- Monitoring and Reporting: Regular monitoring of waste generation, environmental impacts, and reporting to regulatory authorities.

The waste management practices employed for the Project are designed to address the specific challenges associated with each type of operation. By focusing on waste segregation, containment and storage, treatment, transport and disposal, and diligent monitoring and reporting, these practices aim to minimise environmental impact and regulatory compliance.

7.4.3 Specific Waste Management

Table 7-2 presents the proposed approach to managing operation and maintenance wastes for the Project.

Table 7-2 Operation and Maintenance Waste Management Approach

Waste Type	Source	Avoidance & Reuse	Storage & Collection	End Fate & Management
Liquid Wastes				
Oily water	Tank bunding, waste oil storage, transformer compound	Not applicable	Bunded areas will be inspected. Oily water will be temporarily stored on site in suitable containers/tanks.	Oily water to be collected from temporary storage and taken for recovery/disposal by a suitably licensed contractor.
Dirty water	Plant washing	Not applicable	Drainage from washing controlled through a separator.	Waste to be pumped out for recovery or disposal by suitably licensed contractor
Lubricant change out	On-site maintenance	Not applicable	Temporary stored by maintenance engineers in appropriate containers/tanks for immediate removal.	Removed and sent for recovery or disposal by suitable licensed contractors (as part of existing services).
Wastewater (sewage)	On-site sewage disposal system.	Not applicable	Temporary stored in septic tank.	Sewage to be periodically removed from septic tank by suitably licensed contractor.
Solid Wastes				
Oily wastes (catalysts, lubricants, chemicals, fuels, rags, filters)	Maintenance activities	Not applicable	Removed following maintenance activities. Collect by a suitably licensed waste management contractor.	Transport in a vehicle by complying with the *Regulated waste framework and transport of Dangerous Goods Code*, spill kits consistent with Australian Standards and waste tracking obligations.
General waste	General waste	Not applicable	Store on site in appropriate bins. Collect by suitably licensed waste management contractor.	Disposed of to a suitably licensed landfill.

Waste Type	Source	Avoidance & Reuse	Storage & Collection	End Fate & Management
General recycling	General recycling	Procure products that can be reused or are provided in reusable packaging or containers. Separate where possible.	Store on site in appropriate bins. Collect by suitably licensed waste management contractor.	Sent for recycling where services are available.
Electronic wastes	Electronic wastes	Send for refurbishment or back to supplier. Maintain where feasible.	Store on site in appropriate storage area (e.g., cages, skip bin etc.,)	Send for e-waste recycling through product stewardship schemes where possible.

7.4.4 Waste Storage

Wastes generated on site during operation of the facility will be stored in suitable containers or tanks. Solid wastes will be stored in appropriate bins for removal. Electronic wastes are likely to be minor but may be stored on pallets prior to removal for disposal or recycling.

7.4.5 Waste Servicing and Transport

All wastes requiring removal off site will be undertaken by a suitably licensed contractor. It is anticipated that waste servicing will be part of a broader contract held by Stanmore for the overall mine complex, with collections facilitated by the same contractors. Where regulated waste is removed, appropriate tracking measures will be applied as per the requirements of Queensland's EP Regulation.

7.4.6 Recycling, Resource Recovery and Disposal

Waste collected from the Project will be removed by a suitably licensed and qualified waste contractor. Where possible, wastes that can be recycled or recovered will be, however given the remoteness of location and lack of recycling and resource recovery infrastructure in the Isaac region, and surrounds, the alternative end-fate will be disposal to an appropriately licensed landfill facility.

Non-mining waste generated can be effectively managed under the current EA conditions, and no amendments to EA Schedule D Waste are necessary.

8. GEOCHEMISTRY

This section presents an indicative estimate of the likely volumes of mining waste to be generated by the Project.

This section also presents an overview of how mining wastes are managed at the SWC mine, and how the Project's mining waste can be accommodated within the existing facilities.

It is noted that this section addressed only mining waste. Non-mining waste and wastewater are addressed separately in **Section 7** and **Section 10**.

8.1 Project Mining Waste Volumes

The Project includes drilling approximately 500 drill holes, including establishment of drill pads and access roads.

For the Multi-year Exploration Program - topsoil and sub-soil won from establishment of drill pads and access roads will be retained on site in separate stockpiles for respread during rehabilitation works. Hence, it is unlikely that there will be any excess topsoil or subsoil materials stockpiled from the Multi-year Exploration Program.

For the Gas Drainage Project, minor quantities of topsoil and sub-soil may be won from the establishment of the gas wells.

The volume of waste rock (exploration drill chips) is estimated as follows:

Number of drill holes = 500 (approximately)

Typical depth of drill holes = 200 m

Typical diameter of drill holes = 0.1 m

Volume of bank (in-situ) material generated = 500 x 200m x pi x $0.1m^2$

= 3,141 m^3

This is equivalent to approximately 6 m^3 (bank) per drill site. Or 9 m^3 per drill site, assuming a 1.5 bulking factor. The majority of this material will be used to backfill drill holes.

8.2 Mining Waste Characterisation

The Landloch Material Characterisation Study report for SWC mine (Dated February 2024) concluded that coal rejects sampled were non-acid forming, and that Fresh Permian, Weathered Permian and Tertiary spoils were unlikely to be Potentially Acid Forming.

While acid forming materials are not anticipated, the following waste characterisation objectives will be adopted (if, and where necessary) from the *Eligibility criteria and standard conditions for exploration and mineral development projects* (DESI, 2016), for the Project:

- Stanmore will, where practical, separate acid producing waste rock from benign waste rock.
- Stanmore will, where practical, dispose of acid producing waste rock in an excavation or pit and backfill as soon as practical. Backfill the excavation or pit containing acid producing waste rock with benign, low permeability material and seal the excavation or pit with a compacted capping layer at least 1 m thick.

This approach will be implemented at the direction of the supervising resource geologist, who will seek to visually characterise carbonaceous waste (drill chips from the coal seams, roof, floor, shales etc.) that could potentially be saline or acid generating, for disposal in the SWM mine waste rock dumps.

Non-carbonaceous and likely inert materials will be retained for disposal in situ, as discussed below.

8.3 Proposed Mining Waste Management

Excess topsoils and subsoils (generated from the waste collection project) will be stored separately in existing SWC mine topsoil and sub-soil stockpiles, or used directly for rehabilitation of mine affected land.

For the Multi-year Exploration Program, drill chips will be used to backfill the drill holes or drilling mud sumps.

It is anticipated that there will be only a fraction of the waste rock from each drill site remaining following backfilling of drill holes, coal sampling and waste rock sampling.

8.4 Potential Risks and Impacts

The management of excess topsoil, sub-soil and waste rock (drill chips) will be via standard industry practices in the Bowen Basin coal mines.

The volumes of mining waste associated with the Project represent a negligible increase in the mining waste volumes for the current SWC mine operation.

No impacts to land or water are anticipated from the proposed management of mining waste for the Project.

No amendments to the existing EA are proposed for the management of mining waste associated with the Project.

9. GROUNDWATER

9.1 Introduction

9.1.1 Overview of Groundwater Impact Assessment

WSP prepared a Groundwater Impact Technical Report for the Project (WSP, August 2024). The report is provided in full in **Appendix B**, with extracts from the report transcribed with minor (non-technical) edits in this section, to provide a summary of the groundwater impact assessments presented in the report. Additional text and data from AGC 2023 (Report on Groundwater Monitoring Plan Review for Environmental authority EMPL00712313 South Walker Creek Coal Mine (Australian Groundwater Consult Pty Ltd, 2023)) are referenced accordingly.

The Project requires the extraction of groundwater from the target coal seams. Groundwater is removed from the gas production wells to depressurise the coal seams to generate gas flow and maintain operational gas pressures. Average groundwater extraction rates over the 15-year period are estimated to be approximately 41 m^3/day. All water extracted will be managed in the existing mine-affected water system, with annual production from the gas field estimated to be between 0.5 to 1.0 % of the annual water usage for SWC. No treatment of water is proposed to be undertaken as part of the Project, and no water will be stored at the gas fields.

Appendix B includes the results of a numerical groundwater model that was developed to evaluate potential short-term and long-term impacts on groundwater resulting from coal seam water extraction and planned exploration drillholes to inform the design and development of the Project, and changes in groundwater quality.

9.1.2 Overview of Scope and Methodology

Appendix B presents the results of a desktop-based review of available information and regulatory framework to determine the environmental values of groundwater resources relevant to the Project.

The subsequent groundwater modelling and impact assessment consisted of three stages (WSP, 2024):

- Stage 1: The development of a conceptual hydrogeological model of the Project area and surrounds using past assessments carried out by Golder (2022), site datasets provided by Stanmore (groundwater levels and groundwater quality data) as well as publicly available datasets (QLD Globe and SILO).
- Stage 2: The development of a numerical groundwater flow model of the Project area, SWC mine and surrounds, and the use of this model to assess the likely impacts of the Project on groundwater elevations, flow directions, environmental values and any sensitive receptors, including groundwater-dependent ecosystems.
- Stage 3: The assessment of the impacts of gas production water use in accordance with the applicable water management regulations and guidelines.

9.1.3 Regional Study Area and Gas Drainage Project Area - Spatial Boundaries

Study areas were defined to identify potential effects arising from the Project on Environmental Values (EVs). Additionally, a broader Regional Study Area encompassing the entire SWC Mine area and its surroundings was defined. These areas are described below, along with their relevance to the current study:

- Gas Drainage Project area: The local study area for assessing immediate impacts, including the vicinity of the proposed gas extraction wells and a buffer of approximately 5 km from proposed well locations. The Gas Drainage Project area is designed to be large enough to effectively analyse and mitigate potential effects from the Project on the receiving environment, but not so large as to dilute or confound Project-related effects with other human-induced and natural influences.
- Regional Study Area: This encompasses the entire SWC Mine area and its surroundings, serving as the basis for the numerical model domain. It is designed to include a large enough region to analyse broad regional effects of the Project on existing groundwater users and to account for induced effects and cumulative impacts from nearby mining operations.

9.1.4 Temporal Boundaries

Temporal boundaries for the Gas Drainage Project related effects are defined in terms of the Project phases:

- Baseline – covers ecological, physical and human-related characteristics of the environment such as groundwater flow direction, groundwater pressure, connectivity between aquifers, existing users, flow direction etc., as characterised prior to the initiation of the construction phase.
- Construction – includes all activities associated with Project construction and before commencement of gas extraction, including development of drill pads and construction of the gas field in the south-western area of ML4750.
- Operations – includes ongoing gas extraction and processing with associated extraction and separation of groundwater, including transport of gas and water through the collection system.
- Decommissioning – all activities to decommission gas field and remove equipment and materials from the Project, including the proper abandonment of bores, restoration of drainage patterns to stable long-term conditions and implement the final rehabilitation procedures to prevent erosion and restore vegetation cover.
- Closure – refers to conditions following the decommissioning of the Project and completion of closure works.

9.2 Environmental Values

9.2.1 Desktop Literature Review

A desktop assessment was carried out for the regional study area to establish the baseline groundwater conditions, potential connectivity between aquifers, environmental values, and potential receptors. The desktop assessment utilised data and information provided by Stanmore, past assessments carried out by Golder Associates Pty Ltd, and publicly available reports and data. A list of data and documents accessed is provided in **Appendix B**.

9.2.2 Environmental Values and Water Quality Objectives

The *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (EPP (WWB)) states the relevant EVs and Water Quality Objectives (WQOs) for water and provides the relevant water quality guidelines and indicators for protecting these values. EVs of specific waters to be protected or enhanced, such as those within the vicinity of the Project, are defined in Schedule 1 of the EPP (WWB).

These values encompass direct uses including water supply for (where relevant) drinking water, irrigation and stock watering, as well as recreational, aesthetic uses and the inherent cultural and spiritual values of waterways. The EPP (WWB) defines EVs and WQOs for the surface and groundwater environment in Queensland as a measure for maintaining and/or improving the long-term provision of these services.

It should be noted that due to the significantly high electrical conductivity (EC) values measured in groundwater at the Project area, it is unlikely that the environmental values for drinking water will be met, and this EV is not considered further.

This Project is located within the Fitzroy Basin and the EVs for this area are set out under the plan *Isaac River Sub Basin Environmental Values and Water Quality Objectives – Basin No. 130 (part), including all waters of the Isaac River Sub basin (including Connors River) September 2011*. The Project falls within the Connors Groundwaters zone. Under this document, the EVs and WQOs attributed to this zone are summarised in **Table 9-1**.

Table 9-1 Environmental Values and Water Quality Objectives

Environmental Values	Water Quality Objectives
Water supply – irrigation	Uphold Australian and New Zealand Environment Conservation Council (ANZECC) objectives for pathogens and metals.
Water supply – farm use	Refer to *Australian Water Quality Guidelines* (AWQG) for objectives.
Water supply – stock water	Objectives as per AWQG, including median faecal coliforms <100 organisms per 100 ml.
Water supply – industrial use	No WQOs provided.
Aquatic ecosystems	Where groundwaters interact with surface waters, groundwater quality should not compromise identified EVs and WQOs for those waters. Otherwise WQO's are set for the chemistry zone (Zone 34 applies to the Project location).
Cultural, spiritual and ceremonial values	Protect or restore indigenous and non-indigenous cultural heritage consistent with relevant policies and plans.

Source: WSP 2024.

9.2.3 Groundwater Quality

Groundwater samples have been collected in the regional study area since 2003 and hydrochemistry trends for the SWC mine assessed in previous studies by CDM Smith (2016) and Golder (2018a; 2022; 2023). The groundwater quality review presented in **Appendix B** is summarised below. The groundwater data has also been updated with recent monitoring data collected at the SWC mine (Report on Groundwater Monitoring Plan Review for Environmental Authority EMPL00712313 South Walker Creek Coal Mine (Australian Groundwater Consult Pty Ltd (AGC), 2023)).

9.2.3.1 EA Groundwater Trigger levels

The EA groundwater trigger levels are set out below in **Table 9-2**.

Table 9-2 Groundwater Trigger Levels – EPML00712313

Quality Characteristic	Units	MB12	MB14
pH	pH units	6.5-8.5	6.5-8.5
Electrical Conductivity	µS/cm	8910	8910
Sulfate	mg/L	318	318
Dissolved Aluminium	mg/L	0.055	0.055
Dissolved Antimony	mg/L	0.009	0.009
Dissolved Arsenic	mg/L	0.013	0.013
Dissolved Iron	mg/L	0.85	0.70
Dissolved Mercury	mg/L	0.0006	0.0006
Dissolved Molybdenum	mg/L	0.034	0.034
Dissolved Selenium	mg/L	0.011	0.011
Dissolved Silver	mg/L	0.001	0.001
Total recoverable hydrocarbons C6-C10	µg/L	20	20
Total recoverable hydrocarbons >C10-C40	µg/L	100	100

Source: AGC, 2023.

9.2.3.2 pH

Groundwater at the SWC mine is typically slightly alkaline to alkaline. In the alluvium, the pH of groundwater ranges from 6.5 to 8.5, with measurements of pH from those monitoring bores in the Gas Drainage Project area ranging between about 6.9 and 8.3.

In the regolith, pH of groundwater generally ranges from 6.5 to 8.7, with measurements of pH from those monitoring bores in the Gas Drainage Project area ranging between about 6.5 and 8.6. pH levels usually do not exceed the trigger levels, which are set between 6.5 and 8.5 for both the alluvium and regolith.

In the overburden, groundwater is generally more alkaline than in the alluvium and regolith, with pH values ranging between 7.4 and 8.7. In the Gas Drainage Project area, the pH of groundwater in MB20SWC05A is at the end of measurements at the SWC mine, with pH values ranging between about 7.4 and 8.2.

In the coal seams, groundwater pH typically ranges from 7.1 to 10.1, with one anomalous measurement of 11.9 at CB01; this may be attributable to the construction of the monitoring bore (cement contamination) and is not considered further in this assessment. Within the Gas Drainage Project area, groundwater pH values range between about 7.2 and 8.2 which are within the trigger levels for the Gas Drainage Project area. These values do not exceed the trigger levels in the Project area, which are set between 6.5 and 8.5 for both the overburden and coal seams.

EA trigger levels for pH range from 6.5 (minimum) to 8.5 (maximum). Laboratory pH for all EA monitoring bores over the period April 2020 to August 2023 are within this range except for a single value (6.48; for MB11 interpretation bore) on 3 March 2022 (AGC, 2023).

9.2.3.3 Electrical conductivity

Groundwater salinity across the SWC mine area ranges from fresh (with EC measurements typically lower than 1,500 microsiemens per centimetre, µS/cm) to saline (greater than 20,000 µS/cm) and is generally considered to be unsuitable for drinking.

Groundwater salinity in the alluvium bores across the SWC mine is generally fresh to saline with EC measurements varying between 576 and 29,000 µS/cm. In the Gas Drainage Project area, EC measurements in this unit vary from fresh (800 to 1,650 µS/cm) in bores MB13 and MB14, to brackish in MB20SWC01A (with EC concentrations ranging between 1,890 and 2,430 µS/cm), and ultimately saline (25,100 to 29,900 µS/cm) in MB20SWC03P.

It is noted EC measurements in MB20SWC03P exceeds the EC trigger threshold (8,910 µS/cm) in all instances, although it is within the historical maximum (9,520 µS/cm; June 2022).

EC measurements of groundwater in those monitoring bores across the SWC mine screened in the regolith indicates this water is generally fresh to saline, with EC measurements varying between 640 and 33,300 µS/cm.

In the Gas Drainage Project area, EC measurements in monitoring bores OBS1 and OBS2 vary between 12,500 and 33,300 µS/cm, with groundwater in MB12 being brackish with EC measurements between 3,970 and 8,670 µS/cm.

Groundwater geochemistry and quality in the overburden is monitored in three bores. Measurements from these bores indicates EC varies between 1,570 and 15,700 µS/cm with this groundwater typically being brackish to saline. The highest EC concentrations are observed in monitoring bore MB20SWC05A in the Gas Drainage Project area, with measurements varying between 14,200 and 15,700 µS/cm, all of which are above the EC trigger threshold of 8,910 µS/cm.

Groundwater in those monitoring bores screened in the coal seams is generally brackish across the SWC mine, with measurements of EC varying between 70 and 17,200 µS/cm. In the Gas Drainage Project area, EC measurements vary between 4,150 and 17,200 µS/cm.

Measurements of EC in MB20SWC04P, MB20SWC06P and MB20SWC08P all exceeded the EC trigger threshold (8,910 µS/cm). MB20SWC04P (17,200 µS/cm; March 2023) was above the previous maximum whereas MB20SWC06P and MB20SWC08P were both below the historical maximum (12,600 µS/cm in January 2022; and 15,700 µS/cm in June 2021 respectively).

MB12 (compliance bore regolith) shows EC values much higher than results from the alluvium aquifer monitoring bores. Results indicate that EC in MB12 is likely a consequence of the bore intersecting weathered higher salinity bedrock (AGC, 2023).

9.2.3.4 Major ion chemistry

Overall, the groundwater chemistry results in the regional study area are consistent with monitoring results from previous reporting years. Groundwater in the alluvium hydrostratigraphic units (HSUs) remains dominated by magnesium and bicarbonate, however, there has been an increase in sodium and a decrease in calcium.

Groundwater in regolith is mostly sodium and chloride dominant, which is similar to groundwater ion chemistry in the overburden.

Major groundwater ions in the coal seams vary, however it generally tends to have higher sodium and magnesium concentrations compared to other major ions.

In the Gas Drainage Project area, sulphate concentrations:

- In the alluvium generally range from 6 to 30 mg/L, with exception of MB20SWC03P, with concentration ranging from 451 to 496 mg/L, above the trigger threshold of 318 mg/L.
- In the regolith generally range from 0.5 to 75 mg/L, with exception of OBS2, with concentration ranging from 344 to 1,300 mg/L, above the trigger threshold of 318 mg/L.
- In the regolith range from 280 to 377 mg/L, generally above the trigger threshold of 318 mg/L.
- In the coal seams generally range from 0.5 to 82 mg/L, with exception of MB20SWC02P, with concentration ranging from 242 to 265 mg/L, below the trigger threshold of 318 mg/L.

Monitoring results for all EA monitoring bores over the period April 2020 to August 2023 are well below the 318 mg/L EA trigger level for Compliance Bores MB12 (regolith) and MB14 (alluvium) (AGC, 2023).

9.2.3.5 Dissolved metals

Table 9-3 presents a summary of the dissolved metal concentrations for the monitoring bores located in the Project area and surrounding from 2004 to present. For those metals detected below laboratory detection limits, concentrations are assumed to be half of the respective detection limit. Concentrations of aluminium, antimony, arsenic, cadmium, manganese, nickel, selenium and iron were detected above the ADWG guideline values, and apart from antimony, manganese, mercury and iron, all metals were also detected at concentrations above the relevant ANZECC guideline values for aquatic ecosystems with 95% protection level.

Monitoring results for all EA monitoring bores over the period April 2020 to August 2023 show concentrations of dissolved Iron are generally lower than EA trigger levels (0.85 mg/L for MB12 and 0.70 mg/L for MB14) (AGC, 2023).

However, monitoring results for all EA monitoring bores over the period April 2020 to August 2023, show dissolved Iron concentrations for groundwater at Bore MB11, (an Interpretation Bore - Alluvium), are well above the EA trigger levels for Bores MB12 and MB14. Dissolved Iron concentrations for groundwater at Bore MB11 are considered to be ‘natural’ and reflective of variation within the Alluvium Aquifer (AGC, 2023).

Monitoring results for all EA monitoring bores over the period April 2020 to August 2023 for other chemical parameters (dissolved metals and hydrocarbons) generally returned a ‘nul’ (below level of detection (<LOD)) result. Results for the few analyses which returned values above LOD were all less than respective trigger values for Compliance Bores MB12 and MB14 as outlined in Table I2 of EA EPML00712313 (AGC, 2023).

Table 9-3 Summary of Dissolved Metal Concentrations

Dissolved metal / metalloid	Lowermost guideline value (mg/L) in ADWG† (2011)	95% Protection level and trigger levels ANZECC‡ (2018) (mg/L)			Measured concentration (mg/L)		
		Irrigation	Stock Water	Aquatic Ecosystems	Minimum	Mean	Maximum
Aluminium	0.2	5	5	0.0055 (pH>6.5)	0.001	**0.009**	**0.25**
				0.0008 (pH<6.5)			
Antimony	0.003	-	0.009	0.009	0.0005	0.0007	0.009
Arsenic	0.01	0.1	0.5	0.0024	0.0005	**0.004**	**0.073**
Boron	4.0	0.5	5.0	0.94	0.05	0.34	**0.98**
Cadmium	0.002	0.01	0.01	0.0002	0.00005	0.0001	**0.0025**
Chromium	0.05	0.1	1.0	0.0043	0.0001	0.0008	**0.008**
Cobalt		0.05	1.0	0.0014	0.0005	**0.003**	**0.03**
Copper	2.0	0.2	5.0	0.0014	0.0005	**0.0017**	**0.025**
Lead	0.01	0.2	0.1	0.0034	0.0005	0.0008	**0.005**
Manganese	0.1	2.0	0.1	1.9	0.003	0.5	1.78
Molybdenum	0.05	0.2	0.15	0.034	0.0005	0.0027	**0.035**
Mercury	0.001	0.002	0.002	0.00006	0.00005	0.00005	0.00005
Nickel	0.02	0.01	0.15	0.011	0.0005	0.005	**0.122**
Selenium	0.01	0.2	1.0	0.011	0.0002	0.007	**0.05**
Silver	0.1	0.02	0.02	0.00005	0.0005	**0.0008**	**0.005**
Vanadium		-	0.00005	0.00005	0.005	**0.008**	**0.05**
Zinc	3.0	0.1	-	0.008	0.0025	**0.09**	**1.55**
Iron	0.3	2.0	20		0.005	0.46	3.31

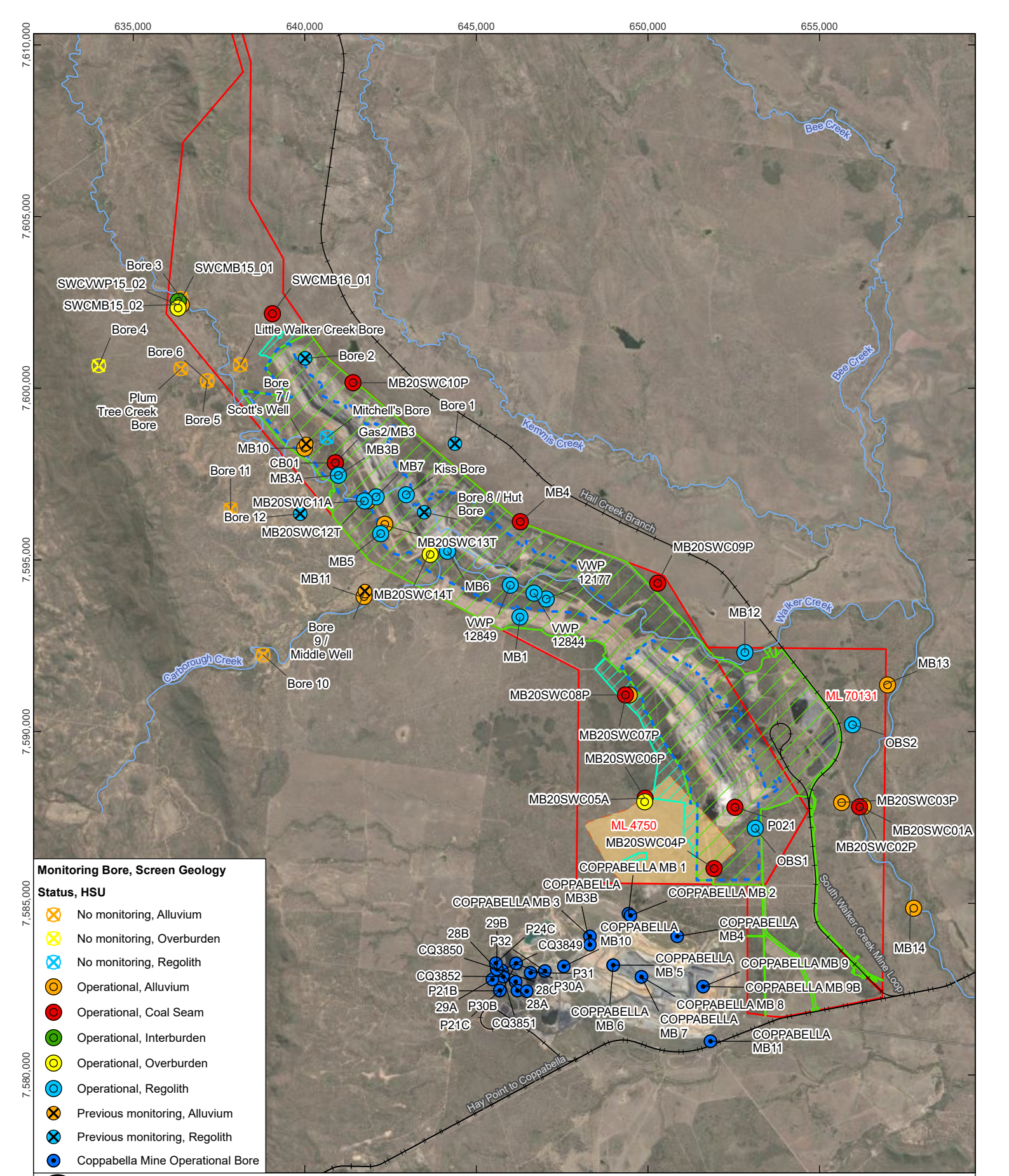
Notes † *Australian Drinking Water Guidelines*, lower guideline value for health and aesthetic purposes.
‡ Australian and New Zealand Environment Conservation Council.
Water quality guideline and trigger values is light-blue shading
Concentrations in **bold text** exceed the referenced protection and trigger levels presented in ANZECC (2018).
Concentrations in light red shading exceed the minimum guideline value presented in ADWG (2011).

Source: WSP 2024, Table 4.4.

9.2.4 Groundwater Users

Fifteen registered landholder bores were identified in the region around the SWC mine. The closest monitoring bore is approximately 1 km to the south of the Gas Drainage Project area, located at the nearby Coppabella Mine. **Figure 9-1** presents monitoring bores identified in the Gas Drainage Project area. Groundwater in the regolith, overburden and coal seams is typically brackish to saline. As such, groundwater in these HSUs is unlikely to be suitable for future livestock watering or other uses.

Conversely, groundwater in the Quaternary alluvium typically has much lower salinities and may be suitable for future stock and domestic purposes.



SOUTH WALKER CREEK EA AMENDMENT PROJECT

MONITORING BORES IDENTIFIED IN THE PROJECT AREA

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:140,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

stanmore

FIGURE 9-1

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_GW_F09-01_Monitoring Bores Identified in the Project Area

9.2.5 Groundwater Dependent Ecosystems

Groundwater Dependent Ecosystems (GDEs) are natural environments which are dependent on the access to groundwater on a constant or intermittent basis to sustain aquatic and/or terrestrial ecosystems such as vegetation, springs, wetlands and rivers (WetlandInfo, 2021). The ephemeral nature of the waterways in the Gas Drainage Project area, typically disconnected from the underlying aquifer, makes it unlikely that they support or are associated with GDEs.

However, a search of potential GDEs within the Australian GDE Atlas for the Gas Drainage Project area and surroundings indicates potential surface and terrestrial GDEs based on a national assessment. These potential GDEs are listed below and presented in **Figure 9-2**.

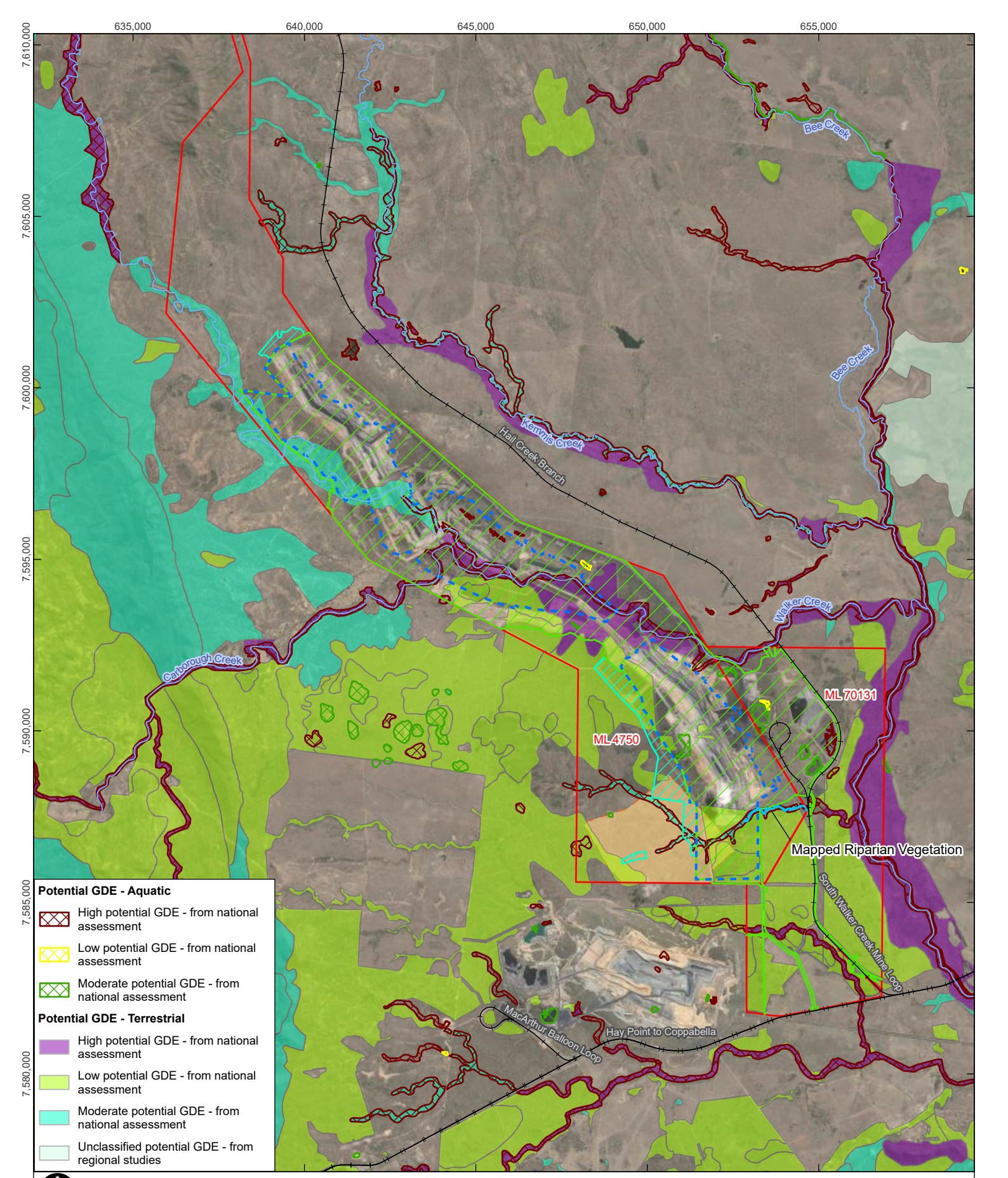
High to moderate potential aquatic GDEs from national assessment:

- Associated with Bee Creek and its tributaries (classified as “river” type).
- In the Gas Drainage Project area and surroundings, GDEs associated with watercourses are mostly classified as high potential.
- Associated with different types of wetlands, including artificial and natural water bodies throughout the Project and around the main streams. In the Gas Drainage Project area, the GDEs associated with wetlands are mostly classified as high potential.

High to low potential terrestrial GDEs from national assessment:

- Riparian vegetation associated with the main creeks, including Bee Creek (classified as high potential GDEs).
- Riparian vegetation associated with minor creeks and spread throughout the Gas Drainage Project area and surroundings, including parts of Sandy Creek and parts of Humbug Gully.

The following sections evaluates the potential for GDEs at the Project site, based on current groundwater conditions and ecological surveys.



0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:140,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Approved Subsurface Disturbance Area (30/7/2024)
- Approved Additional Exploration Area (30/7/2024)
- Gas Project Study Buffer
- Mapped Riparian Vegetation

SOUTH WALKER CREEK EA AMENDMENT PROJECT

POTENTIAL GROUNDWATER DEPENDENT ECOSYSTEMS

stanmore

FIGURE 9-2

Path: \\au.slr.local\Corporate\Projects-SLR\620-BNE\620-BNE\620.040822.00001 Stanmore SWC EA Major Amendmen\07 SLR Data\01 CADGIS\GIS\ArcPro\Stanmore SWC EA Major Amendment\Stanmore SWC EA Major Amendment.aprx\620040822_GW_F09-02_Potential Groundwater Dependent Ecosystems

9.2.5.1 Aquatic Groundwater Dependent Ecosystems

Aquatic GDEs are surface expression groundwater, such as wetlands, lakes, seeps, springs, and river baseflow systems, rely on groundwater discharge to support aquatic biodiversity. The Australian GDE Atlas identifies potential surface expression GDEs in the Gas Drainage Project area and its surroundings, including Bee Creek, Walker Creek, Humbug Gully, a wetland associated with Sandy Creek, and a culturally significant lagoon named Pink Lily Lagoon located southwest of Bidgerley TSF.

However, site investigations and field assessments by project aquatic ecologists (frc environmental, 2022a) confirmed the absence of actual surface expression GDEs within the regional study area and mining lease. This conclusion is based on a review of aerial imagery and the observation that these waterways are mostly ephemeral with no sustained groundwater flows. Additionally, some of the mapped wetlands within the mining lease are associated with mine water storages or farm dams, and not associated with or dependent on groundwater (frc environmental, 2022a; 2022b). Groundwater depths and flow data further support these findings, indicating a typical disconnection between surface water and groundwater in the Gas Drainage Project area.

It should be noted that MSES Wetlands do not occur within the Gas Drainage Project area. The closest MSES wetland is located approximately 9 km to the northwest (and hydraulically up-gradient) of the Gas Drainage Project area.

9.2.5.2 Riparian Groundwater Dependent Ecosystems

Within the Gas Drainage Project area, riparian vegetation associated with Eucalyptus Woodlands on alluvial plains and drainage lines (Regional Ecosystems 11.3.4 and 11.3.25) is mapped as a potential terrestrial GDE. However, site surveys have confirmed the absence of water or the dominance of halophytic or swamp flora species on the creek bed, which are characteristics associated with terrestrial GDEs (Eco Logical Australia, 2021).

Additionally, the minimum historical depth to groundwater in the Gas Drainage Project area was 7.0 m bgl (MB20SWC03P), with current (pre gas extraction) groundwater levels at 7.1 m bgl, which is below the root zone of most species. As such it is considered unlikely that terrestrial GDEs are present within the Gas Drainage Project area.

9.2.5.3 Subterranean Groundwater Dependent Ecosystems

Environmental consultants, frc environmental, have undertaken desktop reviews and onsite surveys for stygofauna across SWC for several years. Stygofauna is widespread throughout SWC, with the highest diversity and environmental value recorded within the alluvium of the regional study area at MB10 (frc environmental, 2022c; 2022d), located over 10 km to the northwest of the Gas Drainage Project area. Despite the local variability in stygofauna occurrence, the presence of stygofauna within both the alluvium and regolith units indicates that there is potential for a subterranean GDE within the Gas Drainage Project area.

9.3 Potential Impacts

9.3.1 Groundwater Impact Assessment Methodology

Appendix B presents conceptual and numerical hydrogeological models of the Gas Drainage Project area and its surroundings. These models were utilised to assess the potential impacts of the Gas Drainage Project on groundwater elevations, flow directions, environmental values, and sensitive receptors, including GDEs.

The numerical groundwater flow model was previously developed by Golder (2022) in MODFLOW-USG and updated by WSP as part of the current scope of work to change the grid refinement in the Gas Drainage Project area to allow more 'refined' predictions. Calibration was verified to ensure it was fit for purpose for the assessment. The boundary of the model has been defined based on the location of topographical ridges and expected regional flow of shallow groundwater and Coal Seam aquifers. It has been set far enough away from the SWC mine pits and Gas Drainage Project area to minimise boundary-induced effects while ensuring that it follows sensible hydrogeological units.

The model domain is 45 km long (NNW–SSE), 40 km wide (SSW–NNE) and covers an active area of approximately 1,290 km^2. Cell size varies across the model domain from a refined quadtree grid of 100 m around the Project area, to 200 m within the mining area and around the main creeks, to 400 m outside of these areas and to the model boundaries.

Temporally, the stress periods are based on wet/dry seasons, with the life of mine scenarios considering the period from July 2021 to September 2043, when mining is scheduled to cease. The post-closure simulation considered the period from October 2043 to December 2534, encompassing 491 years of groundwater level recovery. It followed a variable stress period setup (starting with yearly to 10-yearly towards the end of the simulation period).

Modelling included simulations to predict the impacts of the Gas Drainage Project, considering the current SWC mine's approved mining plan and third-party operations.

Predictions considered potential impacts on springs and groundwater extraction bores in relation to trigger thresholds within the Water Act and / or the EP Act and EPP (WWB). Additionally, impacts on other potential receptors, such as potential GDEs, were evaluated based on their location, underlying stratigraphy, and predicted aquifer drawdown results.

9.3.2 Hydrogeological conceptualisation

Figure 9-3 presents a conceptualisation of the hydrogeological system in the Gas Drainage Project area and surroundings along a representative section oriented SW-NE. The approximate location of this cross-section is shown in **Appendix B** (Figure 4.6 and Figure 4.7) and shows the depths and extents of the main interpreted HSUs that are present in the Gas Drainage Project area and the general occurrence of the water table.

- The primary aquifers at the SWC mine and Gas Drainage Project area comprise:
    - Where saturated, the Quaternary sediments along the alignment of Bee Creek, Sandy Creek and Humbug Gully, all of which are expected to form localised (and spatially disconnected) unconfined aquifers.
    - The Tertiary sediments and weathered regolith, which together are expected to form a regionally significant and largely unconfined water table aquifer.
    - The coal seams of the RCM, which are expected to form separate confined aquifers separated by the interburden of the RCM.
- Where unweathered, the Rewan Formation, interburden of the RCM and FCCM form regionally significant aquitards. Apart from the interburden of the RCM, which is expected to form a leaky aquitard, these HSUs are expected to form confining units inhibiting any notable vertical or horizontal groundwater flow, including in part across the unnamed regionally significant fault at the foot of the Carborough Range to the west of the Project area and SWC mine.
- Generally, shallow groundwater flow mimics surface topography, with groundwater flow generally being directed towards a south-eastern direction, consistent with the topographic slope. Groundwater flow in the deeper units follow the dominant south-eastern direction of regional groundwater flow as in the alluvium.

- Groundwater elevations indicate groundwater in all HSUs generally flows from northwest to southeast in line with topography and the flow direction of Bee Creek. Locally however groundwater flow directions are influenced by mining at the SWC and Coppabella mines, with groundwater elevations in all HSUs at and in the vicinity of the Gas Drainage Project area showing the influence of these activities.
- Groundwater elevation measurements indicate creek beds are:

  (i) elevated with respect to the groundwater table.

  (ii) disconnected from groundwater.

  (iii) when flowing, act as losing streams locally supplying recharge to the water table.
- Recharge occurs mainly via two mechanisms:

  (i) direct infiltration of rainfall.

  (ii) leakage from ephemeral streams, ponds, storage facilities, wetlands and/or other structures.

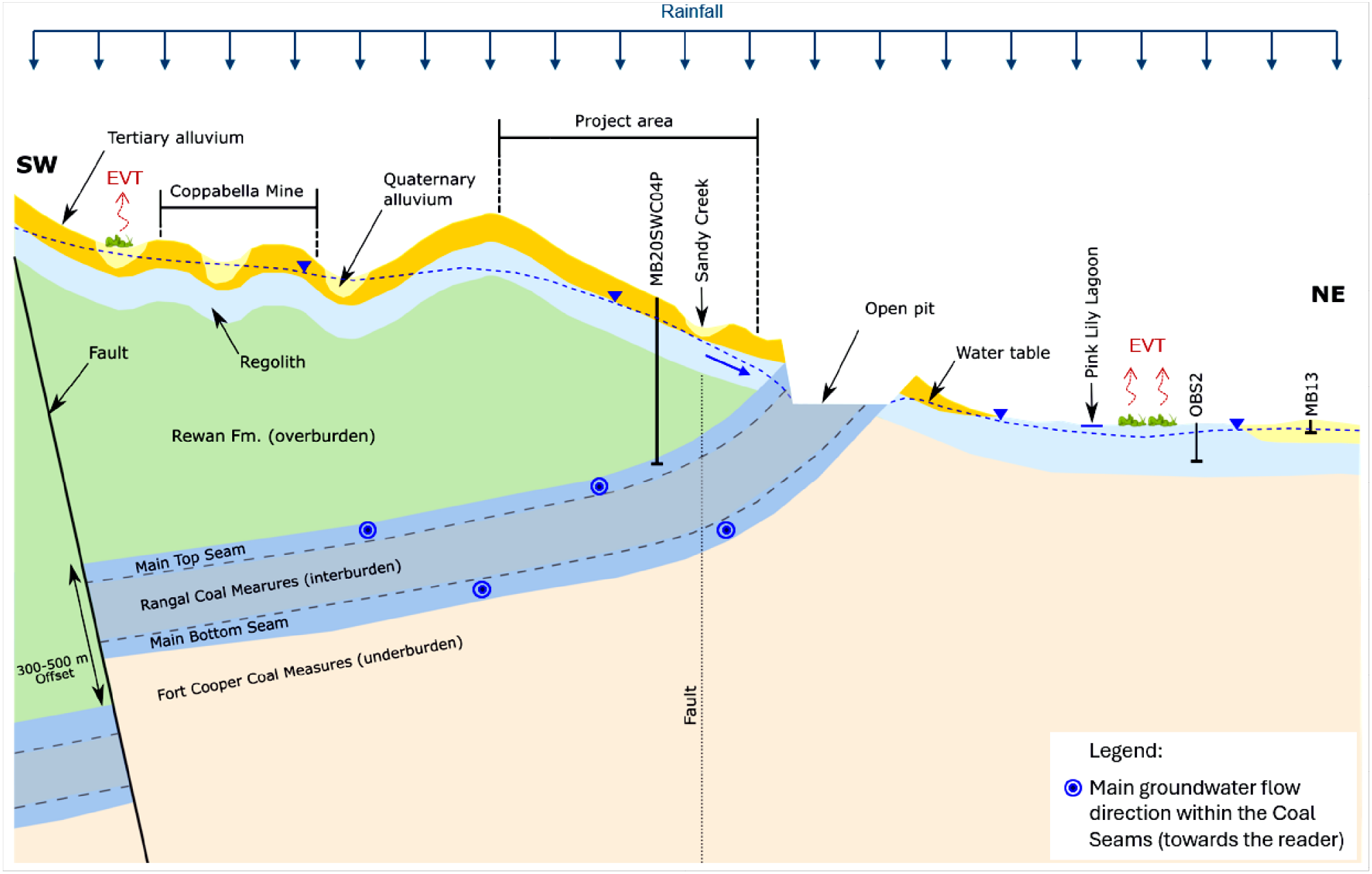
  Recharge in response to rainfall events are estimated to be between 0.05 and 2% of annual rainfall. In stating this, such recharge is only likely to occur following rainfall events of sufficient magnitude to overcome interception (essentially the build-up of the 'wetting front' and saturation status) by dry soils and subsequent evapotranspiration from soil layers.
- Discharge occurs mainly via three mechanisms:

  (i) as natural groundwater throughflow draining to the southeast towards lower hydraulic heads.

  (ii) as discharge to the open pits.

  (iii) as evapotranspiration.

  Discharge from the Project (i.e., that groundwater take necessary to promote the desorption of gas from the coal) will constitute an additional discharge mechanism at the SWC mine, with such rates in the first 13 years of operation expected to range between 20 and 60 m^3/day.



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SOUTH WALKER CREEK EA AMENDMENT PROJECT

CONCEPTUAL SW-NE HYDROGEOLOGICAL CROSS-SECTION ACROSS THE PROJECT AREA

FIGURE 9-3

9.3.3 Groundwater Impact Assessment Results

All registered bores predicted to be impacted by Gas Drainage Project-induced changes in groundwater elevations and pressures are either:

- Owned by Stanmore.
- Located at the nearby Coppabella Mine to the south of the Gas Drainage Project area.

All are registered and used for groundwater monitoring purposes and are not suitable for groundwater extraction purposes.

Ecology surveys and expert advice provided indicates that aside from subterranean GDEs (stygofauna), there are no other GDEs either within the study area or within the wider assessment area used for the assessment of GDEs. It is noted that riparian vegetation along Sandy Creek and Humbug Gully may intermittently use groundwater during and following rainfall events. This process of intermittent recharge along the line of these creeks is not expected to change due to the construction and/or operation of the Gas Drainage Project, and unlikely to impact existing riparian vegetation.

Stygofauna has been identified in several groundwater monitoring bores in the central and northern extents of the SWC mine, all of which are screened in the alluvial or regolith HSUs. Although stygofauna were not observed during field assessments in the Gas Drainage Project area, it is reasonable to consider that stygofauna may also be present in the alluvial and regolith HSUs at and surrounding the Gas Drainage Project area, including along the alignment of Sandy Creek and Humbug Creek.

Considering the predicted of Gas Drainage Project-induced changes in groundwater elevations in the alluvial and regolith HSUs at and surrounding the Project area, however, the significance of any potential impact of the Gas Drainage Project on any stygofauna is considered low to negligible.

The closest known spring is located about 16 km northwest of the Gas Drainage Project area. It is located on the western (‘opposite’) side of the unnamed major SSE-NNW oriented fault which is thought to act as a regionally significant hydraulic ‘barrier’, hence the construction and/or operation of the Gas Drainage Project is not expected to impact groundwater elevations, yields, geochemistry or uses of that water emanating from this spring.

The only wetland at the SWC mine is Pink Lily Lagoon, located about 3.5 km to the northeast of the nearest planned gas extraction well of the Gas Drainage Project. It is underlain by regolith derived from the weathering of the underburden HSU and owing to the structural orientation of the Permo-Triassic bedrock units, is not expected to be impacted by the Gas Drainage Project.

This understanding is supported by numerical groundwater model predictions of Gas Drainage Project-induced changes of groundwater elevations which are not expected to extend to Pink Lily Lagoon.

The drilling of gas exploration boreholes is expected to:

- Lower groundwater elevations in the top of the regolith.
- Allow the passive underdrainage (downward leakage) of some groundwater from the alluvial sediments to the (now lower) water table in the regolith.

In stating this however, it is expected this change will have a negligible influence on any GDEs along the alignment of these waterways given:

- The often-dry nature of these streambeds.
- The general absence of groundwater in the shallow alluvial sediments (with groundwater, if present, typically occurring towards the base of these alluvial sediments).
- The demonstrated disconnection of creekbeds from groundwater in the alluvium.

This drawdown is also expected to reduce the saturated thickness of the regolith HSU, which could impact yields of any future groundwater abstraction bores installed in this HSU in the cumulative (i.e., area of multiple open gas boreholes) area of influence.

As gas and groundwater is extracted during Project operation, inflow of groundwater is likely to occur from those HSUs either above or below the coal seams, and/or laterally from adjacent areas of the coal seam. As such it is likely to be of similar geochemistry and quality to that removed during the operation of the Gas Drainage Project.

Similarly, following the cessation of gas extraction, groundwater levels in the coal seams and adjoining HSUs will recover, with this water is expected to largely be of similar or equivalent geochemistry and quality of that groundwater inflow to the coal seams during Project operation. As such the overall significance of the Gas Drainage Project impacting groundwater geochemistry and quality is assessed as low.

Predicted outcomes from the cumulative impact scenario suggest that groundwater-take activities at the Coppabella mine may result in:

- Between about 1.5 and 2.0 m of additional groundwater drawdown in the coal seams in the southern extent of the Gas Drainage Project area.
- Negligible to no predicted additional drawdown in the alluvium or regolith HSUs in this area.

Given (i) groundwater in the coal seams in this area is not used, and (ii) the predicted change in groundwater elevations is less than the groundwater drawdown trigger thresholds of the Water Act, the Gas Drainage Project is not considered likely to contribute to any adverse cumulative impacts to groundwater within the region.

Potential impacts of the Gas Drainage Project are considered to present low or negligible risks to groundwater elevations, geochemistry, quality or use.

Impacts not associated with Gas Drainage Project-induced depressurisation of the coal seams include those related to well drilling and construction. No produced water will be stored or treated within the gas field. Water generated by gas extraction will be managed as mine-affected water subject to the SWC Water Management Plan. After adoption of these measures, these impacts are likely to be of low significance.

Project-induced changes in groundwater elevations across all HSUs are expected to be negligible and confined to areas close to the Project.

Groundwater drawdown in the alluvium and regolith is predicted to be less than 0.5 m, well below the trigger thresholds, indicating minimal risk to future bore water supply.

Along those reaches of Sandy Creek within and immediately surrounding the Project area, groundwater drawdown is predicted to be less than 0.1 m. This is expected to be temporary and therefore considered negligible, posing low to negligible risk to stygofauna and unlikely to affect intermittent recharge processes.

No springs are expected to be impacted by the Project. The nearest spring is located 16 km to the west-north-west of the Project on the western (‘opposite’) side of an unnamed fault. This fault is thought to act as a regionally significant hydraulic ‘barrier’, thereby limiting the lateral flow of groundwater within the various HSUs either side of this fault. As such the Project is not expected to impact groundwater elevations, yields, geochemistry or uses of that water emanating from this spring.

The Project is not expected to affect groundwater elevations, throughflow rates, or geochemistry, or potential uses of that water in Pink Lily Lagoon. Any potential impacts on groundwater geochemistry, quality, or use are likely to be minor and localized, with an overall low significance due to similar water quality between adjacent aquifers and the coal seams.

Cumulative impacts from groundwater extraction at the Coppabella mine suggests:

- Negligible additional drawdown in the alluvium and regolith HSUs.
- Drawdown of between about 1.5 to 2 m in the coal seams.

Estimates of drawdown in the coal seams are below regulatory thresholds and unlikely to contribute to regional cumulative impacts. For exploration drillholes, the drawdown in the regolith (4.5 to 13.3 m) is expected to have a negligible impact on GDEs due to the dry nature of streambeds and disconnection from groundwater. However, there is a risk of inter-aquifer water mixing if boreholes are not grouted.

9.3.4 Exploration Drilling Impacts to Groundwater

Stanmore will carry out both coal and gas exploration drilling across the SWC mine to inform both the mine planning and the design and development of the Gas Drainage Project. Drilling will be carried out between 2025 to 2029 (and beyond, if required) on ML4750 and ML70131 in areas beyond those currently authorised by the EA. **Figure 3-3** and **Figure 3-4** present the planned locations of exploration drillholes across SWC mine.

To assess the magnitude of any potential impacts of exploration drilling on the groundwater system near the Project area, two additional scenarios were simulated in the numerical groundwater flow model. Both scenarios assessed the impacts of a single exploration drillhole drilled through all HSUs down to and including the main bottom (coal) seam, with boreholes located:

- In the eastern extent of the Project areas near the SWC pit (and identified as Drillhole 1 on **Appendix B**, Figure 7.2).
- In the northern extent of the Project area further away from the active pits (Drillhole 2 on **Appendix B**, Figure 7.2).

Both boreholes were located along the alignment of Sandy Creek, allowing these scenarios to consider the impacts of any additional loss of water from any of the alluvial sediments in response to:

- Lower groundwater elevations in the coal seams as a result of nearby mining and mine pit dewatering activities.
- These boreholes acting as long-term localised drains for groundwater to drain from the alluvium, regolith and overburden HSUs.

Appendix B (Figure 7.2) presents the location of these drillholes in the model, noting that although they are displayed together for visualisation purposes, each was simulated separately to prevent drawdown interference. **Appendix B** (Figure 7.2) also displays the drawdown contours in the end of the LOM period. The model outcomes indicate that:

- No additional drawdown is likely from the alluvium (model Layers 1 and 2) as these layers were (originally) unsaturated.
- Additional drawdown may occur in the regolith (model Layer 3) in response to the depressurisation of the coal seams, with drawdown ranging from about 4.5 m in Drillhole 1, to about 13.3 m in Drillhole 2.

- Predicted differences of additional drawdown amounts between Drillhole 1 and Drillhole 2 are attributed to:
    - The proximity of each drillhole to the SWC pit: the closer a drillhole will be to the SWC pit, the less additional drawdown may occur in the regolith owing to the already lower groundwater elevations and pressures in this HSU from ongoing mine operations.
    - Distance to the west of the SWC pit: the further west the drillhole is located, the more pronounced additional drawdown will likely be given the structural dip of the Main Coal Seam to the west, with exploration boreholes thereby getting deeper with greater distance from the SWC pits, and thereby encountering higher groundwater pressures.

It is important to note that the drains used in the numerical groundwater flow model to simulate exploration boreholes were assigned heads equivalent to the floor elevation of the main bottom (coal) seam for the entire simulation period. As such the results of these simulations are considered conservative (i.e., represent worst-case) predictions of groundwater elevation change occurring in the regolith HSU around these modelled boreholes. In reality, groundwater elevations and pressures at the modelled locations are likely to be higher than those present, and following mine closure will tend recover to elevations reflective of regional groundwater flow directions and gradients across the SWC mine, albeit with some influence from and close to the former pits themselves.

When considering the outcomes of that modelling discussed in this section, it should also be noted that the focus of this assessment was to consider the potential impacts of exploration boreholes on those groundwater resources that may occur intermittently in the alluvial sediments following notable rainfall and/or flooding events, and how these boreholes may influence any GDEs along these waterways. As such any additional depressurisation of the deeper overburden and coal seam HSUs as a result of the drilling of exploration boreholes has not been considered.

Outcomes of the numerical modelling suggest groundwater elevations in the top of the regolith HSU will decline around open exploration boreholes. This will allow the passive underdrainage (downward leakage) of some groundwater from the alluvial sediments to the (now lower) water table in the regolith, thereby either partially or fully dewatering any basal water-bearing zones in these sediments. In stating this however, it is expected this change will have a negligible influence on any GDEs along the alignment of these waterways given:

- The often-dry nature of these streambeds (i.e., long durations of lack of baseflow occurring along these waterways).
- The general absence of groundwater in the shallow alluvial sediments (with groundwater, if present, typically occurring towards the base of these alluvial sediments).
- The demonstrated disconnection of creekbeds from groundwater in the alluvium (refer to **Appendix B**, Sections 4.8.4 and 5.2.2.2).

Groundwater drawdown in the regolith is likely to occur as a result of the long-term passive drainage of groundwater from this HSU to these boreholes. Drawdown will likely be greatest where the number and density of open boreholes is greatest, with cumulative borehole impacts expected to result in project-long sustained pressure drops in the water table in the regolith. This is expected to reduce the saturated thickness of the regolith HSU, which could impact yields of any future groundwater abstraction bores installed in this HSU in the cumulative (i.e., area of multiple open exploration boreholes) area of influence.

Exploration drill holes are to be decommissioned and/or rehabilitated in accordance with the conditions of the EA and any/or any other applicable legislative requirements.

Exploration drilling is anticipated to have a low to negligible impact on groundwater environmental values.

9.4 Mitigation and Management Measures

9.4.1 Groundwater

Potential impacts on groundwater resources and associated sensitive receptors have been determined to be negligible. This is largely supported by the current activities approved on the SWC, and potentially impacted bores either owned by Stanmore or subject to existing Agistment and Compensation agreements that already account for future impacts.

The effectiveness of the management of the mining operation in limiting impacts to sensitive receptors requires monitoring. This includes monitoring groundwater resources in both the shallow and deep aquifer systems upgradient and downgradient of the Project area to confirm potential impacts are consistent with simulation predictions, or that future (yet unknown) changes in site conditions do not cause impacts to be realised. Stanmore already undertakes quarterly groundwater monitoring across the Project. It has been determined that the existing monitoring network is sufficient to monitor for potential impacts (as detailed in **Appendix B**; Section 8.1.1).

The monitoring of groundwater elevations will also be carried out at several monitoring points which are yet to be installed (as detailed in **Appendix B** Section 8.1.1).

To comply with the EA monitoring requirements, the following parameters for analysis will include:

- EC (i.e., salinity).
- pH.
- Sulphate.
- Selected dissolved metals (aluminium, antinomy, arsenic, iron, manganese, mercury, molybdenum, selenium, silver).
- Volatile fractions of total recoverable hydrocarbons (i.e., TPH C6-C10).
- Semi-volatile fractions of total recoverable hydrocarbons (i.e., TPH >C10-C40).

9.4.2 Gas production wells and other project activities

Measures to minimise impacts to groundwater quality and avoid introducing connectivity between formations during the construction of gas production wells include the following:

- Gas production wells will be designed, constructed and decommissioned in accordance with the *Code of Practice for constructing and abandoning coal seam gas wells and associated bores in Queensland* (DNRME, 2018b). This code outlines mandatory requirements and good practice to ensure operators comply with their obligations which reducing the risk of environmental harm. It requires that production wells be lined with steel casing, which is cemented in place to isolate aquifers overlying the coal seam, and are pressure cemented to surface once they are no long producing commercial quantities of gas.
- Gas production wells will be designed to:
    - Prevent any interconnection between hydrocarbon bearing formations and aquifers.
    - Ensure that gas is contained within the well and associated pipework and equipment without leakage.
    - Ensure zonal isolation between different aquifers is achieved.
    - Not introduce substances that may cause environmental harm.

- Drilling fluids and additives used during drilling activities will be water-based, appropriate for the well design and local geological conditions, and will be used in accordance with the mandatory requirements and guidelines outlined in the code of practice (DNRME, 2018b). They will be identified as being approved for import, manufacture or use in Australia (confirmed by NICNAS as being listed in the Australian Inventory of Chemical Substances).
- All applicable materials will be stored and handled in accordance with the relevant legislative requirements and Australian Standards including, but not limited to the provisions of:
  - AS 3780:2008, the storage and handling of corrosive substances.
  - AS 1940:2017, the storage and handling of flammable and combustible liquids.
  - AS 3833:2007, storage and handling of mixed classes of dangerous goods in packaged and intermediate bulk containers.

9.4.3 Bore impact management measures

Potential impacts on groundwater resources and associated sensitive receptors have been estimated to be negligible. The outcomes of the impact assessment suggest there are no external bores that will potentially experience water level decline greater than 5 m; however, the effectiveness of the management of the gas drainage field operation in limiting impacts to sensitive receptors will require ongoing monitoring as detailed in **Section 9.4.1**.

9.4.4 Surface activities

To minimise the potential risk of impacts of surface operations on shallow groundwater resources, the storage and management of fuels and chemicals will occur in accordance with regulatory requirements. In the event of a spill or release, a site-specific Emergency Management and Response Procedure will be employed.

9.4.5 Reporting

Stanmore will report to the government in compliance with:

- Relevant conditions and approvals issued by DCCEEW and DESI.
- Relevant Beneficial Use Approvals.

10. SURFACE WATER

10.1 Introduction

10.1.1 Overview of Surface Water Assessment

HydroBalance was commissioned by Stanmore to undertake a Surface Water Assessment (SWA) for the Project. The report is provided in full in **Appendix C**, with extracts from the report transcribed with minor (non-technical) edits in this section, to provide a summary of the surface water impact assessments presented in the report.

10.1.2 Structure

This Section is structured as follows:

- **Section 10.2** describes the environmental values of the regional receiving waters.
- **Section 10.3** describes the existing surface water environment including the regional and local drainage characteristics.
- **Section 10.4** describes the proposed surface water management system including the management objectives and principles.
- **Section 10.5** describes the site water balance model configuration and outcomes.
- **Section 10.6** presents the outcomes from the flood modelling assessment.
- **Section 10.7** describes the outcomes from the impact assessment for surface water, with proposed mitigation and management measures.

10.2 Environmental Values

The EPP (WWB), under the EP Act, outlines a framework for identifying EVs for waterways and setting WQOs to protect or enhance these values.

The EVs selected for protection of uncontrolled streams include:

- Aquatic ecosystems.
- Irrigation water supply.
- Farm water supply.
- Stock water.
- Human consumer.
- Primary contact recreation.
- Secondary contact recreation.
- Visual recreation.
- Drinking water.
- Industrial use.
- Cultural and spiritual values.

In summary, the key EV's for surface water that are to be protected are:

- Physical, chemical and biological integrity of the watercourses within the catchment and their amenity as potential water sources for human use and to support aquatic ecosystems.
- The integrity of raw water supplies and associated infrastructure in the region.

10.2.1 Water Quality Objectives

The relevant indicators and water quality guidelines for environmental values are detailed in the *Queensland Water Quality* (QWQ) *Guidelines* and ANZG (2018). Waterways located in the vicinity of the Project are categorised as slightly to moderately disturbed ecosystems under the QWQ Guidelines (DEHP, 2013).

Table 10-1 reproduces the downstream water quality triggers from Table F2 and Table F3 of the EA. These values are generally based on the trigger values or Default Guideline Values (DGVs) nominated in the QWQ guidelines and ANZG, or regional values. WQOs/DGVs are displayed for physio- chemical parameters only.

Table 10-1 Downstream Water Quality Triggers (Table F2 and Table F3 EPML00712313)

Parameter	WQO/DGV	Relevant EV
Electrical conductivity	700 µS/cm (low flow) to 5,500 µS/cm (high flow)	-
pH	6.5 to 9.2 (low flow) 6.5 to 9.6 (high flow)	-
Turbidity	500 NTU	Turbidity is required to assess ecosystem impacts and can provide instantaneous results.
Suspended solids	N/A	Suspended solids are required to measure the performance of erosion and sediment control (ESC) measures.
Sulphate	250 mg/L (low flow) to 750 mg/L (high flow)	Drinking water environmental values from NHMRC 2006 guidelines or ANZECC.
Aluminium	55 µg/L	For aquatic ecosystem protection, based on SMD guideline
Arsenic	13 µg/L	For aquatic ecosystem protection, based on SMD guideline
Cadmium	0.2 µg/L	For aquatic ecosystem protection, based on SMD guideline
Chromium	1 µg/L	For aquatic ecosystem protection, based on SMD guideline
Copper	2 µg/L	For aquatic ecosystem protection, based on LOR for ICPMS
Iron	300 µg/L	For aquatic ecosystem protection, based on low reliability guideline
Lead	4 µg/L	For aquatic ecosystem protection, based on SMD guideline
Mercury	0.2 µg/L	For aquatic ecosystem protection, based on LOR for CV FIMS
Nickel	11 µg/L	For aquatic ecosystem protection, based on SMD guideline
Zinc	8 µg/L	For aquatic ecosystem protection, based on SMD guideline
Boron	370 µg/L	For aquatic ecosystem protection, based on SMD guideline
Cobalt	90 µg/L	For aquatic ecosystem protection, based on low reliability guideline
Manganese	1,900 µg/L	For aquatic ecosystem protection, based on SMD guideline

Parameter	WQO/DGV	Relevant EV
Molybdenum	34 µg/L	For aquatic ecosystem protection, based on low reliability guideline
Selenium	10 µg/L	For aquatic ecosystem protection, based on LOR for ICPMS
Silver	1 µg/L	For aquatic ecosystem protection, based on LOR for ICPMS
Uranium	1 µg/L	For aquatic ecosystem protection, based on LOR for ICPMS
Vanadium	10 µg/L	For aquatic ecosystem protection, based on LOR for ICPMS
Ammonia	900 µg/L	For aquatic ecosystem protection, based on SMD guideline
Nitrate	1,100 µg/L	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN
TPH (C6-C9)	20 µg/L	-
TPH (C10-C36)	100 µg/L	-
Fluoride (total)	2,000 µg/L	Protection of livestock and short-term guideline
Sodium	TBA	To be determined following collection of sufficient site-specific data
Notes: SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000). LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR		

10.3 Existing Surface Water Environment

10.3.1 Regional Drainage Network

The Project is located within the headwaters of the Isaac sub-catchment, part of the greater Fitzroy Basin as shown in **Figure 10-1**.

Bee Creek is the main watercourse near the Project area, flowing from the north-west to south-east direction, to the east of the Project. It commences approximately 40 km north of SWC Mine and merges with Funnel Creek 60 km downstream of the Project. Funnel Creek eventually flows into the Connors River, which continues west to the Isaac River, approximately 110 km downstream of the Project. The Isaac River then converges with the Mackenzie River, a further 53 km downstream, which flows into the Fitzroy River, eventually discharging into the Coral Sea southeast of Rockhampton near Port Alma.

The Project study area (of which less than 10% will be disturbed by mining) is approximately 9.9 km^2 and represents 0.01% and 0.04% of the overall Fitzroy River and Isaac-Connors catchment areas, respectively.

Bee Creek is an ephemeral watercourse that flows only after sustained or intense rainfall in the catchment. Its flow is highly variable, often drying out during winter to early spring, though some pools may persist. Therefore, physical conditions, water quality, and the composition of aquatic flora and fauna communities are also expected to be highly variable over time.

The Bee Creek catchment upstream of the Project mainly consists of scattered to medium dense bushland and grazing land. The Hail Creek mine is the only active coal mine located upstream of the Project in the Bee Creek catchment.

10.3.2 Local Drainage Network

The following ephemeral drainage systems (shown in **Figure 10-2**) are located near SWC Mine.

- Bee Creek - Originates about 40 km north of SWC Mine and flows south-east towards Funnel Creek, which joins the Connors River. Both Hail Creek and SWC Mines are permitted to discharge mine-affected water into Bee Creek under their EA conditions. Bee Creek is categorised as slightly to moderately disturbed based on its habitat conditions.
- Carborough Creek - Located about 20 km west of SWC Mine, upper Carborough Creek has a larger catchment and more consistent flow compared to Walker and Sandy Creeks. It converges with Walker Creek downstream but does not receive mine-affected water from SWC Mine. Carborough Creek is considered moderately disturbed due to its catchment modifications, aquatic habitat quality, and regular inundation patterns.
- Sandy Creek - Sandy Creek's headwaters are located about 6 km west of SWC Mine. Due to its small catchment area, Sandy Creek has relatively brief and modest flows compared to Carborough and Walker Creeks. It receives mine-affected water from SWC Mine's eastern sediment dam. Based on the modification to its catchment, quality of aquatic habitats, and overall stream condition, Sandy Creek is considered slightly to moderately disturbed.
- Walker Creek - The headwaters of Walker Creek begin approximately 25 km north-west of SWC Mine. A portion of Walker Creek has previously been diverted to accommodate SWC Mine. Carborough Creek joins Walker Creek downstream of this diversion. Walker Creek receives mine-affected discharge water through a small gully fed by C-dam on SWC Mine, and from F dam as well. Walker Creek is considered slightly to moderately disturbed due to catchment modifications, quality of aquatic habitat, and overall stream condition.

10.3.3 Project Area Watercourse Identification

Figure 10-3 presents the watercourse identification mapping within the Project area, per the DoR (2017) mapping. Several drainage features traverse the site towards Sandy Creek, and intersect with the proposed access roads at four locations. The figure also indicates that there are no identified watercourses within the Project area itself. Sandy Creek and its minor southern tributary are classified as “unmapped” but do not interact with any infrastructure proposed as part of the gas field.

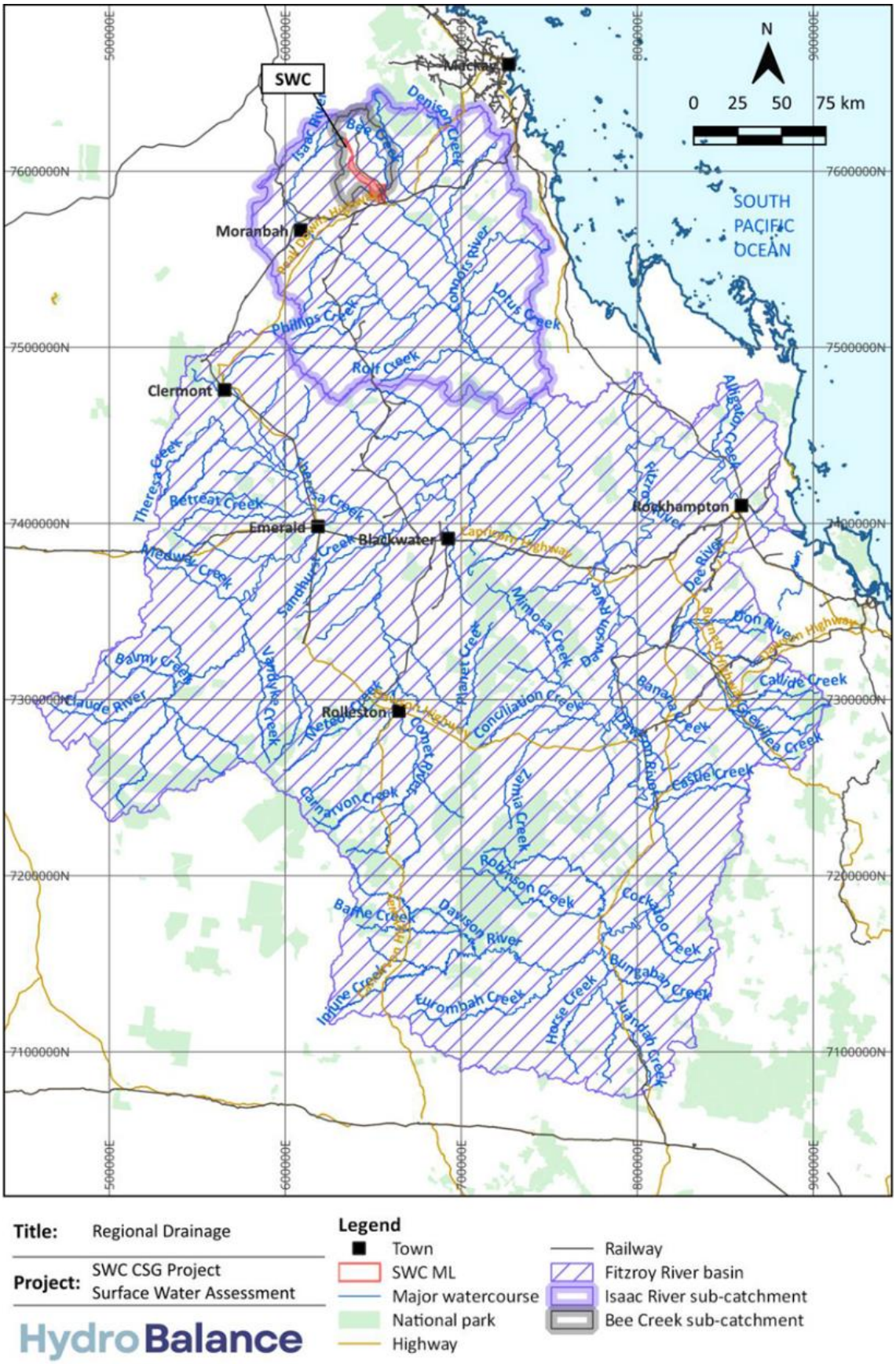


Figure 10-1 Regional Drainage Characteristics

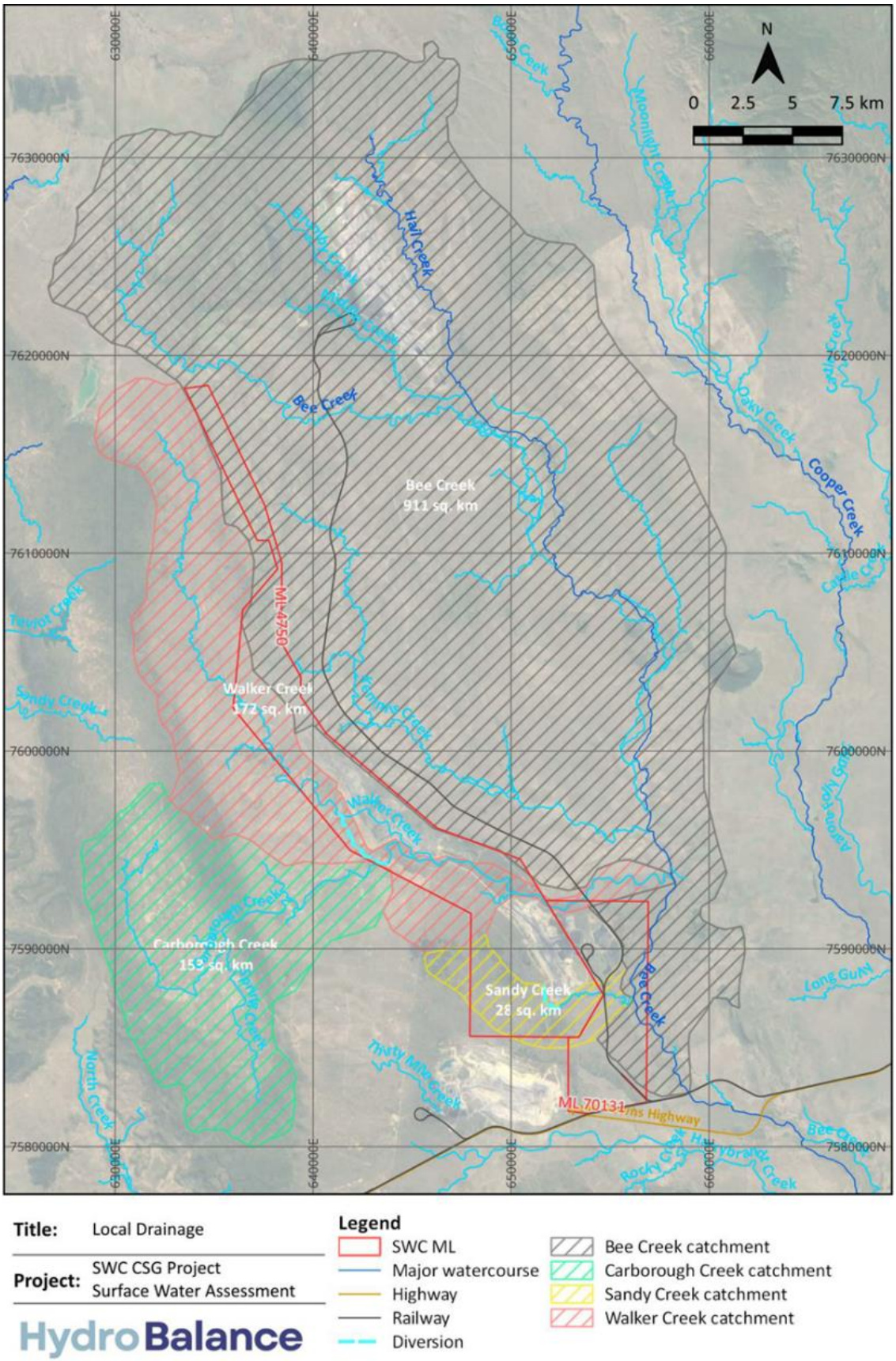


Figure 10-2 Local Drainage Characteristics

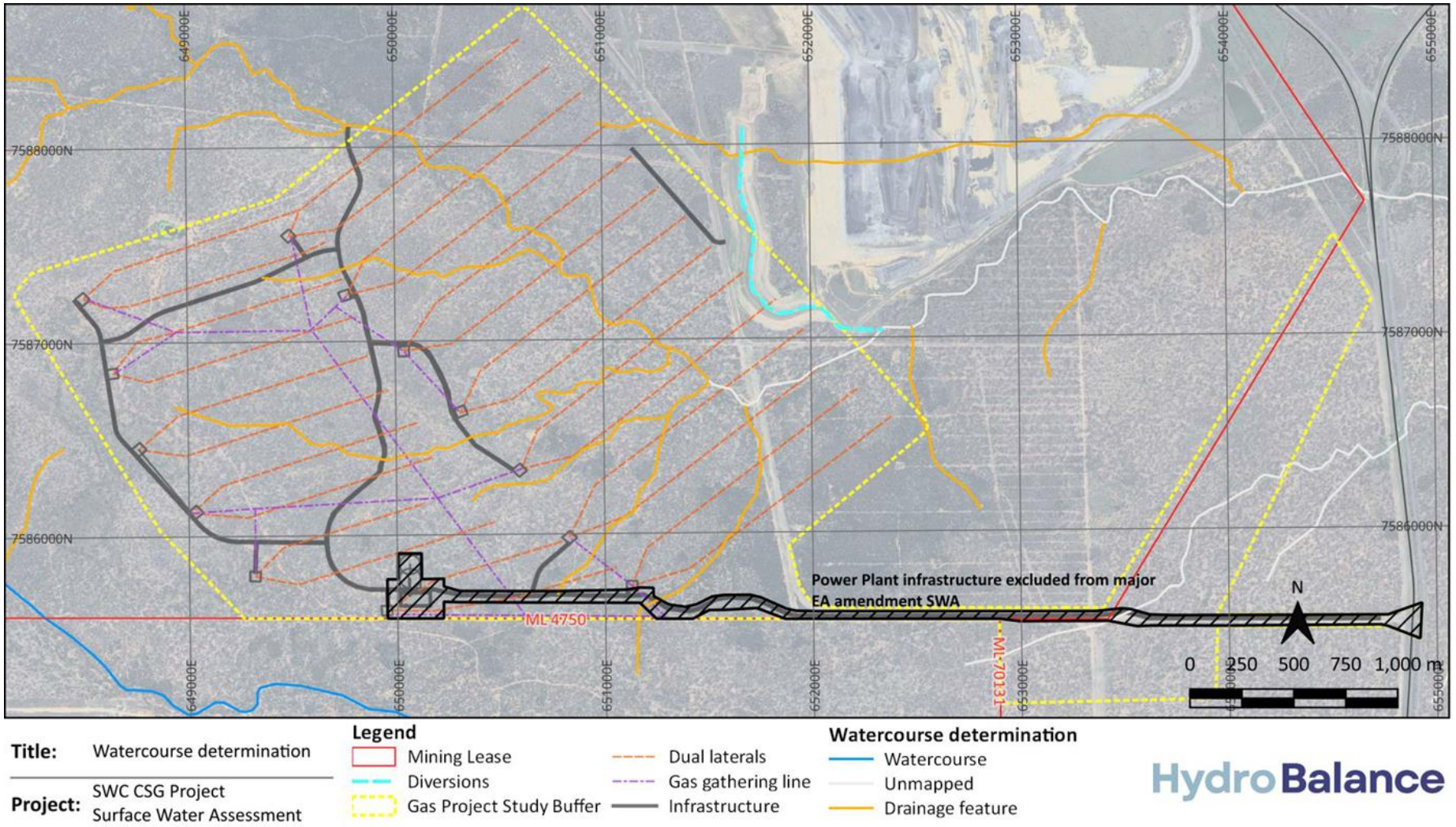


Figure 10-3 Project Area Watercourse Determination

10.3.4 Streamflow

Water depth and streamflow data have been recorded at the Bee Creek Upstream gauging station for the period between December 2019 and August 2023 and is presented in **Appendix C**. The following is of note:

- **Ephemeral Flows**: Bee Creek typically experiences the majority of flows between January and March.
- **Delayed Response**: Bee Creek generally experiences flows for more than a week following rainfall events, a common characteristic of the large catchment reporting to the gauging location.
- **Peak Flows**: Flows reached up to 250 m^3/s and 9 m deep during the December 2019 and August 2023 recording period.

10.3.5 Water Quality

10.3.5.1 Regional Water Quality

Publicly available regional water quality data for Bee Creek at Smiths Yard gauge has been analysed and a comparison of 20th percentile, median and 80th percentile water quality at these sites to the WQOs/DGV's are provided in **Appendix C**. The gauge is located downstream of SWC and Hail Creek Mine and therefore potentially includes mine release water quality. Some readings at the Bee Creek gauge are at or above the regional DGVs, including the following:

- Dissolved iron (80th percentile).
- Nitrate (50th percentile [median] and 80th percentile).

These elevated levels suggest that the current DGVs (dissolved iron and nitrate) may not fully represent the typical background water quality in Bee Creek.

10.3.5.2 Local Water Quality

Water quality sampling was undertaken in Bee Creek at the upstream and downstream gauging stations between 2018 and 2024 (summarised in **Appendix C**). Water samples were also collected at the full suite of monitoring locations (MP1, MP2, MP3, MP4, MP7, MP8 and MP9) in February 2024. The location of the water quality monitoring points is shown in **Figure 10-4**.

The following water quality parameters are elevated, as detailed in **Appendix C**, relative to the site WQOs:

- Turbidity in Bee Creek.
- Aluminium (dissolved) in Bee Creek downstream and Sandy Creek downstream.
- Copper (dissolved) in Sandy Creek and Bee Creek upstream.
- Molybdenum (dissolved) in Bee Creek downstream.
- Uranium (dissolved) in Walker Creek upstream and Bee Creek downstream.
- Vanadium (dissolved) Bee Creek downstream.

The water quality data suggests that the downstream water quality indicators in Bee Creek and Walker Creek are slightly elevated compared to the upstream levels. However, water quality in Sandy Creek appears to be similar upstream and downstream, based on the February 2024 sample.

10.3.6 Existing Water Use Entitlements

The existing SWC operation currently sources water from the Braeside Pipeline to meet its potable and raw water needs on-site.

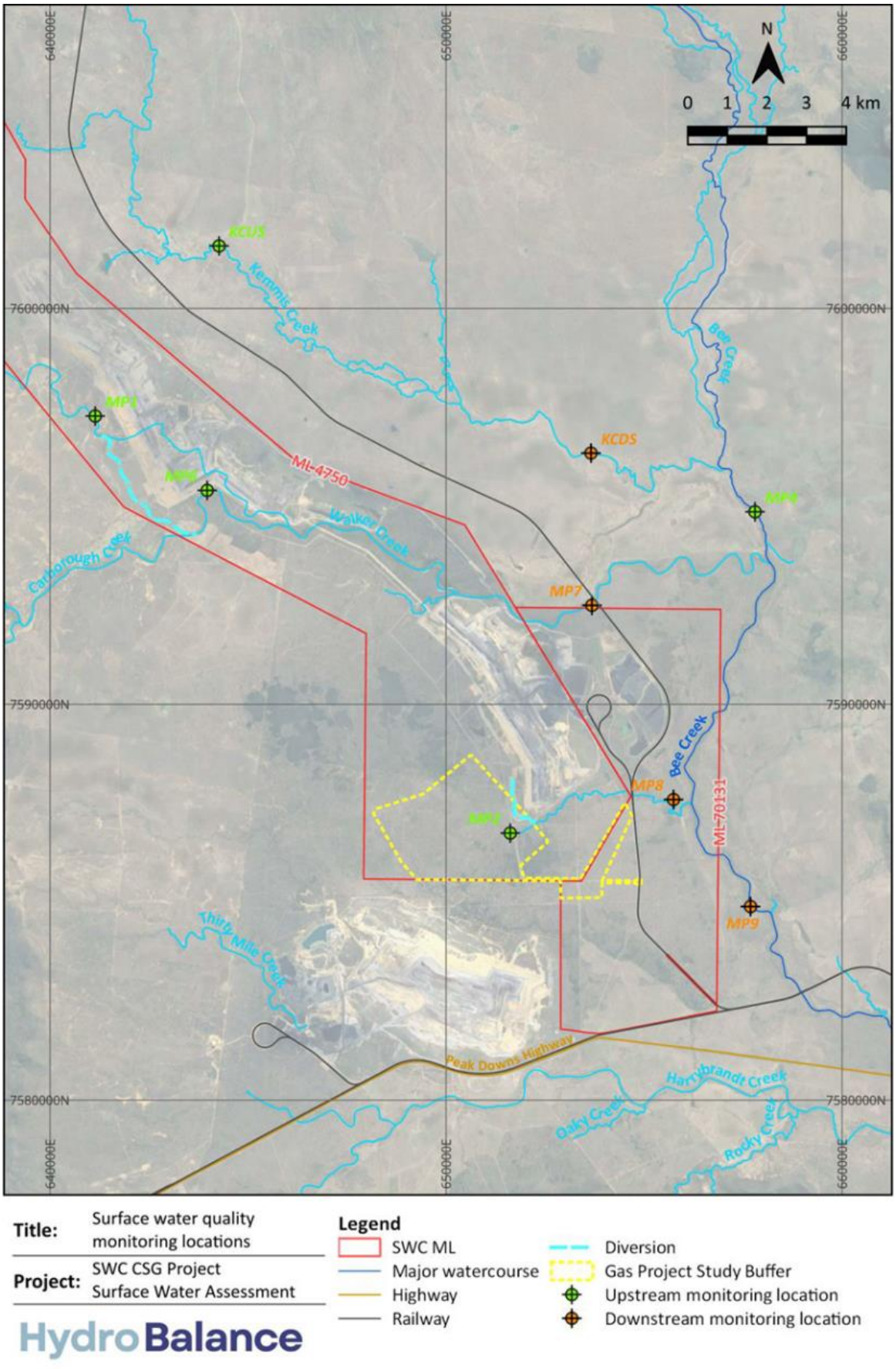


Figure 10-4 Water Quality Monitoring Locations

10.4 Surface Water Management Strategy and Infrastructure

10.4.1 Overview

This section outlines the objectives and principles of the existing and proposed water management system (WMS) for the Project. As the SWC WMS will function as an integrated system, the existing parts of the site that may interact with the Project are also covered below.

10.4.2 Types of Water Generated On-Site

The surface water management strategy for the Project is based on the separation of water from different sources based on anticipated water quality. **Table 10-2** defines the types of water generated by the Project.

Table 10-2 Surface Water Types

Water type	Definition
Mine-affected water	In accordance with the DES's *Model Mining Conditions*, mine-affected water includes water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity (which includes gas drainage).
Sediment water	Surface water runoff from areas that are disturbed by mining operations (including out-of-pit waste rock emplacements). This runoff does not come into contact with coal or other carbonaceous material and may contain high sediment loads but does not contain elevated level of other water quality parameters (e.g. EC, pH, metals, metalloids, non-metals). This runoff must be managed to ensure adequate sediment removal prior to release to receiving waters.
Clean catchment water	Surface runoff from areas unaffected by mining operations. Clean catchment water includes runoff from undisturbed areas and fully rehabilitated areas.
Contaminated water	Contaminated water includes runoff from areas containing explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods, as well as flammable and combustible liquids (including petroleum products).

10.4.3 Surface Water Management Objectives

The objective of the WMS is to manage all onsite water types to meet operational, social and environmental objectives. The three key WMS objectives are:

- Manage water generated by the gas field within the existing SWC WMS.
- Maintain sediment laden runoff generated by the Project.
- Actively engage with external stakeholders to responsibly manage water resources and address the Project's impact on surface water and groundwater.

Specific objectives for each water type are as follows:

- Mine-affected water:
    - Manage mine-affected water to minimise the risk of uncontrolled discharges to the receiving environment.
    - Understand, manage and mitigate the potential impact on the regional groundwater system.
- Sediment water: Maintain water quality discharging from ESC structures to as close to background levels as reasonably feasible.

- Clean/diverted water: Separate from the mine-affected and sediment water systems as much as reasonable and feasible and allow uninterrupted flow through the catchment.
- Contaminated water: Ensure full separation from other water sources and manage according to AS1940 – Storage and Handling of Flammable and Combustible Liquids.

10.4.4 Surface Water Management Principles

The general principles to manage surface water for the site are as follows:

- Maximise separation of clean, sediment water and mine-affected water runoff within operational constraints.
- Minimise the area of surface disturbance, thus minimising the volume of sediment or mine-affected runoff.
- Collect and contain on site all potential mine-affected water and transfer it to the SWC WMS.
- Release sediment water in a controlled manner (i.e. following settlement) in compliance with the EA requirements for an ESCP.

10.4.5 Existing Water Management Infrastructure

Figure 10-5 shows the locations of the key features of the existing SWC WMS. The main components of water-related infrastructure include:

- Active open-cut mining areas.
- Sediment dams to collect and treat runoff from out-of-pit waste rock emplacement areas.
- Drains to divert sediment-laden runoff from out-of-pit spoil dumps to sediment dams.
- A mine-affected water system to store water pumped out of the open cut mining areas and to collect runoff from the ROM coal stockpile, Mine Infrastructure Area (MIA) and other hardstand areas that could potentially generated mine-affected water runoff.
- A clean WMS, including creek diversions, to divert clean water away from the active mining areas.

Additional details relating to the SWC WMS infrastructure can be found in the site Water Management Plan (BHP, 2018) and in **Appendix C**.

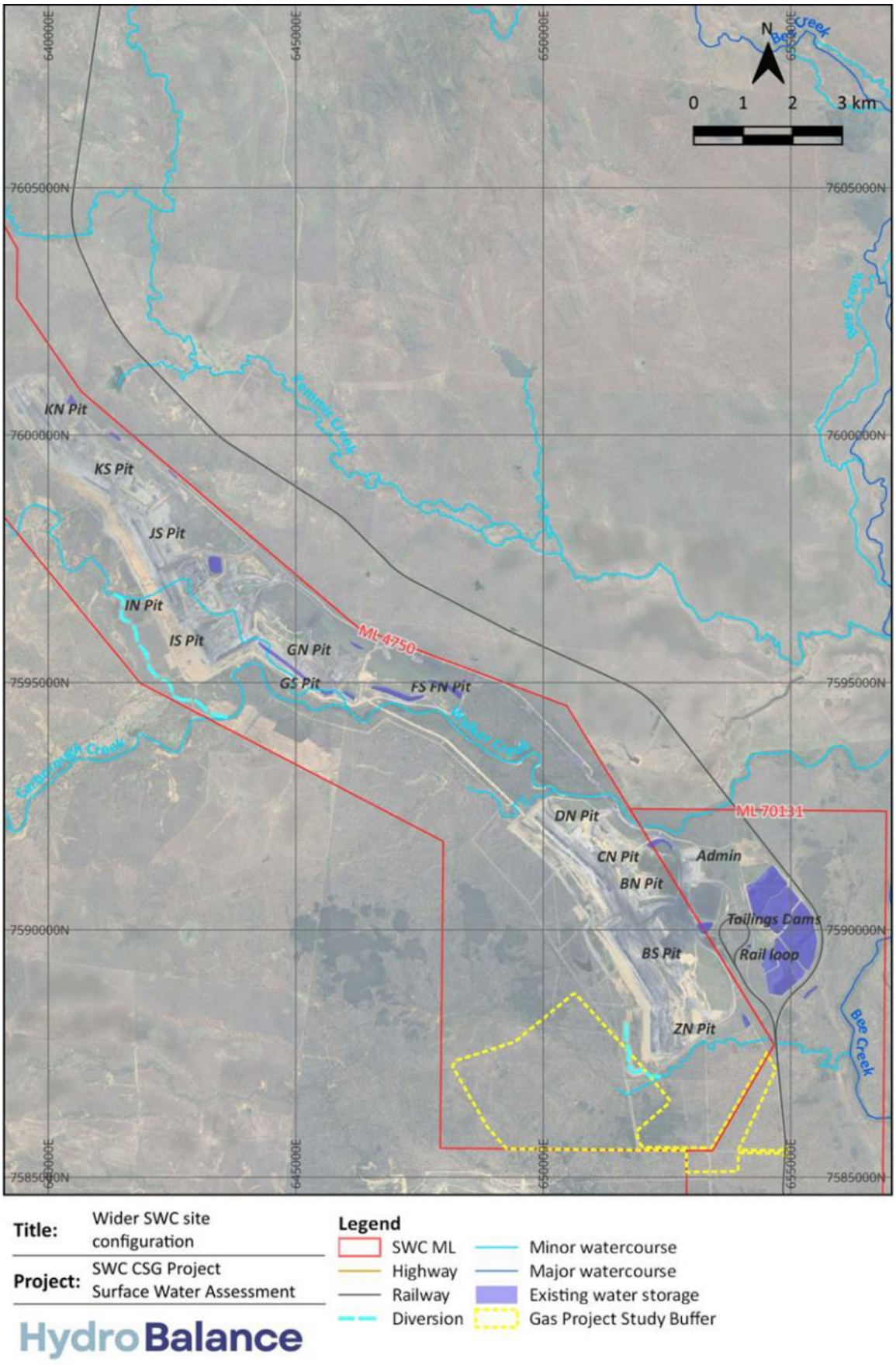


Figure 10-5 Existing SWC Site Configuration

10.4.6 Proposed Water Management Infrastructure

Figure 10-6 shows the key features of the Project WMS. The existing SWC WMS infrastructure will remain unchanged throughout the Project.

The main components of proposed water-related infrastructure include:

- Development of exploration drill pads between 2025 and 2029, as well as associated sediment control infrastructure.
- Development of a gas field, including well pads and access roads.
- A Transfer Tank located at the gas field to pump extracted water to the wider SWC WMS for containment.
- Drains and outlet structures to manage runoff from the well pads and access roads.
- Various pump and pipeline systems to manage mine-affected water and sediment water within Project area, connecting into the existing SWC WMS.

Further details of proposed water storages, storage sizes and pumping rules are provided in **Section 10.4.8**.

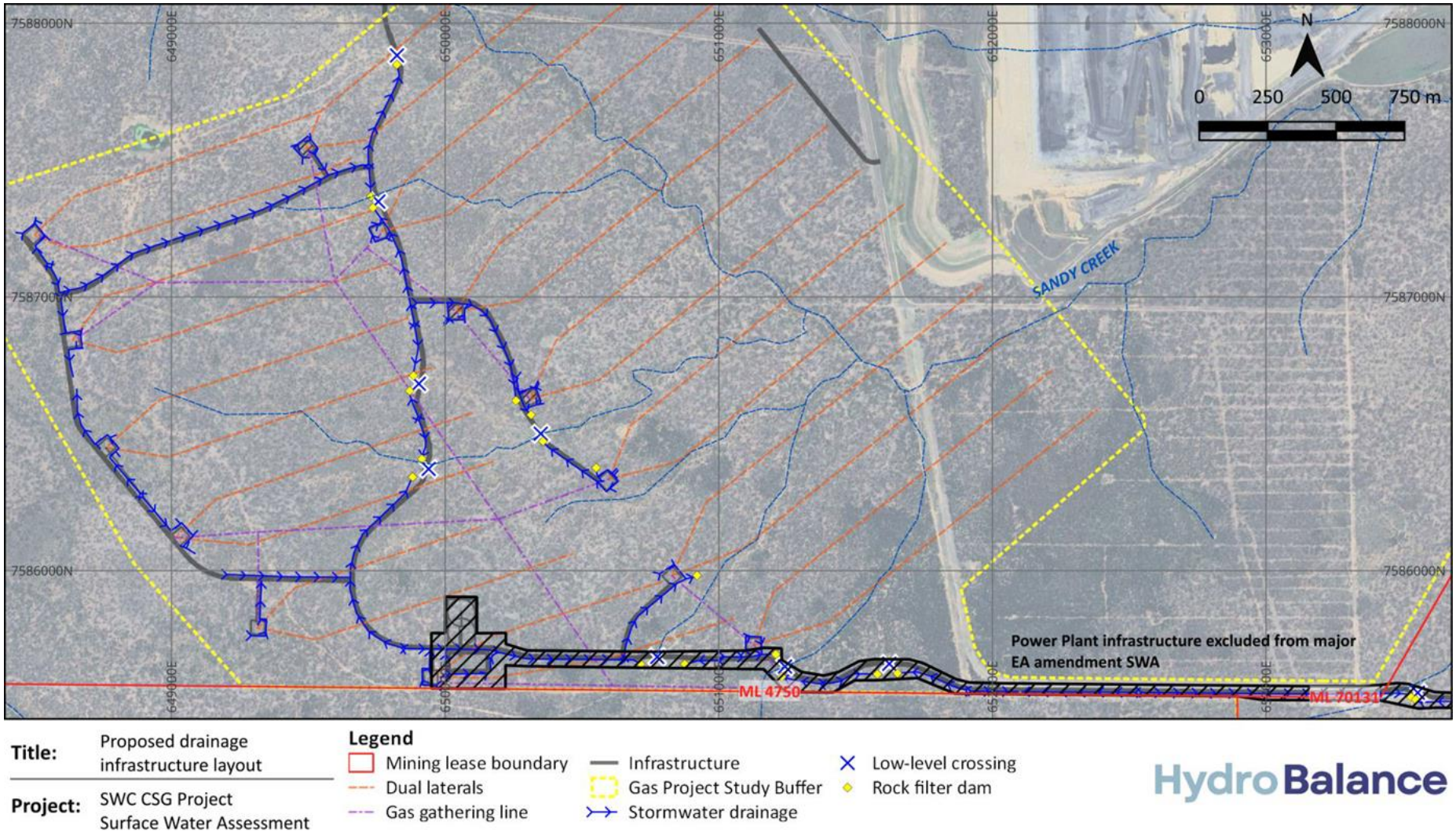


Figure 10-6 Proposed Site Water Management System Configuration

10.4.7 Sediment Water Management System

10.4.7.1 Overview

Sediment water, which results from runoff in cleared and disturbed areas, will be managed in accordance with an ESCP. The ESCP will focus on three core strategies:

- Drainage control – prevent or reduce soil erosion caused by concentrated flows though appropriate management and separation of diverted and surface water through the area.
- Erosion control – prevent or minimise soil erosion (from dispersive, nondispersive or competent material) caused by rainfall and exacerbated overland flow on disturbed surfaces.
- Sediment control – capture or retain sediment from surface erosion, runoff (i.e., from up-slope erosion) or from windborne particles.

The Project will require a combination of the three control measures to effectively manage sediment and erosion at the site.

10.4.7.2 Exploration Drill Pad Management

Each exploration drill pad will cover approximately 0.14 ha. Sediment fences will be used as the primary sediment control measure for these disturbance areas as required. ESC measures will be installed progressively as disturbance occurs.

Earthen bunds will be constructed upslope of the drill pads, to reduce clean catchment runoff interacting with disturbed areas. The disturbance areas will be revegetated once exploration activities are completed.

Additionally, exploration drilling and rehabilitation activities will generally occur during the dry season, which minimises the potential for surface water impacts from these activities.

Further details on the management of drill pads is provided in **Appendix C**.

10.4.7.3 Gas Drainage Field Management

Runoff from well pad and access roads will be managed using sediment drains, as indicated in **Figure 10-6**.

Roadside runoff will be treated and discharged via rock filter dams at the end of each of the drains.

Well pad runoff will be passively treated and discharged through sediment fences at the end of each drain, with level spreaders constructed upstream to disperse the flows and enhance sediment fence effectiveness.

Further details on the management of runoff is provided in **Appendix C**.

10.4.8 Mine-affected Water Management

Water extracted during gas production will be collected in the Transfer Tank, which includes an emergency overflow system. The tank is designed to minimise overflow risk. Water collected will be pumped to the SWC WMS for management within the existing mine water storages. Potential impacts of this additional water on the SWC WMS are discussed in **Section 10.5**.

10.4.9 Clean Water Management System

Several minor drainage lines flow through the proposed site. Clean water runoff would be directed through the site via the roadside drains and low-level crossings, towards Sandy Creek. The indicative locations of the proposed drains are shown on **Figure 10-6**.

10.4.10 Release of Water to the Receiving Environment

Water from the Project may only enter the receiving environment via sediment drain outlet structures. Although the approved EA permits the release of mine-affected water, controlled releases are not proposed as part of the water management strategy. The WMS does not rely on controlled releases to manage water inventories.

10.5 Water Balance Modelling

The latest SWC water balance model assesses the potential impact of the gas extraction water generated by the Project on the SWC WMS. **Appendix C** provides further details of the model setup and configuration.

Figure 10-7 presents a schematic of the modelled SWC WMS. This schematic shows that primary storage for mine-affected water is within "Main Pit Storage", which is comprised of F North and F South (FN FS) Pits, E North (EN) Pit and G North (GN) Pit, with a total capacity of around 15,480 ML.

The anticipated water output from the gas field is:

- Average: 35 m^3/day (or 13 ML/year).
- Peak: 60 m^3/day (or 22 ML/year).

Over the 15-year Project life, the predicted water make is around 52 ML. The impact of this water output on the existing SWC WMS has been assessed in **Section 10.5**.

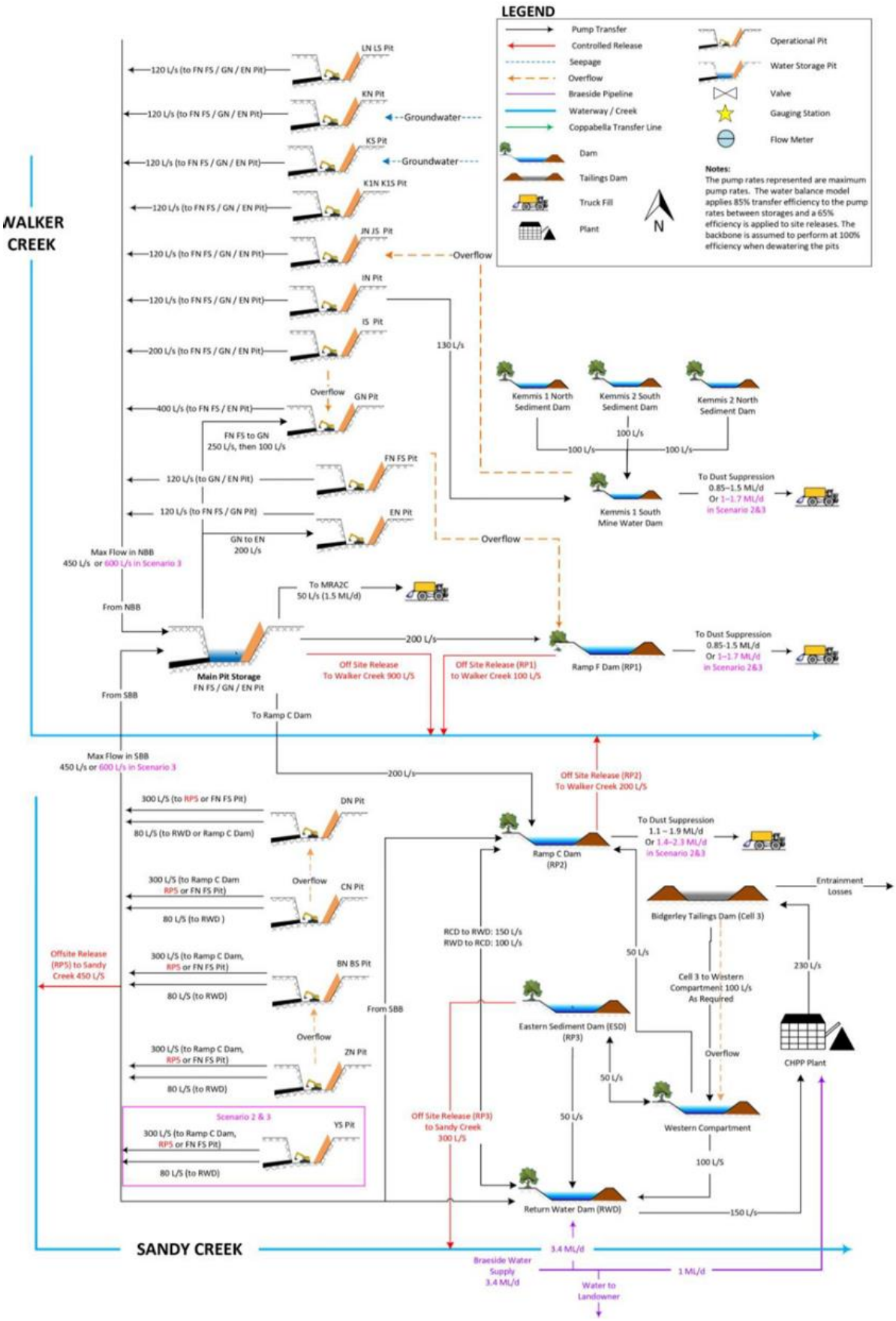


Figure 10-7 South Walker Creek Water Balance Model Schematic

10.5.1 Additional Water Impact on Existing Water Management System

10.5.1.1 Interpretation of Water Balance Model Results

The SWC water balance model was developed as a stochastic model. The stochastic model utilises 500 generated rainfall sequences, based off the historical rainfall sourced from the SILO database for the period 1960-2018 at the site location.

The purpose of running 500 realisations is to simulate the hydrological cycle over the short-term (two-year) forecast period and consider potential variability in rainfall as a Monte Carlo application. The results from the 500 realisations are compiled internally to calculate percentiles, which reflect a percentile measure based on the 500 samples. Seven percentile values were used as the main measure of the results (P1, P5, P10, P50, P90, P95 & P99). These percentiles are used to represent associated risk, where for example, 10 % of 500 samples are lower than the P10 value.

10.5.1.2 Mine-affected Water Inventory Forecast – Baseline Conditions

The SWC water balance model has been run from July 2024 for a period of two years as a short-term forecast. The model has been run without the predicted gas field extraction inflows as baseline conditions. The forecast total mine-affected water inventory under baseline conditions is detailed in **Appendix C**.

10.5.1.3 Mine-affected Water Inventory Forecast – including gas field extraction water

The SWC water balance model has been re-run with the inclusion of the gas field extraction water to assess its impact on the SWC WMS.

The forecast total mine-affected water inventory including gas field extraction water is presented in **Appendix C**, which shows that the addition of the gas field extraction water results in a negligible change to the forecast SWC mine affected water inventory. The inflows from the proposed project will hence have no measurable impact on the existing SWC WMS.

10.5.1.4 Mine-affected Water Salinity

The impact of the additional salt load in the SWC WMS as a result of the Project has been assessed using the water balance model. The predicted average EC over the two-year simulation (and the relative impacts) for each assessed percentile is detailed in **Appendix C**.

The results show that the extraction water will have a very small impact on the site water quality, with average EC increases of around 0.3% for median and wetter climatic conditions. During dry and very dry conditions, the average EC increase is up to 0.8%. These increases would have a negligible impact on the performance of the SWC WMS.

10.6 Flood Modelling Assessment

10.6.1 Overview

A TUFLOW hydraulic model assessed the Project's impact on flooding across various design flood events. The following development scenario/event combinations were modelled:

- Existing conditions - 10%, 5%, 2%, 1% and 0.1% AEP.
- Developed conditions - 10%, 5%, 2%, 1% and 0.1% AEP.

The developed conditions include the proposed infrastructure associated with the gas field. The exploration drill pad areas are not expected to involve significant bulk earthworks and will be managed through best practice ESC measures. The ESC infrastructure will be minor (Type 3 controls); hence the exploration drill pads will have negligible impact on flood behaviour.

For impact assessment, the modelled existing conditions flood levels and velocities were subtracted from the flood levels and velocities modelled under the developed scenarios. A positive value of impact therefore represents an increase in peak flood levels and velocities and conversely a negative value of impact represents a reduction in peak flood level or velocity.

The results of modelling of existing conditions and the impacts of each development scenario are described in detail in **Appendix C**.

10.6.2 Existing Conditions

Modelled 1% AEP and 0.1% AEP flood depths and extents for the existing conditions scenario are shown in **Appendix C**, with an example of the 1% AEP provided in **Figure 10-8**. The flows in Sandy Creek are generally well confined, with typical flow depths of less than 4 m. Sandy Creek is fed by a number of minor drainage lines which convey low flows and depths. Sandy Creek would not overtop into the existing ZN Pit for any of the modelled events.

Modelled flood velocities for the existing conditions for the 1% AEP and 0.1% AEP events are also shown in **Appendix C**, with an example of the 1% AEP event provided in in **Figure 10-9**. The velocities across the site are generally less than 1.0 m/s, with some areas of localised high velocities (around 3 m/s) in the Sandy Creek main channel and the clean water drain upslope of ZN Pit.

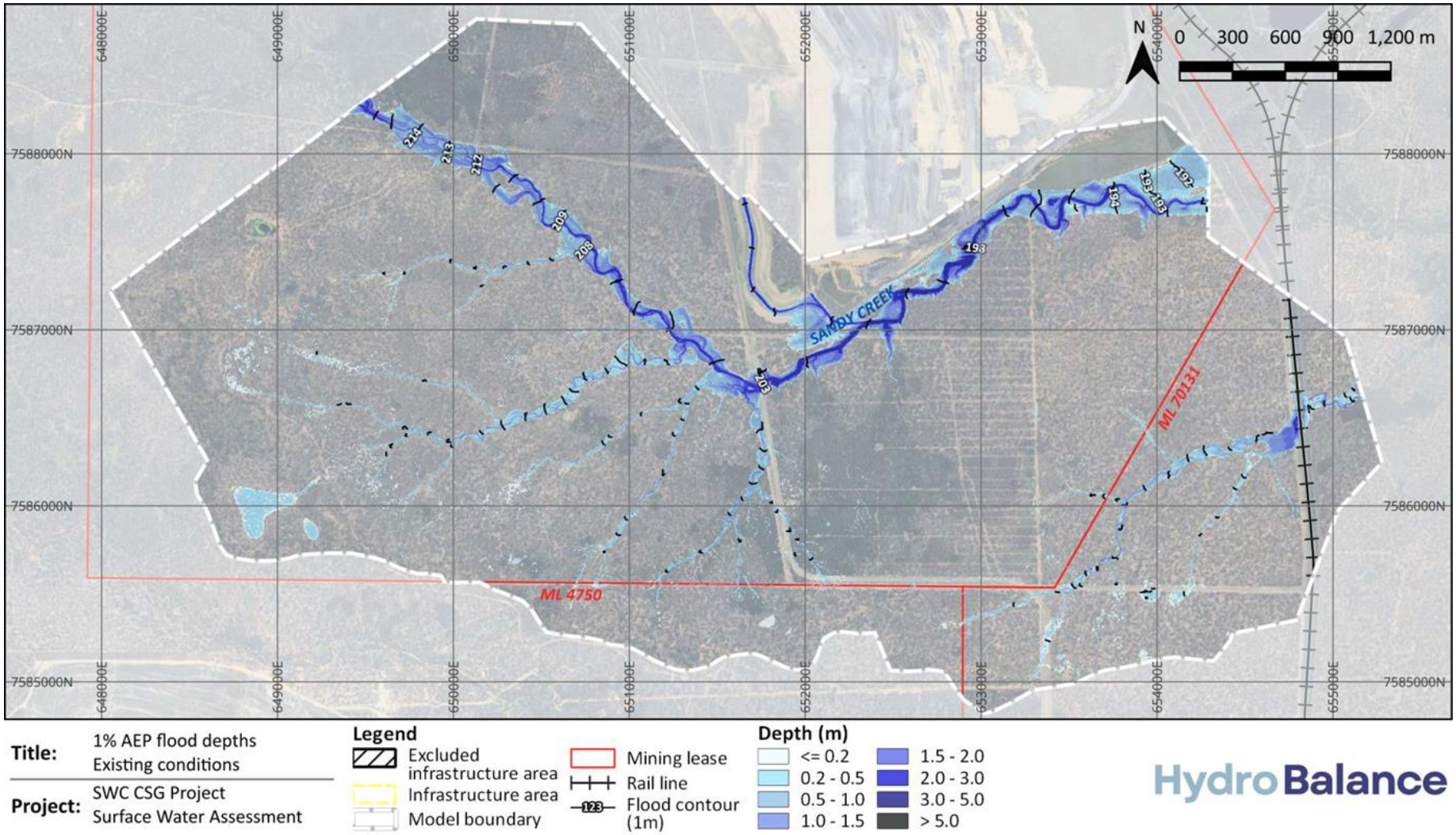


Figure 10-8 Existing Conditions 1% AEP Flood Depths and Heights

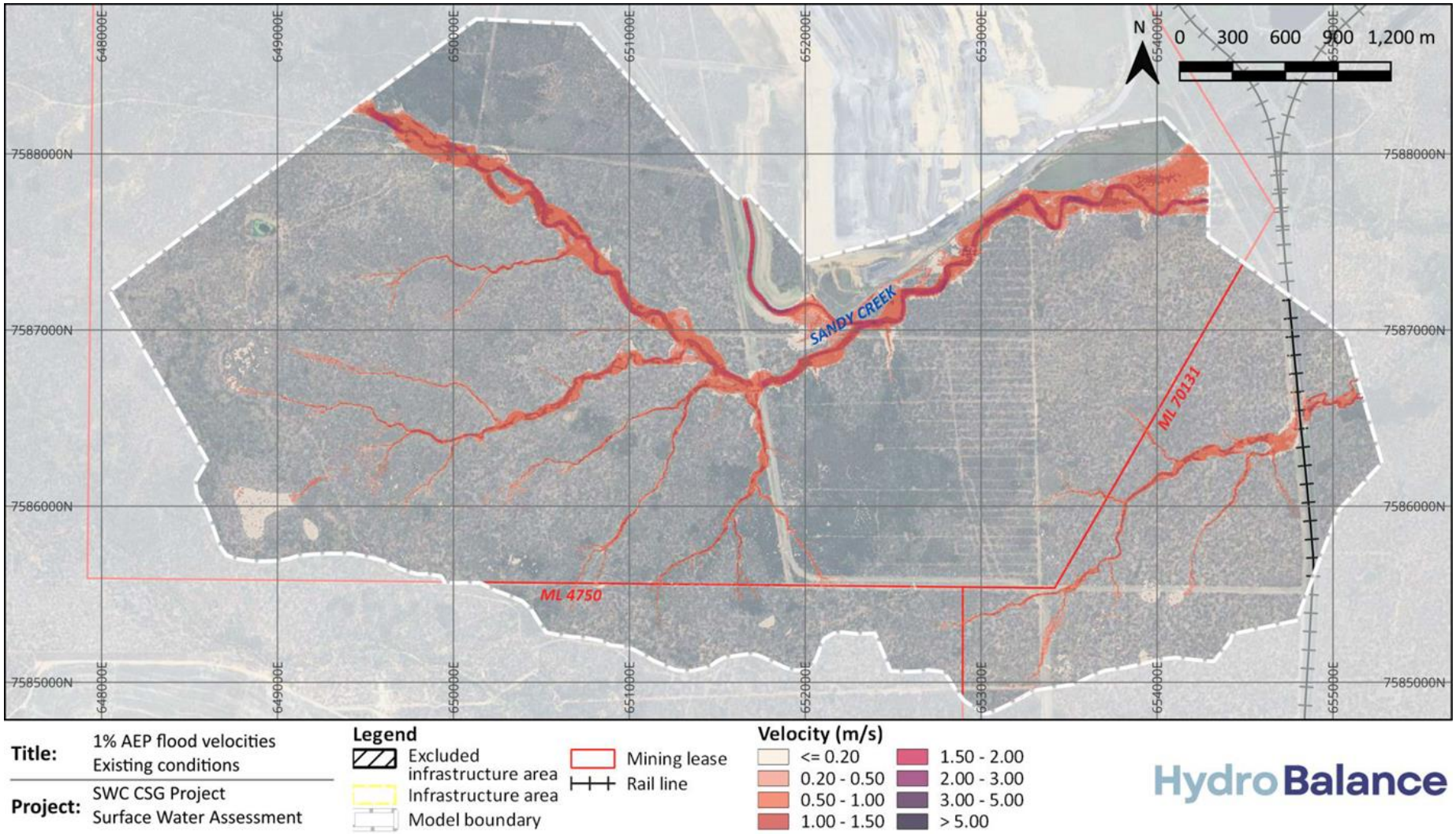


Figure 10-9 Existing Conditions 1% AEP Flood Velocity

10.6.3 Developed Conditions

Detailed flood modelling results for developed conditions are provided in **Appendix C**. The proposed works may potentially alter flood conditions via interaction with the proposed access roads and well pads. However, the model indicates that these changes will be minimal and will not affect downstream areas.

The results show that all proposed wells would be situated above flood water levels for all of modelled events, including the 0.1% AEP. The roadside drains will divert upstream flows towards the designated low-level crossings, which will be overtopped in all assessed events.

10.6.3.1 Flood Level Impacts

Figure 10-10 displays the flood depths and extents for the 1% AEP event under developed conditions. **Figure 10-11** illustrates the flood level changes for this event. A full set of impact maps for all modelled events is presented in **Appendix C**.

There are no significant modelled water level impacts due to the proposed infrastructure, for any of the events assessed.

10.6.3.2 Velocity Impacts

Figure 10-12 shows the flood velocities for the 1% AEP event under developed conditions. **Figure 10-13** details the velocity impacts for this event. A full set of impact maps for all modelled events are presented in **Appendix C**.

There are no significant modelled velocity impacts due to the proposed infrastructure, aside from minor localised impacts in minor drainage lines downstream of the low-level crossings. The modelled velocity impacts in the receiving waterways downstream and state infrastructure of the Project are negligible.

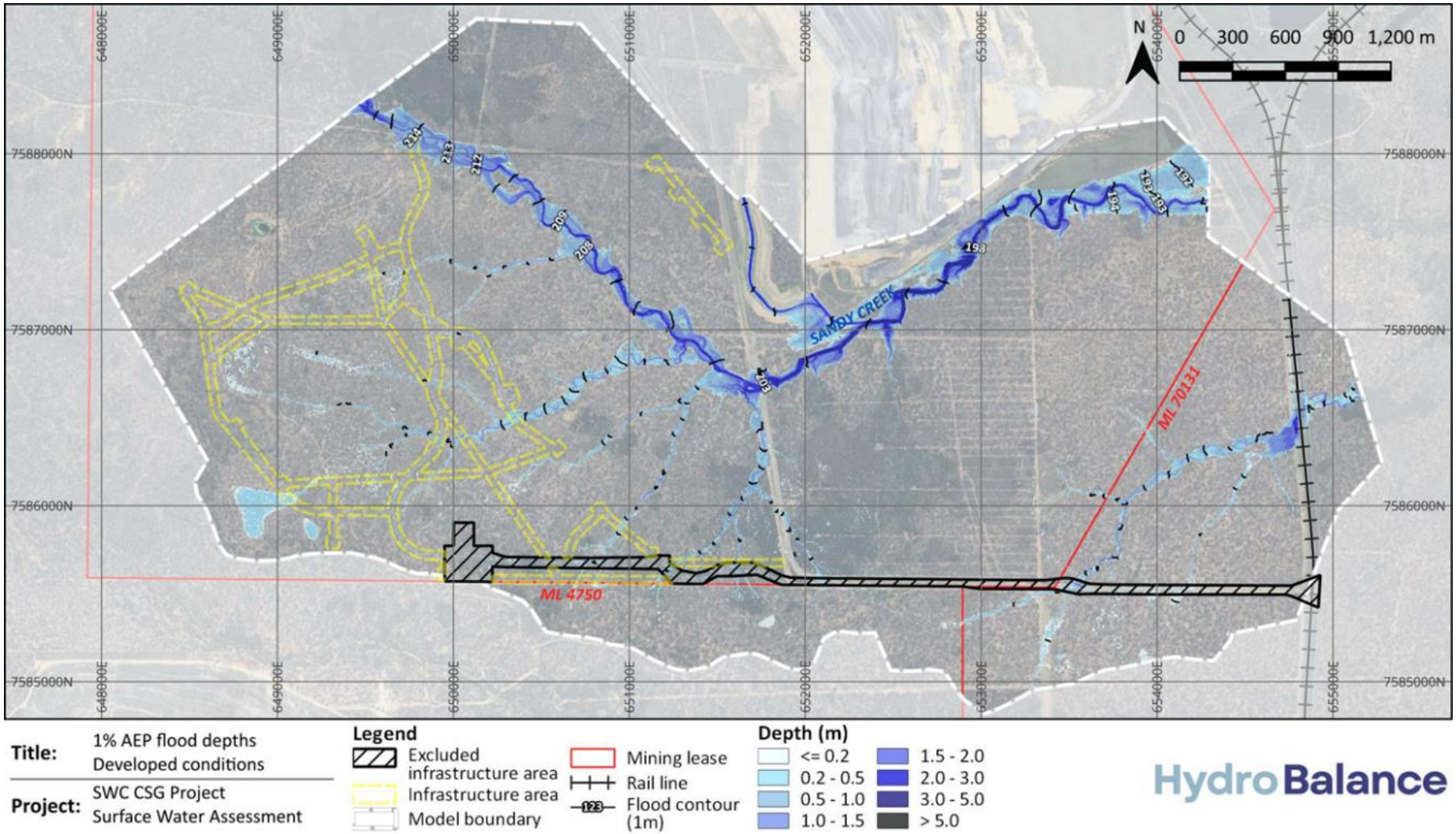


Figure 10-10 Developed Conditions 1% AEP Flood Depths and Heights

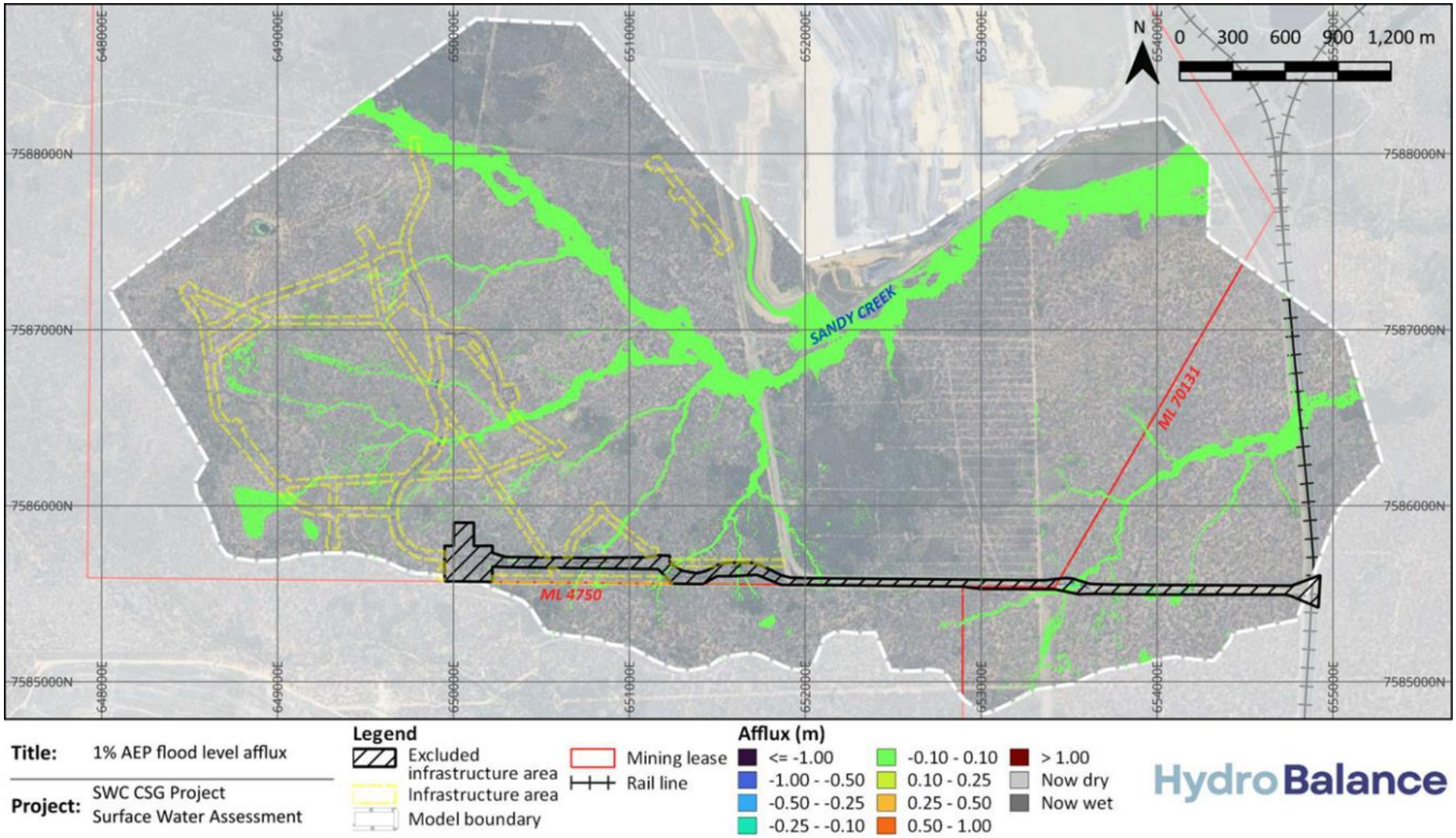


Figure 10-11 1% AEP Flood Level Afflux (developed minus existing conditions)

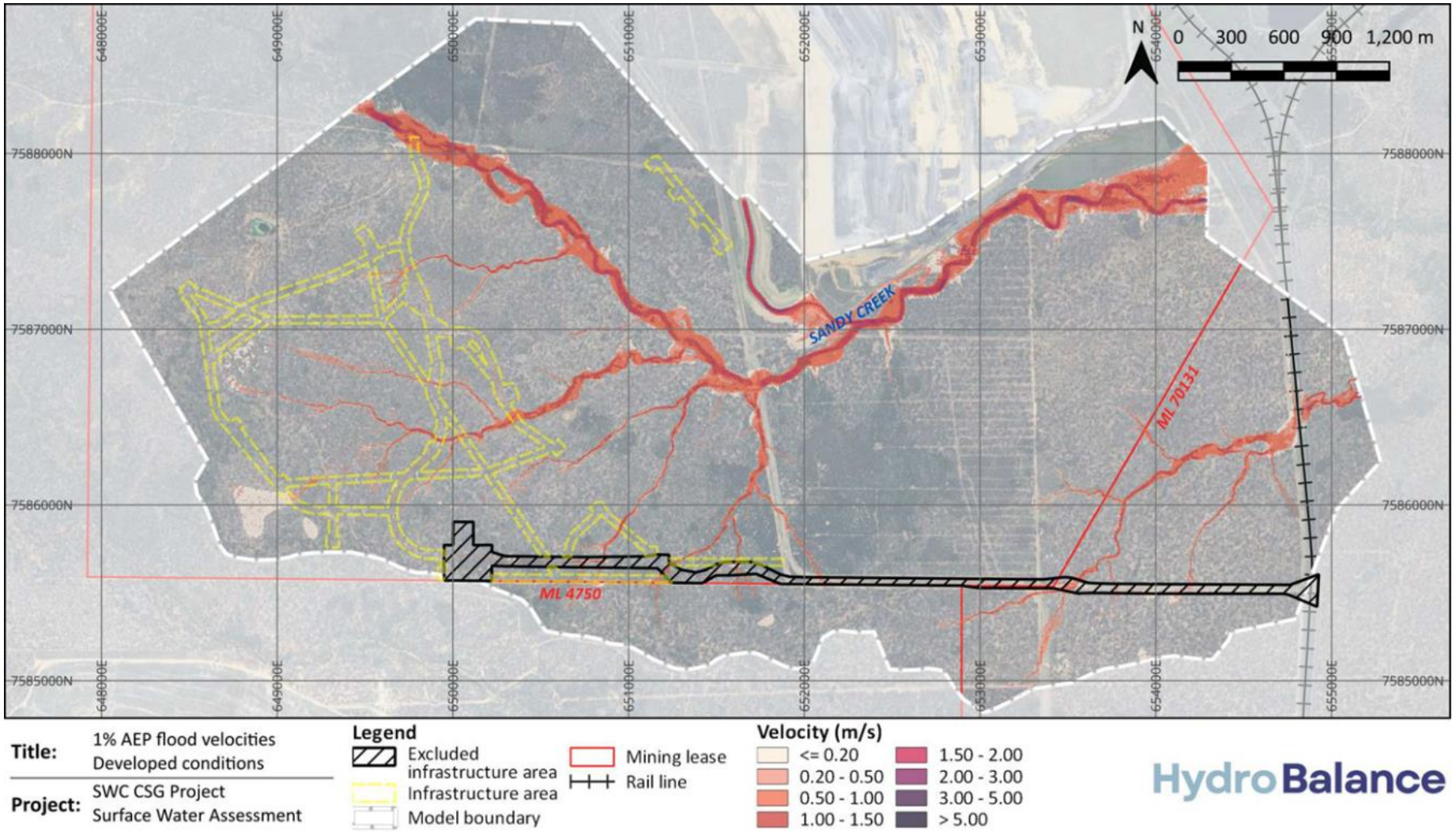


Figure 10-12 Developed Conditions 1% AEP Flood Velocities

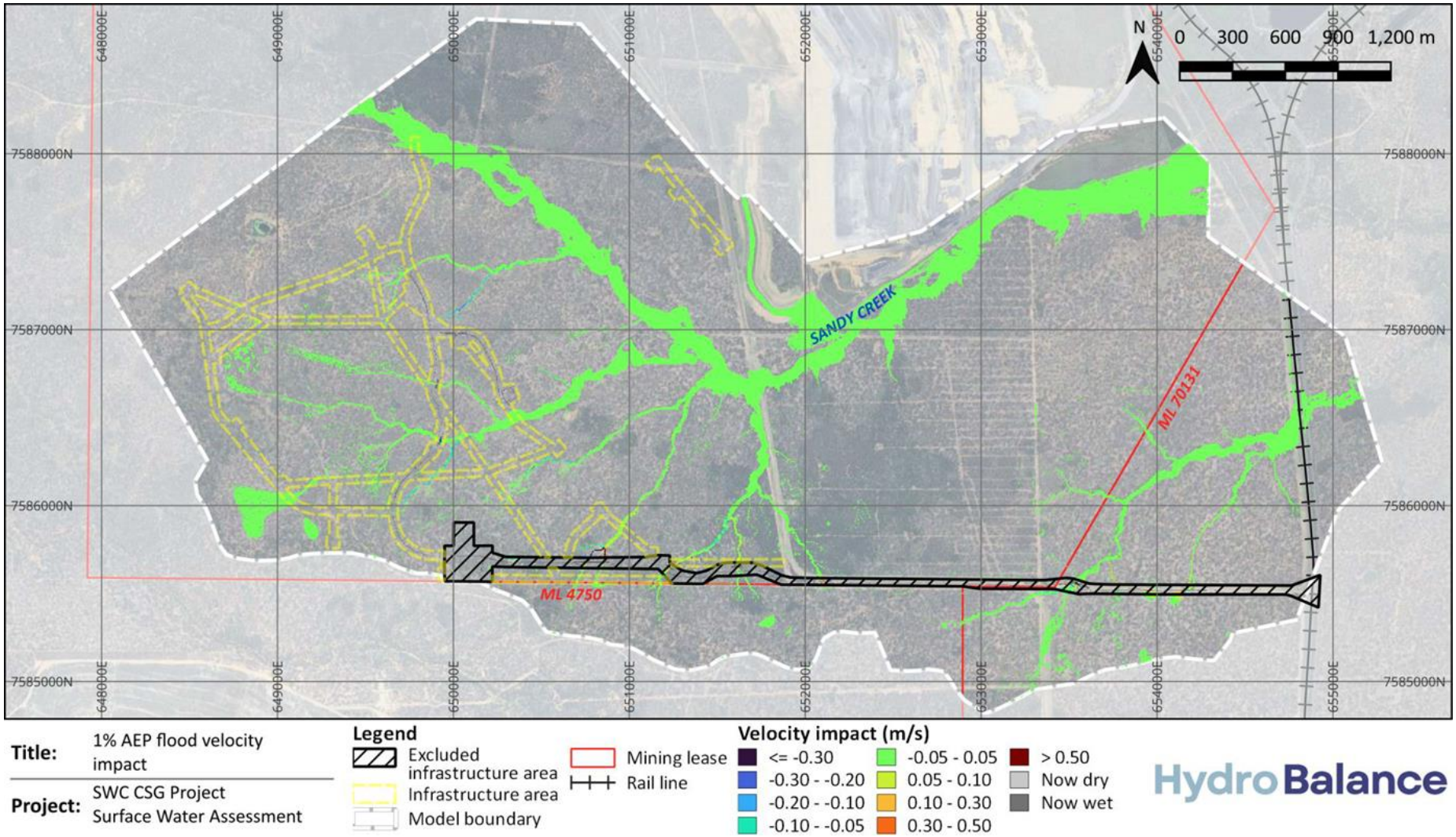


Figure 10-13 1% AEP Flood Velocity Impact (developed minus existing conditions)

10.7 Assessment of Potential Impacts, and Mitigation and Management Measures

An assessment of potential impacts of the Project on surface water is provided **Table 10-3**.

Table 10-3 Assessment of Potential Impacts

Potential Impacts	Assessment
Impacts on flows and the flooding regime in the downstream receiving waters.	Potential impacts of the Project on flood levels, velocities in the receiving waters are addressed in **Section 10.6**. There are no other significant impacts on flood levels and velocities in Sandy Creek downstream of the Project.
Impacts on regional water availability due to the need to obtain water from external sources to meet operational water requirements of the Project.	No external supply of water will be required as part of the Project during operations. As such, the Project will have no impact on regional water availability.
Impacts on stream flows due to catchment area excision.	The Project will not excise any areas from the Sandy Creek catchment; hence the downstream Sandy Creek flow volumes are not expected to be impacted.
Adverse impacts on the quality of on-site stormwater runoff draining from the disturbance areas to the various receiving waters surrounding the Project, during both construction and operation of the Project.	**Disturbed area management** The disturbed areas (including exploration drill pads, production wells pads, access roads and ancillary infrastructure) will be managed to mitigate any potential impacts on regional water quality and environmental values through the preparation of a Surface Water Management Plan (SWMP). The SWMP and associated ESCPs will comprise a practical guide manage risks to soil and water associated with specific management measures for all discrete disturbance areas. Any potential impacts on downstream water quality due to the disturbed areas will be mitigated through best-practice runoff management methods as described in **Section 10.4.7**. **Gas production water** Water produced by the gas field wells will be managed within the wider SWC WMS. Water balance modelling presented in **Section 10.5** demonstrates that the existing mine water spill risk at SWC would not be impacted by the water inflows.
Adverse impacts on the SWC water management system as a result of the imported gas extraction water.	Only a relatively small volume of gas extraction water will be transferred from the Project to the SWC WMS (13 ML/year, on average). The water balance modelling assessment presented in **Section 10.5.1** demonstrates that the transfer of the extraction water will have a negligible impact on the SWC WMS, from both a containment and quality perspective. There is ample capacity available in the mine-affected water storages to accommodate this minor inflow, and it will have a negligible impact on water quality within the mine-affected water storages.

Potential Impacts	Assessment
Cumulative impacts of all projects in the region on the environmental values of the receiving waters.	**Flooding impacts** The impacts of the Project on flooding are isolated to the minor drainage lines within the Project boundary, and would not propagate into Sandy Creek. There are no predicted cumulative impacts with other activities upstream or downstream of the Project. **Streamflow and water quality impacts** There are no expected streamflow or water quality impacts on the downstream receiving environment due to the Project. As such, there are no predicted cumulative impacts with other activities upstream or downstream of the Project.

11. TERRESTRIAL ECOLOGY

11.1 Overview

A Terrestrial Ecology Impact Assessment report (Eco Logical Australia, 2024) has been prepared for the Project and is included as **Appendix D**. The primary objective of this assessment was to identify and evaluate the significance of potential impacts on MSES resulting from the Project. This assessment is based on data collected from several detailed ecological studies conducted within ML4750 and ML70131. The report presents a desktop assessment of the terrestrial ecology values within the SWC mine area, alongside dedicated surveys of the terrestrial ecology associated with the Project.

11.2 Terrestrial Ecological Values Assessment

A staged approach was implemented to identify MSES values within the impact area. This process included a review of previous ecological studies pertinent to the impact area. Ecological data collected from relevant assessments undertaken between 2019 and 2024 were collated and analysed to provide spatial representation of MSES across the impact area.

The following sections briefly summarise each stage of the ecological assessment.

11.2.1 Database Assessment and Literature Review

A review of previous ecological reports, environmental databases, maps and other relevant literature was conducted to identify MSES values within the impact area. The following resources were used during the desktop assessment:

- Protected Matters Search Tool (PMST) Report.
- WildNet database.
- RE mapping.
- Regulated vegetation mapping.
- Queensland geological digital data.
- Essential Habitat mapping.
- Atlas of Living Australia records.
- Queensland Wetland mapping.
- VM Act watercourse data.
- VM Act wetland data.
- Referrable Wetland mapping.
- Protected Plant High Risk Trigger mapping.
- ESA mapping.
- Commonwealth Species Profile and Threats (SPRAT) Database.
- South Walker Creek Mine Ecological Assessment report (ELA, 2024).
- Other previous ecological survey data and reporting for SWC Mine.
- Aerial imagery.

A likelihood of occurrence assessment was undertaken for each threatened and special least concern species identified in the desktop review. This assessment was based on the species known distribution, habitat quality within the impact area, occurrence within the region and the study area. Species were classified as known, likely, potential, or unlikely to occur based on these attributes.

11.2.2 Field Surveys

Ground-truthed ecological data from three field programs were incorporated into the assessment. These programs include:

- The South Walker Creek Kemmis Pit Extension Project (ELA, 2019).
- The South Walker Creek Mine Tailings Solution Project (ELA, 2021).
- The South Walker Creek Mine Ecological Assessment Report (ELA, 2024).

The majority of the impact area was ground-truthed during the most recent field surveys conducted by ELA in 2024 (**Appendix D**), supplemented by data from previous field surveys where required. The area covered in the 2024 field survey area is shown in **Figure 11-1**, with flora sites depicted in **Figure 11-2** to **Figure 11-4**, and fauna sites in **Figure 11-5**. The field survey methods employed included:

- Establishing quaternary and tertiary survey sites in accordance with the *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland Version 6.0* (Neldner et al., 2022) to validate vegetation community types, regional ecosystems, and their condition.
- Collecting data to assess the composition, extent and condition thresholds of Threatened Ecological Community (TEC).
- Collecting general vegetation condition data (e.g., evidence of recent or historical disturbances and grazing regimes).
- Documenting opportunistic observations of threatened flora and fauna species listed under the NC Act and EPBC Act.
- Conducting both generic and targeted (species specific) habitat assessments for threatened species identified in the desktop assessment as likely to occur, focusing on delineating species habitat.
- Collecting presence and estimated occurrence data for weed species listed as restricted matter under the Biosecurity Act or designated as Weeds of National Significance.

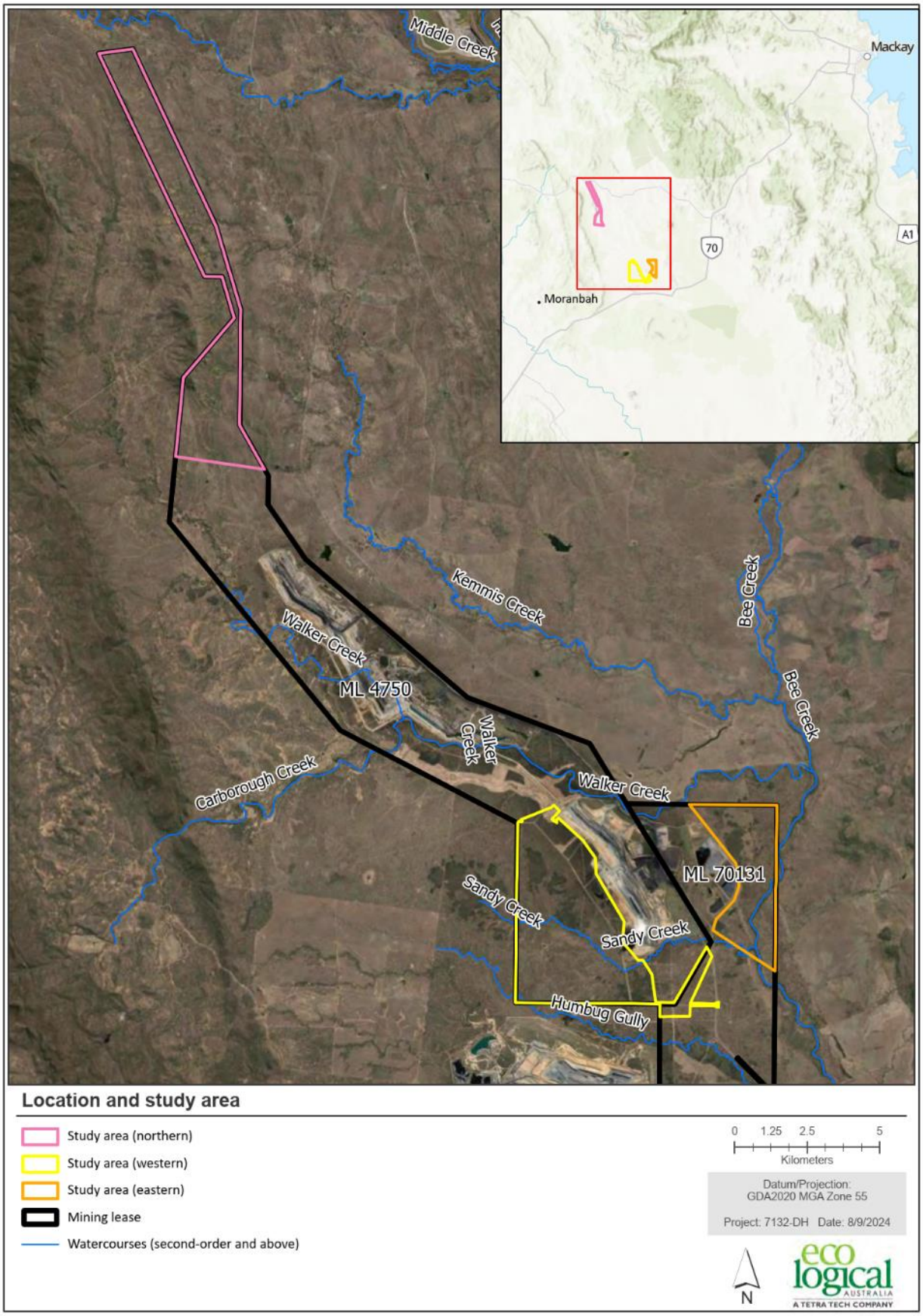


Figure 11-1 Terrestrial Ecology Study Area

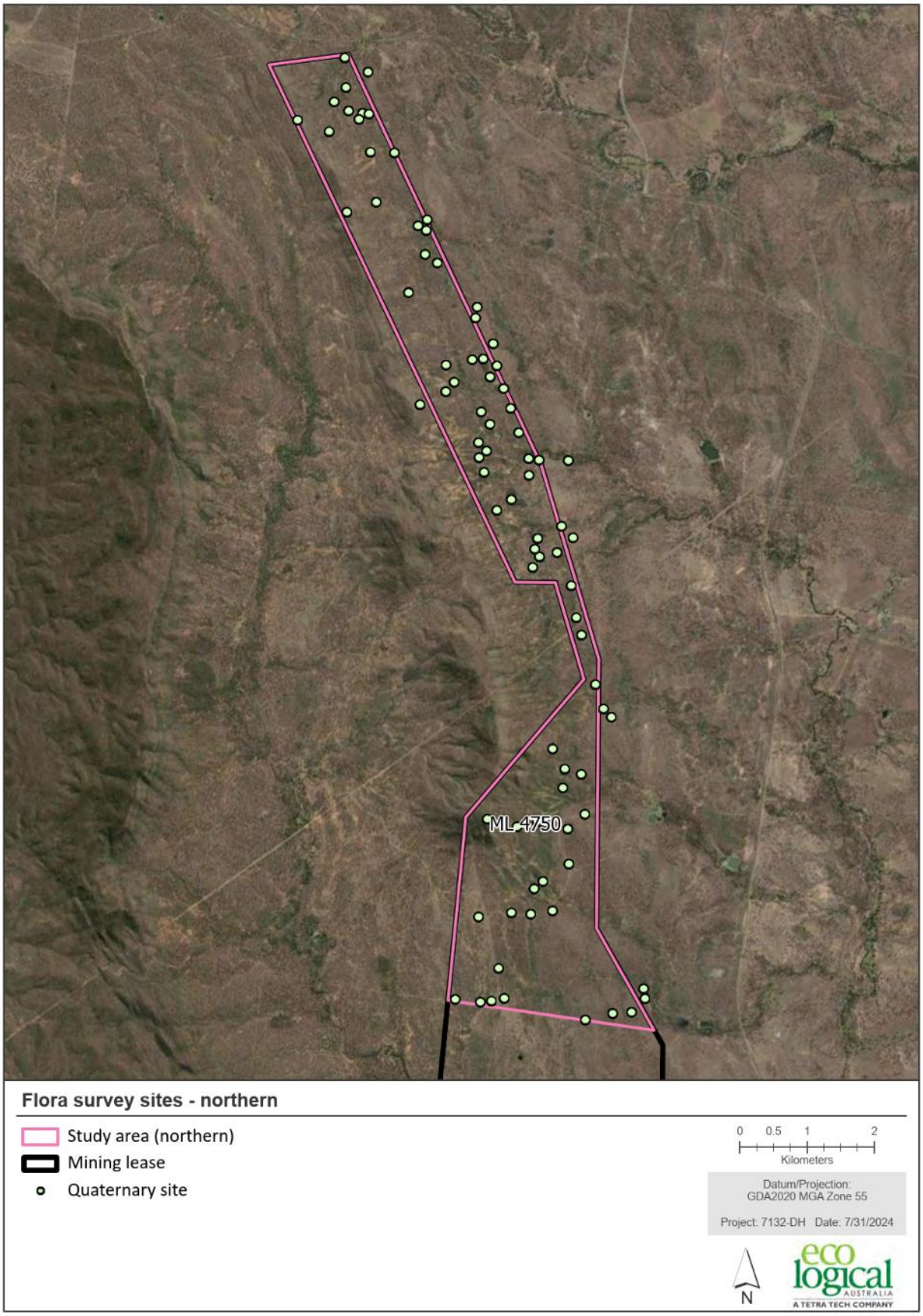


Figure 11-2 Flora Survey Sites – Northern

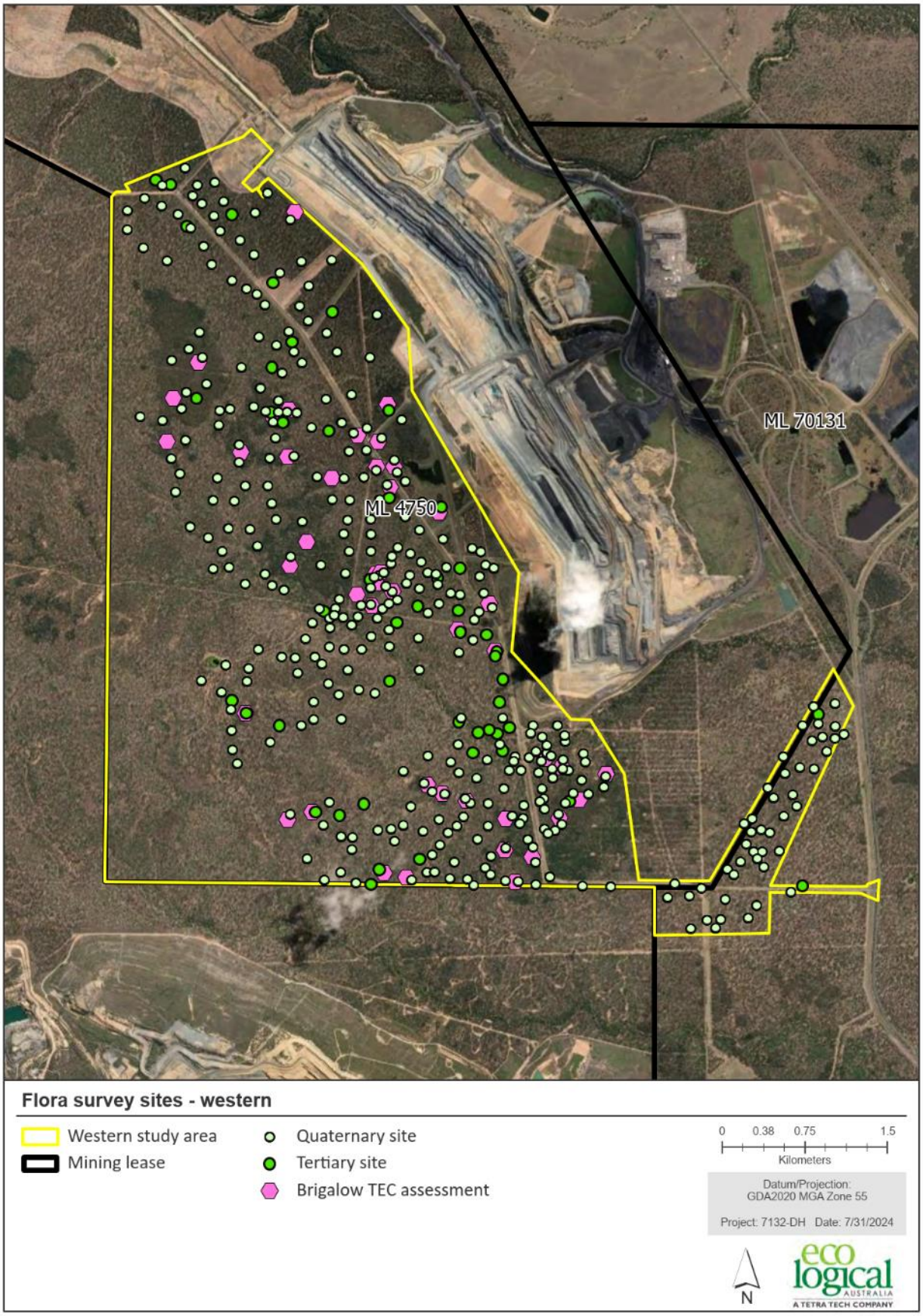


Figure 11-3 Flora Survey Sites – Western

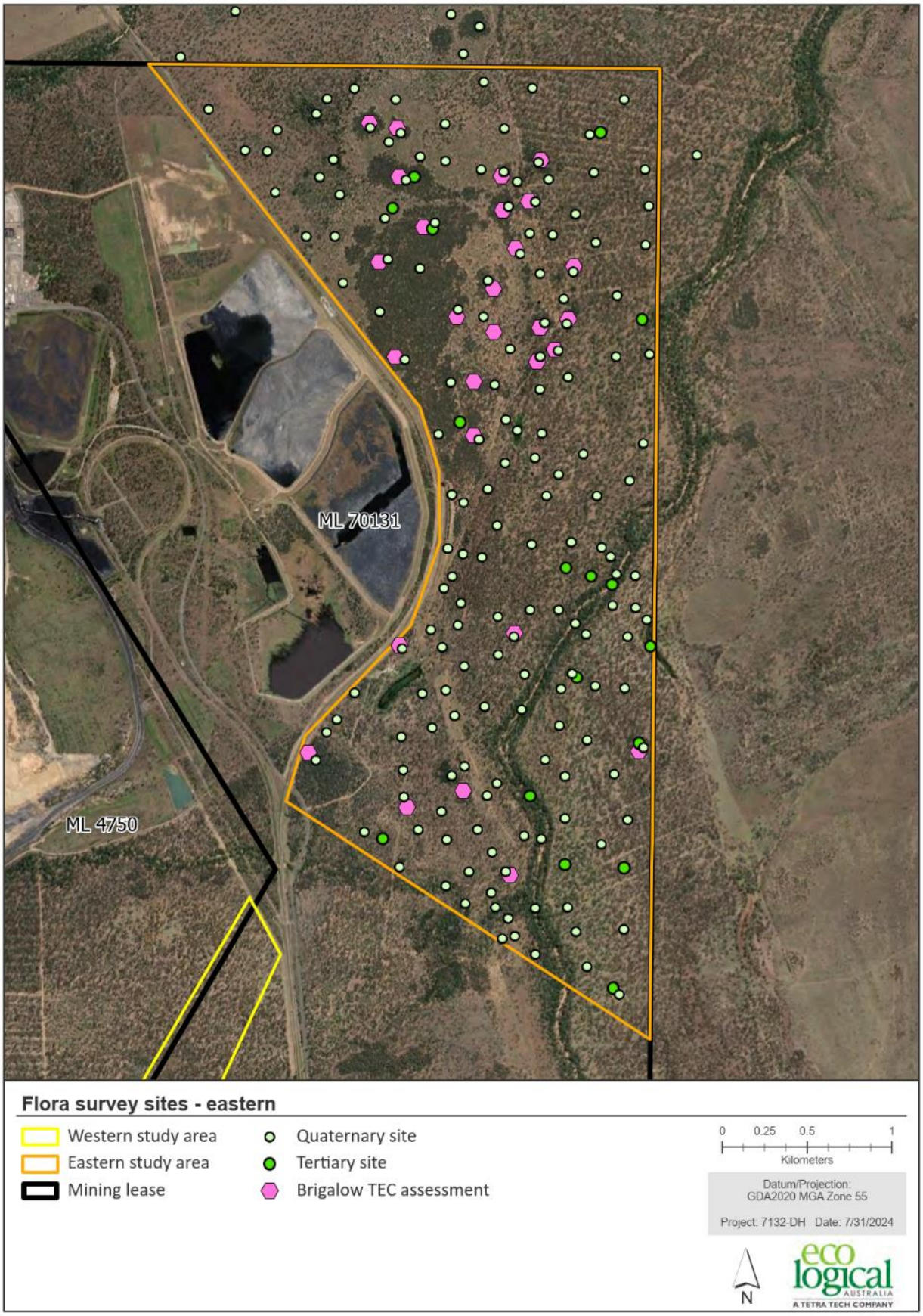


Figure 11-4 Flora Survey Sites - Eastern

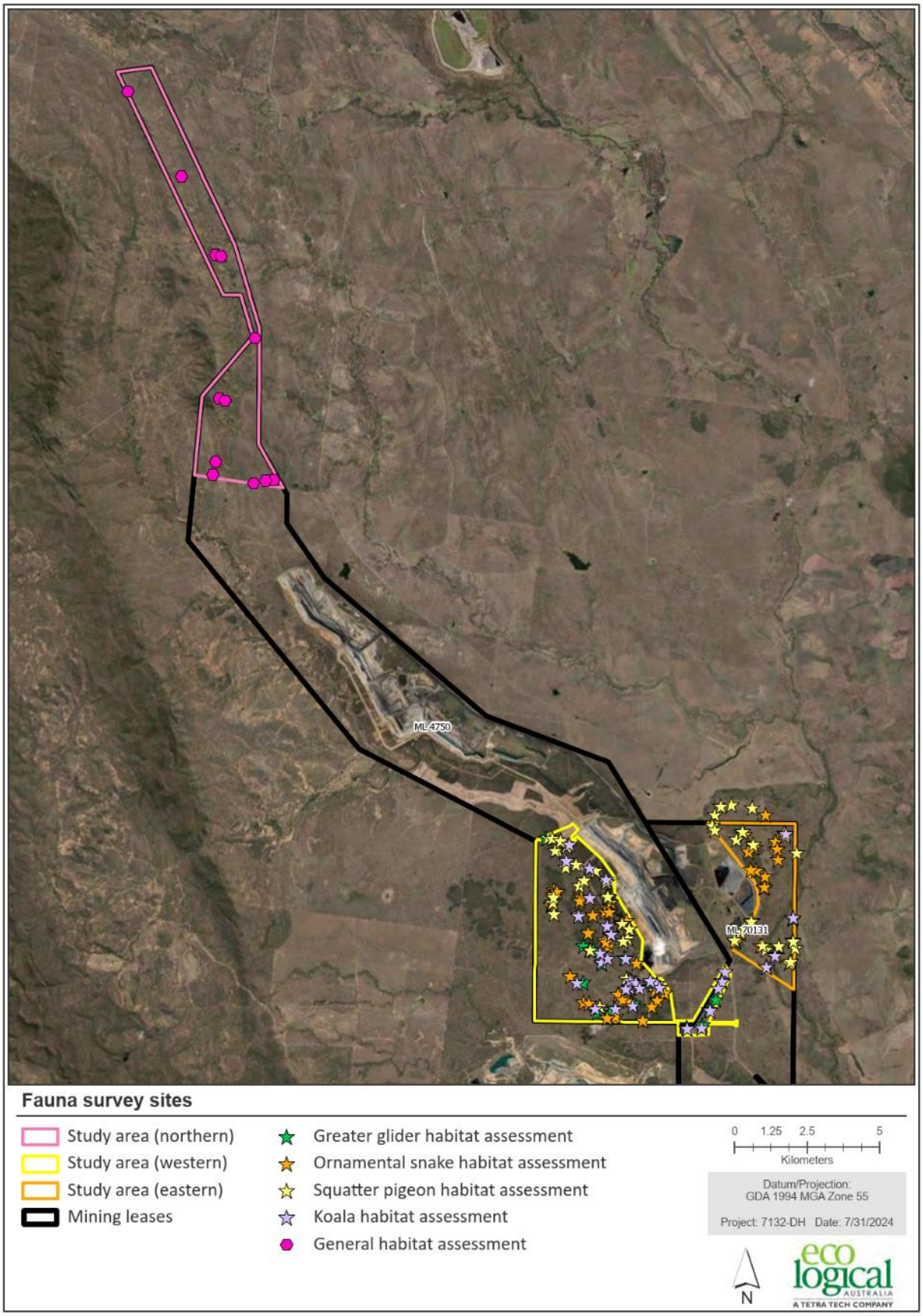


Figure 11-5 Fauna Survey Sites

11.3 Potential Impacts

11.3.1 Project Components

The total extent of the impact area for the Project (i.e., the Gas Drainage Project and Multi-Year Exploration Program) encompasses a total area of approximately 140.1 ha (**Figure 3-2**). The specific components of these Projects are detailed in the sections below.

11.3.1.1 Gas Drainage Project Components

The impact area required to facilitate the necessary infrastructure of the Gas Drainage Project will remain throughout the life of project, facilitating the supply of gas to the power station and the transmission of power to the grid. This area covers approximately 42.8 ha and includes:

- A 2.2 km powerline corridor.
- Installation of gas well pads.
- Associated access tracks.
- Installation of pipework and single/dual layout lines across the gas field, with some sections being drilled underground to minimise the extent of surface impacts).

11.3.1.2 Multi-Year Exploration Program Components

The impact area required for the Multi-Year Exploration Program encompasses approximately 97.2 ha and includes:

- Exploration drill pads (generally measuring 35 m x 35 m).
- Associated access tracks.

The impacts related to the exploration activities will be constructed in stages over approximately five years and will primarily be temporary, as areas will be rehabilitated following drilling. It is also noted that the impacts from this activity are spread across approximately 37 km, and it is proposed that a maximum of 25 ha of land be disturbed at any given time for exploration activities (see **Section 15**).

11.3.2 Summary of Direct Impacts to Matters of State Environmental Significance

The impact area is located to the north, south-west, and south-east of the existing SWC mine (**Figure 3-2**). These locations predominantly feature remnant vegetation, with *Eucalyptus populnea* (poplar box) and *Corymbia clarksoniana* (Clarkson's bloodwood) dominating the remnant woodlands, classified as RE 11.5.3. These species represent the dominant vegetation communities in the western and eastern study areas. Remnant Brigalow woodlands, identified as REs 11.3.1, 11.4.8, 11.4.9 and 11.9.5, are scattered throughout the impact area in small to medium-sized patches (**Appendix D**) and as shown in **Figure 11-6**.

Ecological values identified within the study area include:

- Category B ESAs.
- Regulated vegetation.
- Protected wildlife habitat.
- TECs.
- Threatened flora and fauna species habitat.

High-risk areas for protected plants, as mapped by DESI, are avoided by the impact area but are located in close proximity to the northern section of the Multi-Year Exploration Program. It is anticipated that no clearing will be required within the mapped high-risk areas for the Project. However, suitable habitat for *Solanum elachophyllum*, which is listed as Vulnerable under the NC Act, has been identified and is addressed in the subsequent assessment. MSES, as defined in Schedule 2 of the Offsets Regulation, present within the impact area are summarised in **Table 11-1**.

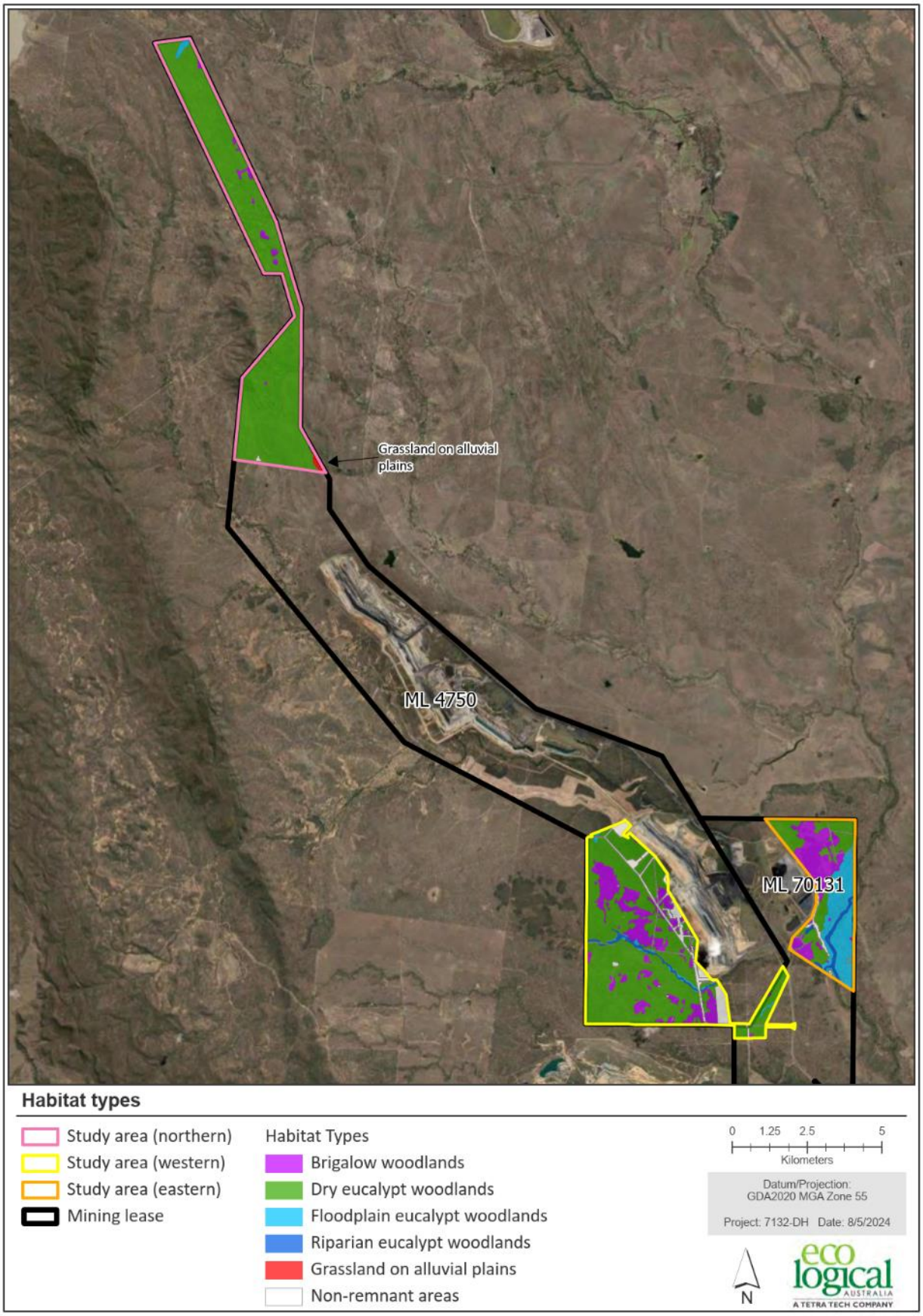


Figure 11-6 Habitat Types

Table 11-1 MSES in the Impact Areas

MSES	Presence Within Gas Drainage Project Impact Area	Presence Within Multi-Year Exploration Program Impact Area

Regulated vegetation[1]
• Prescribed REs that are endangered REs
• Prescribed REs that are of concern REs
• Prescribed REs that:
  ○ intersect with an area shown as a wetland on the vegetation management wetlands map; or
  ○ an area of essential habitat on the essential habitat map for an animal that is critically endangered, endangered wildlife or vulnerable wildlife or a plant that is critically endangered, endangered wildlife or vulnerable wildlife.
• A prescribed RE to the extent that the ecosystem is located within a defined distance from the defining banks of a relevant watercourse.
	Present as:
	• Prescribed REs that are endangered REs (total – 7.5 ha):
	  ○ RE11.3.1 - 0.6 ha
	  ○ RE11.4.9 – 6.9 ha.
	• Prescribed REs that are of concern REs (total – 0.3 ha):
	  ○ RE11.3.4 – 0.3 ha.
	• Prescribed REs that are essential habitat for koala, greater glider, squatter pigeon and ornamental snake[2].
	• Prescribed REs that are located within a defined distance from the defining banks of a relevant watercourse occur within a total area of 1.9 ha[3].
	(Not present as regional ecosystems that intersect an area shown as a wetland on the vegetation management wetlands map).
		Present as:
		• Prescribed REs that are endangered REs (total, including mixed polygons – 6.3 ha):
		  ○ RE11.3.1 – 0.02 ha
		  ○ RE11.4.9 – 3.9 ha
		  ○ RE11.9.5 – 0.8 ha
		  ○ RE 11.9.7a/11.9.9/11.9.5 – 0.6 ha
		  ○ RE11.9.9/11.9.5 – 1.01 ha.
		• Prescribed REs that are of concern REs (total, including mixed polygons – 38.7 ha):
		  ○ RE11.3.2 – 4.6 ha
		  ○ RE11.3.4 – 4.8 ha
		  ○ RE11.3.4a – 0.1 ha
		  ○ RE11.9.2/11.9.7a – 0.3 ha
		  ○ RE11.9.7 – 7.5 ha
		  ○ RE11.9.7a – 12.7 ha
		  ○ RE11.9.10 – 0.6 ha
		  ○ RE11.9.7a/11.9.9/11.9.2 – 1.2 ha
		  ○ RE11.9.7a/11.9.9/11.9.5 – 0.6 ha
		  ○ RE11.9.9/11.9.7a – 5.8 ha
		  ○ RE11.9.9/11.9.7a/11.9.2 – 0.3 ha.
		• Prescribed REs that are essential habitat for koala, greater glider, squatter pigeon and ornamental snake[2].
		• Prescribed REs that are located within a defined distance from the defining banks of a relevant watercourse occur within a total area of 7.7 ha[3].

Connectivity areas	Present as 39.8 ha of remnant vegetation.	Present as 95.8 ha of remnant vegetation.

MSES	Presence Within Gas Drainage Project Impact Area	Presence Within Multi-Year Exploration Program Impact Area

Wetlands and watercourses
• a wetland:
  ○ in a wetland protection area
  ○ of high ecological significance shown on the map of Queensland wetland environmental values.
  ○ a wetland or watercourse in high ecological value waters.
	Not present.	Not present.

Designated precinct in a strategic environmental area	Not present.	Not present.
Protected wildlife habitat	Present as habitat for the following species listed as endangered, vulnerable, or special least concern (non-migratory) under the NC Act: • *Solanum elachophyllum* – 7.0 ha • koala – 29.3 ha • greater glider – 1.4 ha • squatter pigeon – 39.8 ha[4] • ornamental snake – 7.2 ha • short-beaked echidna – 39.8 ha.	Present as habitat for the following species listed as endangered, vulnerable, or special least concern (non-migratory) under the NC Act: • *Solanum elachophyllum* – 4.5 ha • koala – 83.4 ha • greater glider – 5.2 ha • squatter pigeon – 95.8 ha[4] • ornamental snake – 4.8 ha • short-beaked echidna – 95.8 ha.
Protected areas	Not present.	Not present.
Highly protected zones of State marine parks	Not present.	Not present.
Fish habitat areas	Not present.	Not present.
Waterway providing for fish passage	Present - only applicable if waterway barrier works are proposed.	Present - only applicable if waterway barrier works are proposed.
Marine plants	Not present.	Not present.
Legally secured offset areas	Not present.	Not present.

[1] Definition of prescribed RE is in the Offsets Regulation and does not include regrowth vegetation. [2] As per VM Act essential habitat map. [3] Watercourses as shown on the vegetation management watercourse and drainage feature map (version 7.00) intersect the impact area. Watercourses were buffered in accordance with the defined distances provided in Appendix 3 of the Queensland Environmental Offsets Policy (version 1.15). [4] Includes area of all remnant REs.

11.3.3 Potential Project Impacts

Potential direct and indirect impacts associated with the Project activities include:

- Loss of habitat due to vegetation clearing.
- Injury or mortality of wildlife resulting from vehicle or machinery interactions (including during vegetation clearing).
- Habitat fragmentation and loss of connectivity.
- Degradation of habitat through increased noise, light, dust, vibration, weed and pest incursion, erosion, sedimentation, or water quality changes.
- Increased risk of bushfire and alterations to fire regimes.

The potential impacts associated with the Multi-Year Exploration Program are expected to be temporary, with rehabilitation and restoration of drill pads and access tracks planned upon completion of drilling (and within six months).

11.4 Mitigation and Management Measures

An environmental mitigation hierarchy — consisting of avoidance, minimisation, and mitigation — will be implemented during the design phase of the Project and will continue throughout the life of the Project. The Project has been designed in accordance with the principle of avoiding environmental harm, with the impact area developed to minimise disturbance to regions of higher environmental value.

Avoidance and mitigation measures include:

- Avoiding or minimising clearing in drainage lines, riparian zones, and patches that may serve as climate refugia, which are important for the movement of koalas, greater gliders, and squatter pigeon.
- Avoiding clearing in areas identified as preferred habitat for koala, where practicable.
- Avoiding clearing along the watercourses identified as preferred and suitable habitat for the greater glider, particularly Sandy Creek and Walker Creek where previous records exist.
- Limiting clearing within the 40 m powerline corridor to a maximum of 30 m at the Sandy Creek crossing to protect riparian vegetation and minimise impacts on fauna movement, particularly the greater glider.
- Avoiding clearing of gilgai and associated suitable habitat for the ornamental snake, where practicable.
- Conducting pre-clearance surveys to identify animal breeding sites and threatened flora.
- Demarcating clearing areas to ensure only designated areas are cleared, while retaining habitat trees that do not require removal within the impact area.
- Complying with the approved SWC SMP (SWC SMP 2021) (or any updates thereof), which includes:
    - Utilising spotter catcher(s) during the vegetation clearing.
    - Retaining identified fauna breeding places.
- Implementing speed limits across the Project to reduce the likelihood of vehicle strike fauna injuries and fatalities.

- Managing remnant areas during the Project, where possible, to ensure the persistence of threatened species through the implementation of management plans.
- Relocating habitat features, such as logs into retained habitat.

Additional mitigation measures may include:

- Sequential clearing, particularly for the Multi-Year Exploration Program, which will be constructed over multiple stages.
- Minimisation of Multi-Year Exploration Program disturbance footprint to 25 ha at any given time.
- Scheduling clearing activities outside of breeding season, where possible.
- Establishing buffer zones, where practicable.
- Managing habitat-degrading processes such as dust and erosion through speed limits, and the implementation of ESC measures.
- Managing noise and light pollution.

11.4.1 Management of Impacts

The implementation of several existing SWC management plans and procedures will support the management of impacts to MSES, including:

- SWC SMP – which outlines strategies for the management, monitoring and reporting of impacts on threatened fauna species.
- Minimising impacts to vegetation during the construction phase, alongside preliminary guidance on rehabilitation measures if needed.
- Aiming to limit the spread of invasive plants and pests as a result of construction and post-construction operational maintenance.

11.5 Significant Residual Impact Assessment

A significant residual impact assessment has been undertaken in accordance with the *Significant Residual Impact Guideline* (DEHP, 2014) for all MSES identified within the Project impact areas. MSES are defined according to Schedule 2 of the Offsets Regulation. Identified MSES within the impact area are described in **Table 11-1**, with further information provided in **Appendix D**. This guideline relates only to MSES and does not apply to MLES or MNES.

Potential impacts of the Gas Drainage Project and Multi-Year Exploration Program have been assessed against each of the significant residual impact criteria (DEHP, 2014). The results of this assessment are presented in **Table 11-2** and **Table 11-3**, respectively. Although the implementation of avoidance, mitigation and management measures (see **Section 11.4** and **Section 11.4.1**) will minimise impacts to MSES, significant residual impacts on MSES values, namely regulated vegetation, are anticipated. A significant residual impact to protected wildlife habitat and connectivity is considered unlikely.

Table 11-2 Significant residual impact assessment for MSES in the Gas Drainage Project impact area

Significant residual impact criteria	Response to criteria	Significant residual impact
Regulated vegetation – 'endangered' or 'of concern' REs (well pads)		
For clearing other than clearing for linear infrastructure: • area greater than 5 ha where in a grassland (structural category) RE; or • area greater than 2 ha where in a sparse (structural category) RE; or • area greater than 0.5 ha where in a dense to mid-dense (structural category) RE.	Clearing of a combined total of 0.4ha of endangered RE11.4.9 is proposed which is within the required limits.	No significant residual impact will occur for the well pads as the total area of clearing of endangered and of concern REs does not exceed 0.5 ha.
Regulated vegetation – 'endangered' or 'of concern' REs (tracks, pipelines and powerline)		
For clearing for linear infrastructure: • greater than 25 m wide in a grassland (structural category) RE; or • greater than 20 m wide in a sparse (structural category) RE; or • greater than 10 m wide in a dense to mid-dense (structural category) RE.	Clearing for linear infrastructure in mid-dense and sparse REs greater than 20m wide is proposed.	Significant residual impact will occur as some clearing, specifically the powerline corridor, is expected to be wider than the required limits.
Regulated vegetation – within a defined distance from the defining banks of a relevant watercourse (well pads)		
• For clearing other than clearing for linear infrastructure: • area greater than 5 ha where in a grassland (structural category) RE; or • area greater than 2 ha where in a sparse (structural category) RE; or • area greater than 0.5 ha where in a dense to mid-dense (structural category) RE. AND • Clearing will occur within 5 m of the defining bank.	There is not expected to be any clearing of regulated vegetation within a defined distance of a watercourse for the well pads.	No significant residual impact will occur.

Significant residual impact criteria	Response to criteria	Significant residual impact
Regulated vegetation – within a defined distance from the defining banks of a relevant watercourse (tracks, pipelines and powerline)		
1. For clearing for linear infrastructure: • greater than 25 m wide in a grassland (structural category) RE; or • greater than 20 m wide in a sparse (structural category) RE; or • greater than 10 m wide in a dense to mid-dense (structural category) RE. AND 2. Clearing will occur within 5 m of the defining bank.	Clearing for linear infrastructure within the defined distance of a watercourse in mid-dense and sparse REs greater than 20 m wide is proposed. AND Clearing within 5 m of the defined bank of watercourses will occur.	Significant residual impact will occur as a portion of clearing, specifically the powerline corridor, is expected to be wider than the required limits.
Connectivity		
A significant residual impact occurs if either of the following are true: • The change in the core remnant ecosystem extent 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 (core to non-core).	The Landscape fragmentation and connectivity tool identified the existing extent of core remnant is 64.21%. This level of regional fragmentation sets a local impact threshold of 20.0%. Percent change of core at the local scale (post impact) is 2.74%. The Landscape Fragmentation and Connectivity Tool results are provided in **Appendix D**.	No significant residual impact will occur.
Protected wildlife habitat (including essential habitat)		
An action is likely to have a significant impact on endangered and vulnerable wildlife habitat (including essential habitat) if the impact on the habitat is likely to: • lead to a long-term decrease in the size of a local population; or • reduce the extent of occurrence of the species; or • fragment an existing population; or	Refer to impact assessments in **Appendix D**. The total area of habitat within the impact area for each species is: • *Solanum elachophyllum* – 7.0 ha • koala – 29.3 ha • greater glider – 1.4 ha • squatter pigeon – 39.8 ha • ornamental snake – 7.2 ha.	No significant residual impact will occur.

Significant residual impact criteria	Response to criteria	Significant residual impact
• result in genetically distinct populations forming as a result of habitat isolation; or • result in invasive species that are harmful to an endangered or vulnerable species becoming established in the endangered or vulnerable species habitat; or • introduce disease that may cause the population to decline; or • interfere with the recovery of the species; or • cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species.		
Special least concern (non-migratory) animal wildlife habitat		
An action is likely to have a significant impact on a special least concern (non-migratory) animal wildlife habitat if it is likely that it will result in: • a long-term decrease in the size of a local population; or • a reduced extent of occurrence of the species; or • fragmentation of an existing population; or • genetically distinct populations forming as a result of habitat isolation; or • disruption to ecologically significant locations (breeding, feeding or nesting sites) of a species.	Refer to impact assessment in **Appendix D** for short-beaked echidna (total area of habitat within the impact area is 39.8 ha).	No significant residual impact will occur.

Table 11-3 Significant residual impact assessment for MSES in the Multi-Year Exploration Program impact area

Significant residual impact criteria	Response to criteria	Significant residual impact
Regulated vegetation – 'endangered' or 'of concern' REs (drill pads)		
For clearing other than clearing for linear infrastructure: • area greater than 5 ha where in a grassland (structural category) RE; or • area greater than 2 ha where in a sparse (structural category) RE; or • area greater than 0.5 ha where in a dense to mid-dense (structural category) RE.	Clearing of a combined total of 30.7 ha of endangered and of concern REs with structure categories of mid-dense and sparse is proposed.	Significant residual impact will occur as clearing of greater than 2 ha in endangered and of concern REs is proposed.
Regulated vegetation – 'endangered' or 'of concern' REs (tracks)		
For clearing for linear infrastructure: • greater than 25 m wide in a grassland (structural category) RE; or • greater than 20 m wide in a sparse (structural category) RE; or • greater than 10 m wide in a dense to mid-dense (structural category) RE.	Clearing for linear infrastructure in mid-dense and sparse REs is proposed, however all linear infrastructure is limited to less than 5 m wide and therefore is within the required limits..	No significant residual impact will occur.
Regulated vegetation – within a defined distance from the defining banks of a relevant watercourse (drill pads)		
For clearing other than clearing for linear infrastructure: • area greater than 5 ha where in a grassland (structural category) RE; or • area greater than 2 ha where in a sparse (structural category) RE; or • area greater than 0.5 ha where in a dense to mid-dense (structural category) RE. AND • Clearing will occur within 5 m of the defining bank.	Total area of regulated vegetation to be cleared within a defined distance of a watercourse is 5.7 ha of REs with a mid-dense and sparse structural category. AND Clearing within 5 m of the defining bank of watercourses will occur.	Significant residual impact will occur as total clearing of sparse and dense to mid-dense REs within a defined distance from the defining banks of a relevant watercourse will exceed 2 ha.

Significant residual impact criteria	Response to criteria	Significant residual impact
Regulated vegetation – within a defined distance from the defining banks of a relevant watercourse (tracks)		
For clearing for linear infrastructure: • greater than 25 m wide in a grassland (structural category) RE; or • greater than 20 m wide in a sparse (structural category) RE; or • greater than 10 m wide in a dense to mid-dense (structural category) RE. AND • Clearing will occur within 5 m of the defining bank.	Clearing for linear infrastructure within the defined distance of a watercourse in mid-dense and sparse REs is proposed, however all linear infrastructure is limited to less than 5 m wide and therefore is within the required limits.	No significant residual impact will occur.
Connectivity		
A significant residual impact occurs if either of the following are true: • the change in the core remnant ecosystem extent 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 (core to non-core).	The Landscape fragmentation and connectivity tool identified the existing extent of core remnant is 64.21%. This level of regional fragmentation sets a local impact threshold of 20.0%. Percent change of core at the local scale (post impact) is 2.74%. The Landscape Fragmentation and Connectivity Tool results are provided in **Appendix D**.	No significant residual impact will occur.
Protected wildlife habitat (including essential habitat)		
An action is likely to have a significant impact on endangered and vulnerable wildlife habitat (including essential habitat) if the impact on the habitat is likely to: • lead to a long-term decrease in the size of a local population; or • reduce the extent of occurrence of the species; or • fragment an existing population; or • result in genetically distinct populations forming as a result of habitat isolation; or	Refer to impact assessments in **Appendix D**. The total area of habitat within the impact area for each species is: • *Solanum elachophyllum* – 4.5 ha • koala – 83.4 ha • greater glider – 5.2 ha • squatter pigeon – 95.8 ha • ornamental snake – 4.8 ha.	No significant residual impact will occur.

Significant residual impact criteria	Response to criteria	Significant residual impact
• result in invasive species that are harmful to an endangered or vulnerable species becoming established in the endangered or vulnerable species habitat; or • introduce disease that may cause the population to decline; or • interfere with the recovery of the species; or • cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species.		
Special least concern (non-migratory) animal wildlife habitat		
An action is likely to have a significant impact on a special least concern (non-migratory) animal wildlife habitat if it is likely that it will result in: • a long-term decrease in the size of a local population; or • a reduced extent of occurrence of the species; or • fragmentation of an existing population; or • genetically distinct populations forming as a result of habitat isolation; or • disruption to ecologically significant locations (breeding, feeding or nesting sites) of a species.	Refer to impact assessment in **Appendix D** for short-beaked echidna (total area of habitat within the impact area is 95.8 ha).	No significant residual impact will occur.

11.6 Conclusion

MSES identified within the impact area include regulated vegetation (specifically, REs listed as endangered and of concern, prescribed REs intersecting an area of essential habitat, prescribed REs within a defined distance of a watercourse), connectivity, and protected wildlife habitat. Significant residual impacts are likely to affect regulated vegetation for the Project (**Table 11-2** and **Table 11-3**).

To minimise these impacts on MSES, avoidance, mitigation and management measures outlined in **Section 11.4** will be implemented. Further, impacts are reduced by the non-contiguous nature of the clearing works, and the distance over which clearing works are proposed to be undertaken. The overall risk of impacts to terrestrial ecology environmental values is considered to be low.

12. AQUATIC ECOLOGY

12.1 Overview

Separate Aquatic Ecology and Stygofauna Impact Assessment reports (frc environmental 2024a, 2024b) have been prepared for the Project, and are included as **Appendix E** and **Appendix F**, respectively. These reports include desktop assessment of the aquatic ecology and stygofauna values within the South Walker Creek (SWC) mine area (i.e. mining leases ML4750 and ML70131) and dedicated survey of the aquatic ecology and stygofauna in the Sandy Creek locale (i.e. Sandy Creek proper, its minor tributaries and Bee Creek immediately downstream of the Sandy Creek confluence).

The assessment of aquatic ecology values focused on MNES, aquatic MSES and other aquatic matters such as aquatic habitat, surface expression GDEs, and aquatic biota. These values were summarised using the High Ecological Value Aquatic Ecosystem (HEVAE) criteria (DAWE 2012). For stygofauna, the assessment considered conservation status and the degree of groundwater dependence, distinguishing between obligate (stygobites) and facultative (stygoxenes).

The impact assessment used a conventional risk matrix to evaluate the potential sources of impact, along with significant impact guidelines for aquatic MNES and MSES.

12.2 Environmental Values

12.2.1 Aquatic Ecology Values

12.2.1.1 Aquatic Matters of National Environmental Significance

According to the Protected Matters Search under the EPBC Act, the following aquatic MNES were identified:

- White-throated snapping turtle (*Elseya albagula*) (critically endangered).
- Fitzroy river turtle (*Rheodytes leukops*) (vulnerable).

However, a detailed review of distribution records indicates that these species have not been recorded within approximately 95 km (stream distance) from the SWC mine area and Sandy Creek locale. Additionally, habitat suitability and flow regime assessments reveal that these areas do not provide suitable habitat and environmental conditions for these species. Consequently, there are no relevant aquatic MNES for this Project.

12.2.1.2 Aquatic Matters of State Environmental Significance

The following aquatic MSES were identified based on a Queensland Globe search under the Offsets Act:

- Regulated vegetation intersecting a watercourse (i.e. Regional Ecosystem within a defined distance of a watercourse) is present in both the wider SWC mine area and the Sandy Creek locale.
- Regulated vegetation (i.e. REs) within 100 m of a wetland in both the wider SWC mine area and the Sandy Creek locale.
- Wetlands in a Wetland Protection Area are located in the south-western portion of the SWC mine area, with none in the Sandy Creek locale.
- High Ecological Significance wetlands are found in the south-western portion of the SWC mine area, with none in the Sandy Creek locale.

- Waterways that provide fish passage are present.

12.2.1.3 Other Aquatic Matters

Aquatic Habitat, Flow Regime and Surface Expression Groundwater Dependent Ecosystems

The waterways in the SWC mine area and Sandy Creek locale primarily comprise dry sandy channels with water only present in shallow isolated pools during certain periods. The moderate and major waterways have well-defined channels that are mildly sinuous to meandering, whereas minor tributaries often feature poorly defined channels. The substrates are predominantly sandy beds, with occasional larger substrates (boulder, cobble, pebble and gravel) and exposed bed rock at some sites. Exposed tree roots, large woody debris, and undercut banks provide limited aquatic habitat at times when water is present. Riparian zones are moderately to extensively cleared, with sparse to discontinuous cover of native riparian trees (Eucalyptus and Casuarina) present at most sites.

The flow regime is ephemeral, with more than 76 percent of days recording zero flow. When flows do occur, they are short-duration events typically isolated and associated with rainfall.

Water quality is variable and often does not meet the default WQO, such as elevated electrical conductivity and turbidity, and reduced dissolved oxygen levels, which is consistent with the characteristics of ephemeral waterways (ANZG 2020).

There are no mapped surface expression GDEs in the SWC mine area or Sandy Creek locale. The predominantly dry waterway channels suggest the absence of significant groundwater discharge to these waterways.

Natural wetlands (excluding bunded farm dams and mine water dams) in these areas are also ephemeral, typically dry, and provide limited aquatic habitat.

Aquatic Biota

Aquatic biota of the SWC mine area and Sandy Creek locale comprises:

- Turtles, with broad-shelled river turtle (*Chenlodina expansa*) known to occur, and eastern long-neck turtle (*C. longicolis*) and Krefft's river turtle (*Emydura krefftii*) possibly occurring. No threatened species of turtle occur in or near the SWC area or Sandy Creek locale.
- Fish, with a range of native species (e.g. Agassiz glassfish, common gudgeon, spangled perch, eastern rainbowfish, southern purple spotted gudgeon, bony bream, Hyrtl's tandan and sleepy cod) known to occur, and a few other species (e.g. fly-specked hardy head, blue catfish and long-fin eel) possibly occurring. No threatened species of fish occur in or near the SWC mine area or Sandy Creek locale, and all species have a potamodromous migration pattern (i.e. migration only within freshwaters), excluding eels that migrate between freshwater and marine waters to complete their life cycle.
- Macroinvertebrates, with macroinvertebrate communities dominated by aquatic insects (e.g. Coleoptera, Diptera, Ephemeroptera, Hemiptera, Odonata, Trichoptera and Lepidoptera) and other taxa recorded including arachnids, molluscs, decapod crustaceans (prawns, crayfish and freshwater crabs), microcrustaceans and segmented worms. Macroinvertebrate communities of the SWC mine area and Sandy Creek locale generally do not attain a 'mature' or 'stable' condition due to the brief periods that sites hold water (i.e. insufficient time for colonisation of any one site by the full suite of taxa that occur before the site dries), and so macroinvertebrate communities are generally more impoverished than expected by the default biological objectives. No threatened macroinvertebrate taxon occurs in or near the SWC mine area or Sandy Creek locale.

- Aquatic plants, noting only low diversity and low percent cover of aquatic plants have been recorded, and aquatic plants are absent from many sites. Aquatic plants that have been recorded are dominated by species with an emergent growth form such as sedges (e.g. *Cyperus* spp. and *Fimbristylus* spp.), rushes (e.g. *Juncus* spp.), water primrose (*Ludwigia* spp.) and knotweeds (*Persicaria* spp.), and few species of aquatic plants are found growing in water or with a submerged (e.g. *Potamogeton* spp.) or floating growth form (e.g. *Nymphiodes* spp.). No threatened aquatic plant species occur in or near the SWC mine area or Sandy Creek locale.

12.2.2 Stygofauna Values

The GDE Atlas indicates that no subterranean GDEs are present within or near the broader SWC mine area, including the Sandy Creek locale. However, field assessments reveal the following stygofauna (i.e. subterranean aquatic fauna that live in groundwater ecosystems) are present:

- Two stygobite taxa (i.e. obligate groundwater inhabitants, groundwater dependent), Parabathynellidae and Bathynellidae (syncarid shrimp), found consistently at bore MB10 (alluvial groundwater ecosystem) across five independent surveys. The Parabathynellidae taxon was also recorded at bore CB01 (coal seam) on one survey and in saturated sediments of Walker Creek near bore MB10 in another.
- Several stygoxene taxa (i.e. facultative groundwater inhabitants, not groundwater dependent) (e.g. a mite, a worm, a nematode, a seed shrimp and a copepod) have been found at multiple bores across various lithologies, with the mite being widespread throughout the SWC mine area.

12.2.3 Summary of Aquatic Ecology and Stygofauna Values

12.2.3.1 Aquatic Ecology

Using the HEVAE criteria (DAWE 2012), the assessment indicates:

- Major waterways in the SWC mine area, such as Bee Creek, Kemmis Creek, Walker Creek and Carborough Creek, possess moderate aquatic ecological values. They periodically support the migration of common and widespread fish species but do not contain unusual, threatened or rare features.
- Sandy Creek has low aquatic ecological values, providing periodic habitat for common aquatic macroinvertebrates and does not contain unusual, threatened or rare features.
- Minor waterways in the SWC mine area and minor tributaries of Sandy Creek have very low aquatic ecological values due to the absence of aquatic biota and lack of unusual, threatened or rare features.

The aquatic ecological receptors in the SWC mine area and the Sandy Creek locale are not considered to be sensitive receptors due to:

- The waterways are predominantly ephemeral, often in dry condition, and do not support aquatic species during dry periods.
- Natural water quality is highly variable, which is typical for ephemeral systems (ANZG 2020), threatened aquatic species are absent in or near the Project area.
- Aquatic species known and likely to occur in the Project area are tolerant and resilient to, a range of water quality and aquatic habitat conditions, with many fish species rapidly colonising aquatic habitat post-flow events.
- Macroinvertebrate communities are dominated by tolerant taxa.
- Aquatic plants are uncommon and dominated by low cover of ubiquitous emergent taxa.

12.2.3.2 Stygofauna

The presence of two stygobitic taxa at bore MB10, and one of these taxa also at bore CB01 and in sediments at Walker Creek site (WCUS), suggests that the locality near these bores within the broader SWC mine area has moderate stygofauna values.

Stygobitic stygofauna are considered a sensitive groundwater ecological receptor. In contrast, non-listed stygoxenes from several bores within the Sandy Creek locale and most bores characteristics in the Sandy Creek locale, indicate that while suitable or potentially suitable habitat exists, the overall stygofauna value of the Sandy Creek locale is low to moderate.

12.3 Potential Impacts

12.3.1 Aquatic Ecology

12.3.1.1 Multi-Year Exploration Program

The Multi-Year Exploration Program may potentially adversely impact aquatic ecological receptors through:

- Increased turbidity and sedimentation associated with stormwater runoff from disturbed areas, earthworks and stockpiled soils, which can indirectly impact on water quality and aquatic biota in receiving waters.
- Contamination of waterways from fuel or chemical spills, leading to direct impacts on water quality and aquatic biota in receiving waters.
- Introduction and spread of weeds within waterways and wetlands leading to indirect impacts to aquatic ecology.
- Instream works and temporary waterway barriers required for waterway crossings, causing direct impacts on aquatic habitat.
- Permanent waterway barriers, including bed-level crossings.

The Multi-Year Exploration Program may require clearing of Regional Ecosystems within a Defined Distance of a Watercourse. This impact pathway is assessed in **Appendix D**.

12.3.1.2 Gas Drainage Project

The Surface Water Study (Hydro Balance 2024) concluded that the Gas Drainage Project will not impact on stream flow patterns or water quality in receiving waters, and the influence of produced water on the SWC WMS will be negligible. Potential impacts of the Gas Drainage Project on aquatic ecological receptors include:

- Increased turbidity and sedimentation associated with stormwater runoff from disturbed areas, earthworks and stockpiled soils, causing indirect impacts on water quality and aquatic biota in receiving waters.
- Contamination of waterways from fuel or chemical spills, leading to direct impacts on water quality and aquatic biota in receiving waters.
- Introduction and spread of weeds within waterways and wetlands, leading to an indirect impact to aquatic ecology.
- Instream works and temporary waterway barriers required for waterway crossings, causing direct impacts on aquatic habitat.
- Permanent waterway barriers, including bed-level crossings.

The Gas Drainage Project may require clearing of Regional Ecosystems within a Defined Distance of a Watercourse, as detailed in **Appendix D**.

12.3.2 Stygofauna

12.3.2.1 Multi-Year Exploration Program

The Multi-Year Exploration Program may adversely impact stygofauna receptors through:

- Vegetation clearing, which may directly impact stygofauna habitat.
- Localised contamination of groundwater, potentially causing lethal (i.e. mortality of stygofauna) or sub-lethal effects (i.e. reduced rate of reproduction, impacted physiology).

12.3.2.2 Gas Drainage Project

The Gas Drainage Project may adversely impact stygofauna receptors through:

- Vegetation clearing, which may directly impact stygofauna habitat.
- Localised contamination of groundwater, potentially causing lethal (i.e. mortality of stygofauna) or sub-lethal effects (i.e. reduced rate of reproduction, impacted physiology).
- Physical disturbance of groundwater ecosystems due to groundwater drawdown, which may directly impact stygofauna habitat.

12.4 Mitigation and Management Measures

12.4.1 Aquatic Ecology

A summary of the risk-based impact assessment and mitigation for potential impacts to aquatic ecology receptors is presented in **Table 12-1**.

The Project area does not include aquatic MNES, and no significant impact on aquatic MNES is anticipated. Additionally, there are no HES wetlands, HEV wetlands, or relevant waterways associated with the Multi-Year Exploration Program or Gas Drainage Project. Therefore, the Project will have no impact on these aquatic MNES. It is noted that both the Multi-Year Exploration Program and Gas Drainage Projects are likely to require clearing of Regional Ecosystems within a Defined Distance of a Watercourse, an impact pathway is assessed in **Appendix D**.

The Project is not anticipated to cause significant residual impacts on waterways that provide fish passage. All access road crossings of waterways will use temporary barriers during construction and permanent operational phase barriers (e.g. bed level crossings) that comply with the Accepted Development Requirements (Accepted development requirements for operational work that is constructing or raising waterway barrier works (DAF, 2018)). Any buried services, such as pipelines will be positioned below the bed level of rehabilitated waterways (**Table 12-2**).

Table 12-1 Summary of Risk Assessment and Impact Mitigation for Aquatic Ecology

Potential Source of Impact	Mitigations	Mitigated Consequence of Impact	Mitigated Likelihood of Impact	Mitigated Risk of Impact
Contamination from increased turbidity and sedimentation	Preparation and implementation of an ESC Plan. Preferentially undertake works at times of no rainfall and no flow.	low	low	low

Potential Source of Impact	Mitigations	Mitigated Consequence of Impact	Mitigated Likelihood of Impact	Mitigated Risk of Impact
	Routine REMP monitoring for the Multi-Year Exploration Program, and reparation and implementation of a Construction Phase Water Quality Monitoring Program for the Gas Drainage Project, to assess if water quality is adversely impacted and remedial actions are needed to correct water quality issues.			
Contamination due to fuel and chemical spills	Mitigations to avoid and control this impact pathway include: refuelling in designated areas located away from waterways (e.g. >50 m) storing fuels and chemicals in bunded designated areas designed, constructed and maintained in accordance with relevant Australian standards storage fuels and chemicals away from waterways and drainage features deploying suitable spill kits for containment of any spill. Routine REMP monitoring for the Multi-Year Exploration Program, and reparation and implementation of a Construction Phase Water Quality Monitoring Program for the Gas Drainage Project, to assess if water quality is adversely impacted and remedial actions are needed to correct water quality issues.	moderate	low	low
Introduction and spread of aquatic weeds	Biosecurity Plans, likely incorporated within the Construction Environmental Management Plan for the Gas Drainage Project, incorporating vehicle and machinery hygiene protocols and other applicable weed hygiene protocols (e.g. protocols relating to seeds that attach to clothing), will effectively mitigate the potential impacts associated with contamination of waterways by weeds.	moderate	low	low
Instream works and temporary barriers	Temporary barriers will comply with the requirements of the Accepted Development Requirements. Additionally, all works within waterways will be conducted in the following order of preference: Conducting works when no water is present in waterways. Conducting works in times of no flow.	low	low	low

Potential Source of Impact	Mitigations	Mitigated Consequence of Impact	Mitigated Likelihood of Impact	Mitigated Risk of Impact
	Conducting works in times of flow but in a way that does not negatively impact the flow of water within the waterway. Preparation and implementation of an Erosion and Sediment Control Plan.			
Permanent waterway barriers	Permanent barriers will comply with the requirements of the Accepted Development Requirements.	moderate	low	low

Table 12-2 Significant Residual Impact Assessment for waterways that provide fish passage

Significant Impact Criteria	Significant Residual Impact?
Result in the mortality or injury of fish	No
Result in conditions that substantially increase risks to the health, wellbeing and productivity of fish seeking passage, such as through the depletion of fishes energy reserves, stranding, increased predation risks, entrapment or confined schooling behaviour in fish	No
Reduce the extent, frequency or duration of fish passage previously found at a site	No
Substantially modify, destroy, or fragment areas of fish habitat (including, but not limited to in-stream vegetation, snags and woody debris, substrate, bank or riffle formations) necessary for the breeding and/or survival of fish	No
Result in a substantial and measurable change in the hydrological regime of the waterway, for example, a substantial change to the volume, depth, timing, duration and frequency of flows	No
Lead to significant changes in water quality parameters such as temperature, dissolved oxygen, pH and conductivity that provide cues for movement in local fish species	No

12.4.2 Stygofauna

A summary of the risk-based impact assessment and mitigation measures for potential impacts to stygofauna is provided in **Table 12-3**.

Both the Multi-Year Exploration Program and Gas Drainage Project present a low risk of adverse impacts to stygofauna. Consequently, there is also low risk of significant impact on third-party environmental users of a groundwater resource. Therefore, the Project is not expected to significantly impact on a water resource MNES.

Table 12-3 Summary of Risk Assessment and Impact Mitigation for Stygofauna

Potential Source of Impact	Mitigations	Mitigated Consequence of Impact	Mitigated Likelihood of Impact	Mitigated Risk of Impact
Vegetation clearing	NA. Unavoidable impact.	moderate	low	low
Contamination due to fuel and chemical spills	Mitigations to avoid and control this impact pathway include: Storing and handling of all applicable materials will be in accordance with the relevant legislative requirements and Australian Standards. Stanmore's Spill Prevention and Response Procedure will be in place for the Project. Only existing refuelling facilities that are bunded will be used.	moderate	low	low
Groundwater drawdown	NA. The groundwater impact assessment (WSP 2024) indicated that saturated thickness of groundwater ecosystems in the SWC Area was 10 to 40m in alluvium, 30m in regolith, up to 50m in overburden, and >50m in coal seams. The predicted levels of drawdown associated with gas drainage were minimal; e.g. 0.05m in alluvium, 0.1m in regolith and 2.5m in coal seams (WSP 2024).	moderate	low	low

13. REHABILITATION AND CLOSURE

13.1 Overview

Disturbance associated with the proposed activities will be generally rehabilitated in accordance with the Queensland Government's *Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects* (DESI, 2016) and the *Code of Practice for the Construction and Abandonment of Petroleum Wells and Associated Bores in Queensland Petroleum and Gas Inspectorate* (DESI, 2019). Rehabilitation and closure of the Project has been designed to align with the rehabilitation conditions outlined in the EA. The rehabilitation procedure for the activities is outlined below in **Section 13.3**.

The proposed activities will be rehabilitated unless they are retained by the landholder for future use or if they are planned to be mined through by future operations. This section outlines the methodology where rehabilitation is required.

13.2 Existing Rehabilitation

The existing closure and rehabilitation process at SWC mine has typically involved the following steps:

- Demobilisation of drill rig and support equipment.
- Backfill RC chip drill hole with excess chips.
- Backfill mud sumps (once sufficiently dry) back to natural ground level with subsoil and topsoil to match natural soil profile.
- Install drill hole casing beyond depth of bedrock / competent rock, to prevent groundwater ingress to boreholes (from alluvial aquifers, upper level aquifers).
- Capping the drill hole, for example, seal (with concrete) the top of the drill hole at approximately two metres depth below natural ground level, and backfill with subsoil and topsoil to match natural soil profiles.
- Retain erosion and sediment controls. Remove all remaining materials and wastes from site.
- Restore stored subsoil and topsoil to original profile.
- Allow natural regeneration via seedbank in topsoil or seed where topsoil seedbank is found to be insufficient to allow for natural regeneration.
- Monitor and manage any weed infestation, monitor for revegetation success.
- Remove erosion and sediment controls following stabilisation of soils and revegetation of the drill pad / tracks.

Photographs of previously rehabilitated sites have been provided below to illustrate rehabilitation outcomes for exploration activities.

A significant proportion of exploration bore holes drilled over the last few years have since been removed as open cut mining progresses through those areas.

Photo 1 Example of a Drilled Site Pre-rehabilitation

(Site drilled 7/7/24 (photograph taken 1/9/24)

Photo 2 Example of a Site After Sumps Backfilled and Collar left open (Sumps backfilled prior to collar for potential further data collection)

(Site drilled 10/4/24, sumps rehabilitated May 2024 (photograph taken 1/9/24))

Photo 3 Post Collar rehabilitation (Collars dug to 0.5m then buried)

(Site drilled 10/4/24, sumps rehabilitated May 2024, collar rehabbed 31/8/24 (photographs taken 1/9/24))

13.3 Rehabilitation Objectives

The overarching goal for rehabilitation at SWC mine is to meet core Queensland government regulatory and policy requirements for rehabilitation. These include:

- Safe to humans and wildlife.
- Structurally stable.
- Does not cause environmental harm.
- Able to sustain an agreed post mining land-use.

The intended post mining land use for SWC mine is suitable grazing land, in addition to the preservation and enhancement of natural bushland areas. As described in the SWC Rehabilitation Management Plan (September 2021), rehabilitated land will be comparable to the surrounding land, which includes elevated Eucalypt uplands and ridgelines and undulating grazing lands.

Areas that have been rehabilitated aim to reestablish vegetation that is found in the surrounding landform to promote stable self-sustaining conditions. Project areas utilise rehabilitation methods that promote a safe, stable, and non-polluting environment through the prevention of contamination and promotion of stable native vegetation.

Rehabilitated wells and bore holes aim to be safe, stable, and non-polluting. This is achieved by using appropriate filling and capping methods such as the ones described below.

13.4 Rehabilitation Methods

13.4.1 Multi-Year Exploration Program

The Multi-year Exploration Program is described in **Section 3**, including an outline of rehabilitation and closure activities.

The proposed closure and rehabilitation methodology for the Multi-year Exploration Program is set out in **Table 13-1** below. Once closure and rehabilitation processes have been completed, areas will be appropriately monitored and managed for weed infestation and revegetation success where necessary (**Section 13.5**).

Rehabilitation and closure activities will commence no later than six months after proposed activities have ceased operation. For the Multi-year Exploration Program, the rehabilitation process will aim to be completed within six months. Where exploration activities are being undertaken within the six-month footprint of mining operations, rehabilitation activities may not be undertaken, as the area will be removed by ongoing mining.

Table 13-1 Multi-Year Exploration Program Activities Rehabilitation Procedure

Project Activity	Rehabilitation Procedure
Access Tracks	Some access tracks may be retained if requested or agreed with the landholder. Where retention of access tracks is not required, the following will be undertaken: • Remove all rubbish, road base or fill material (if used) from the area. • For areas which have become compacted during the Project, break up the soil surface to a depth that is suitable for establishing vegetation. • Allow natural regeneration via seedbank in topsoil which will promote vegetation resembling that of the surrounding undisturbed areas or via spreading of an appropriate seed mix to provide erosion control and stabilisation. • Remove erosion and sediment controls (if and where used) following stabilisation of soils and revegetation of the track areas.
Drill Machinery	Drill rig and supporting equipment will be demobilised. Exploration activities will be completed progressively as there are limited drill rigs on site. Typically, there will be three drill rigs operating across the site, however this may increase or decrease depending on circumstances.

Project Activity	Rehabilitation Procedure
Drill Pads	Once the drill rig and supporting equipment have been removed from the drill pad the following will be undertaken: • Retain erosion and sediment controls (if and where used). • Remove all remaining materials and wastes from site. Remove all rubbish, drill pad base or fill material (if used) from the area. • For areas which have become compacted during the Project, break up the soil surface to a depth that is suitable for establishing vegetation. • Spread stockpiled subsoil over disturbed areas to an appropriate depth or to match original soil profile. • Spread stockpiled topsoil over disturbed areas to a depth that is suitable as a rooting medium for the revegetation process, or to match original soil profile. • Allow natural regeneration via seedbank in topsoil which will promote vegetation similar to that of the surrounding undisturbed areas or that is appropriate for providing erosion control and stabilisation. Oversewing with an appropriate seed mix may be required where the topsoil seedbank is found to be insufficient to revegetate the area. • Remove erosion and sediment controls (if and where used) following stabilisation of soils and revegetation of the track areas.
Drill Holes	Some exploration drill holes will be retained and converted into groundwater monitoring bores. Where this is not required, the following will be undertaken: • Install drill hole casing beyond depth of bedrock / competent rock, to prevent groundwater ingress to boreholes (from alluvial aquifers, upper-level aquifers). • All drill holes will be backfilled only. Grouting of drill holes will not occur due to the proximity of the holes to the advancing open-cut mine faces. • Backfill mud sumps, with benign material once sufficiently dry, back to natural ground level with reinstated subsoil and topsoil to match natural soil profile. • Cap the drill hole to the top of the hole at approximately two metres depth below natural ground level. The capping material will be something such as concrete. After capping, backfill the drill hole with subsoil and topsoil to match the natural soil profiles.

13.4.2 Gas Drainage Project

The Gas Drainage Project involves a network of 13 progressively installed gas extraction wells that are interconnected with gathering lines and supported by surface infrastructure.

Closure and rehabilitation involved with the Gas Drainage Project is set out in **Table 13-2** below. Once closure and rehabilitation processes have been completed, areas will need to be appropriately monitored and managed for weed infestation and revegetation success as outlined in **Section 13.5**.

Rehabilitation and closure activities will commence no later than six months after proposed activities have ceased operation. The rehabilitation process of the Gas Drainage Project will aim to be completed between six months to one year.

Table 13-2 Gas Drainage Project Activities Rehabilitation Procedure

Project Activity	Rehabilitation Procedure
Access Tracks	Some access tracks may be retained if requested or agreed with the landholder. Where retention of access tracks is not required, the following will be undertaken: • Remove all rubbish, road base or fill material from the area. • For areas which have become compacted during the Project, break up the soil surface to a depth that is suitable for establishing vegetation. • Spread stockpiled subsoil over disturbed areas to an appropriate depth. • Spread stockpiled topsoil over disturbed areas to a depth that is suitable as a rooting medium from the revegetation process. • Allow natural regeneration via seedbank in topsoil which will promote vegetation resembling that of the surrounding undisturbed areas or via sewing of an appropriate seed mix to provide erosion control and stabilisation. • Access tracks may be kept where requested by the landholder.
Surface Infrastructure	• Following the decommissioning of the Gas Drainage Project, all surface infrastructure will be systematically removed. • Infrastructure will be dealt with in an appropriate manner following EA conditions and existing waste management practices.
Gas Well Pads	Once the Gas Drainage Project has been decommissioned the following will be undertaken: • Remove all rubbish, drill pad base or fill material from the area. • For areas which have become compacted during the Project, break up the soil surface to a depth that is suitable for establishing vegetation. • Spread stockpiled subsoil over disturbed areas to an appropriate depth. • Spread stockpiled topsoil over disturbed areas to a depth that is suitable as a rooting medium for the revegetation process. • Allow natural regeneration via seedbank in topsoil which will promote vegetation resembling that of the surrounding undisturbed areas or via sewing of an appropriate seed mix to provide erosion control and stabilisation. • Remove erosion and sediment controls following stabilisation of soils and revegetation of the track areas.
Gas Wells	Following decommissioning of the Gas Drainage Project the following will be undertaken: • Remove wellheads and cut casing string(s) to a minimum of 1.5 m below the surface. • Cap the gas wells below the surface and mark with a marker plate made of appropriate material. Ensure that the marker plate is fastened and installed in a manner that prevents any potential pressure to build up within the castings while restricting access to the casing strings at the top. • The marker plate will be installed with the unique identifying name of the well, the total depth in meter of the well, and the date the well was abandoned. • Lay marker tape approximately 20 cm above the top of the casing and install an appropriate plaque with the unique identifying name of the well, the total depth in meter of the well, the date the well was abandoned, and the distance and direction of the well from the plaque on a surface, fence post, building, or other permanent structure nearest the well. • Cement a post in place on top of the well location where practical for the landowner. • Restore the subsoil and topsoil to the well area to promote revegetation to the natural soil profile.

13.5 Monitoring and Maintenance

The SWC Environmental Monitoring Procedure (July 2021) outlines a monitoring program which includes the following phases:

- Initial Monitoring – Initial monitoring is undertaken at newly established monitoring sites, within six months of rehabilitation being completed.
- Minor Monitoring – Minor monitoring is conducted one year after the initial monitoring and then every four years thereafter.

A visual assessment will be performed as part of monitoring and will include photography of the rehabilitated sites. The visual assessment will be undertaken by a suitably competent person and assess vegetation density, diversity, vigour, height, and erosion.

Maintenance will be performed as determined by the monitoring activities. Areas may require weed and pest management, and reseeding.

14. GREENHOUSE GASES

14.1 Overview

A greenhouse gas (GHG) assessment has been performed to identify and quantify potential Scope 1, 2 and 3 GHG emissions associated with the construction and operational phases of the Project in accordance with relevant State and Commonwealth regulatory guidelines (**Appendix G**). The GHG assessment was prepared to address the requirements of the *Guideline for Greenhouse Gas Emissions* (DESI, 2024) ('the Guideline'), which sets out application requirements under the EP Act and provides information on how to meet these requirements in relation to GHG emissions.

The key tasks undertaken as part of the GHG assessment were:

- Identification of potential GHG emission sources associated with the construction and operational phases of the Project.
- Calculation of the likely energy consumption and Scope 1, 2 and 3 GHG emissions (in tonnes of carbon dioxide equivalent (tCO_2-e) per annum) resulting from the Project construction and operations.
- Assessment of the potential significance of the GHG emissions from the Project in the context of current and predicted State and national GHG emission levels.
- Identification of mitigation measures to minimise and manage GHG emissions and ensure energy use efficiency.

14.2 Background

14.2.1 Scope 1, 2, and 3 Emissions

The internationally accepted method of reporting GHG emissions is to separate the emission sources into three categories, referred to as 'scopes'. The three scopes of GHG emissions as per the *National Greenhouse and Energy Reporting (NGER) (Measurement) Determination 2008*, are described below and summarised in **Figure 14-1**.

14.2.1.1 Scope 1 Emissions

Direct emissions where the point of emission release is owned/controlled by the organisation or project owner, such as:

- Emissions resulting from fuel combustion, e.g. from petrol or diesel fuelled vehicles, gas-fired boilers or diesel generators.
- Fugitive emissions during the extraction, production, processing and distribution of fossil fuels (e.g., methane emissions from coal mines, leakage from gas drainage and processing).
- Industrial process emissions, e.g. the use of fuels as feedstocks, leakage of insulating or refrigerant GHGs from switchgear and cooling systems.
- Waste emissions, which result from the decomposition of organic material in an on-site landfill or on-site wastewater treatment plant.

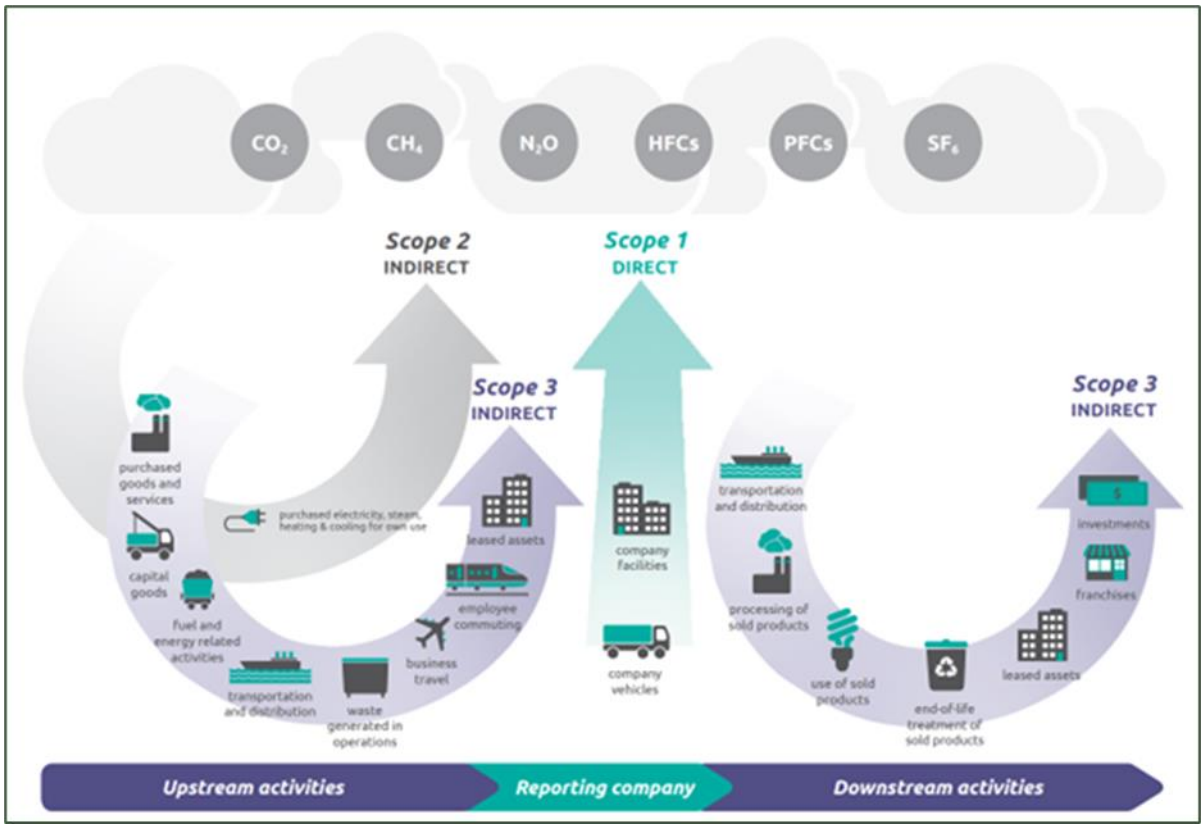
14.2.1.2 Scope 2 Emissions

Indirect GHG emissions that occur inside the project footprint or within the control of the reporting organisation. The main Scope 2 emission relates to electricity usage, where the emissions arise principally at an electricity generator, or through the loss of electricity from the electricity transmission network or distribution network.

14.2.1.3 Scope 3 Emissions

Other indirect GHG emissions that occur outside the project footprint under control of the reporting organisation. For example:

- Emissions associated with the drainage, production, processing and distribution of fuels used by the project/organisation.
- Embodied CO_2-e emissions associated with construction materials and raw materials used by the project/organisation.
- Emissions associated with the transport, distribution and end use of sold products.



Source: (WRI, 2011)

Figure 14-1 Overview of Greenhouse Gas Protocol Scopes and Emissions

The purpose of differentiating between the scopes of emissions is to avoid the potential for 'double counting' which occurs when two or more organisations assume responsibility for the same emissions.

Reporting under the *National Greenhouse and Energy Reporting Act 2007* (NGER) requires organisations to report Scope 1 and Scope 2 emissions, but not Scope 3 emissions. Scope 3 emissions may be reported voluntarily by companies outside of their NGER report.

14.2.2 Global Warming Potentials

GHG emissions are generally reported in terms of carbon dioxide equivalent (CO_2-e). This provides a standardised unit for reporting, due to different gases having varying effects on global warming impacts or global warming potential (GWP). The GWP refers to the GHG potential to trap heat in the atmosphere for a certain period (generally 100 years), relative to carbon dioxide (with a GWP of one).

At the time of writing, the most recent available *National Greenhouse Accounts Factors* published by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) equate methane (as an example) with a GWP of 28, meaning that for every tonne of methane emitted, it has the same global warming effect as 28 tonnes of carbon dioxide (DCCEEW, 2024). As such, gases such as methane and nitrous oxide are relatively potent GHGs.

Table 14-1 presents the GWPs of the key GHGs that are associated with the Project and have been used in calculating the Project emissions.

Table 14-1 GHG Global Warming Potentials

Gas	Chemical Formula	Global Warming Potential (GWP)
Carbon dioxide	CO_2	1
Methane	CH_4	28
Nitrous oxide	N_2O	265
Sulfur hexafluoride	SF_6	23,500

Source: (DCCEEW, 2024)

14.2.3 Greenhouse Gas Emissions Estimation

A GHG emission inventory has been compiled for the Project based on emission factors and reporting guidelines available in the following documents and references.

- *GHG Protocol Corporate Accounting and Reporting Standard* (WRI/WBCSD, 2004a) - This document provides a step-by-step guide for companies to use in quantifying and reporting their GHG emissions.
- *GHG Protocol for Project Accounting* (WRI/WBCSD, 2004b) - A guide for quantifying reductions from GHG mitigation projects.
- *2024 National Greenhouse Accounts Factors* (DCCEEW, 2024).

The calculation of GHG emissions from the construction and operation of the Project was performed in a five-stage process:

1) Definition of the Project boundary (i.e., the Project footprint).
2) Identification of GHG emission sources within the Project footprint during construction and operation.
3) Identification of GHG emission calculation methods and GHG emission factors for each source.
4) Identification of the activity data for each GHG emission source required for the calculations.
5) Calculation of estimated GHG emissions.

14.3 Environmental Values

The IPCC (IPCC, 2021) has identified that human-induced climate change is already affecting weather and climate extremes across the globe, and that 'continued emission of GHGs will cause further warming and long lasting changes in all components of the climate system. Increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems (IPCC, 2014)'.

The Guideline clarifies existing application requirements under the EP Act and provides information on how to meet these requirements in relation to GHG emissions.

The Guideline sets out the minimum expectations for GHG emissions information to be provided with applications for new EAs and applications to amend existing EAs. The Guideline states:

> "*while it is difficult to determine the likelihood and magnitude of impacts to environmental values from an individual project's GHG emissions, it is recognised that any increases in net GHG emissions may also increase the risks, and the larger the relative scale of net GHG emissions, the more significant the contribution may be. However, this needs to be considered with regard to potential net emissions reductions due to a project's impacts on emissions generated by other parties, and projects that produce commodities necessary for achieving global decarbonisation objectives may assist in achieving overall emissions reductions*" (DESI, 2024).

14.4 Potential Impacts

14.4.1 Sources of Greenhouse Gas Emissions

The assessment has considered Scope 1, Scope 2 and Scope 3 emissions associated with the construction and operation of the Project.

Consistent with the Guideline (DESI, 2024), the geographical boundary set for the emissions considered in the GHG assessment covered the Project footprint. Scope 1 and Scope 2 GHG emissions associated with the construction and operation of the Project were considered to be within the geographical boundary of the assessment. GHG emissions associated with current and future mining operations and coal handling and processing activities at SWC Mine (such as diesel consumption in mobile plant) would not be directly impacted by the Project were deemed to be outside the boundary of the assessment.

GHG emissions associated with the operation of the power station have been addressed under a separate assessment and approval application and were therefore not addressed in this assessment. Changes in GHG emissions associated with SWC mine operations (e.g., due to the elimination of Scope 2 emissions associated with electricity consumption from the grid and the potential reduction in fugitive methane emissions), were also considered within the GHG assessment prepared for the power station and are outside the boundary of this study.

It is noted, however, that the GHG assessment prepared for the power station development application identified a potential reduction of 647,000 t CO_2-e/annum in SWC mine's reported Scope 1 and 2 emissions (SLR, 2024). This EA Amendment is a key enabler for delivering the power station project, which will, in turn, enable these emission reductions.

GHG emissions will also occur during decommissioning of Project infrastructure at the end of its design life. Options for the Project infrastructure will vary between life extension, upgrading, or decommissioning at the end of the 15-year project life. Due to these options, the GHG emissions beyond 15 years and associated with the end-of-life phase of the Project have not been estimated as part of this study. These emissions will be evaluated as part of any future life extension studies and will be factored into the decisions regarding the ongoing operation or decommissioning of the facilities.

Based on the above, GHG emissions associated with the construction and operation of the Project that were considered in preparing this assessment are summarised in **Table 14-2**.

Table 14-2 GHG Emission Sources included in the Inventory for the Project

Project Activity	Scope 1	Scope 3
Construction		
Vegetation clearing	Carbon lost in vegetation cleared for access roads and well pads	-
Diesel combustion in earthworks and construction equipment	Emissions from diesel combustion in mobile and fixed equipment, including dozers, excavators, haul trucks etc.	Emissions associated with production and supply of diesel consumed
Diesel combustion for transport purposes	Emissions from diesel combustion in heavy load trucks, light vehicles, etc transporting staff and equipment within the Project boundary	Emissions associated with drainage and production of diesel consumed
Use of oils and greases	Consumption of oils and greases	Emissions associated with drainage and production of oils and greases consumed
Materials used for construction	-	Emissions associated with production and supply of steel and road base used in construction
Employee travel	-	Emissions from fuel combustion in vehicles used by workers travelling to site
Operation		
Fuel combustion for energy purposes	Emissions from gas combustion in well head pump engines	-
Fugitive emissions	Emissions of methane from leaks	-

GHG emissions associated with the following activities and sources were excluded from the emission inventory:

- Fuel consumption in vehicles and other mobile and fixed plant during operations will be very minor, and the associated Scope 1 and Scope 3 emissions have been excluded from the emission inventory.
- The electricity needed for the Project's construction will be generated by onsite mobile generators. Thus, Scope 2 emissions are not relevant.
- Scope 3 emissions from diesel or gasoline combustion in private vehicles during employee travel to and from the Project will be very minor during operations, with a projected workforce of only 2-3 full-time equivalent personnel.
- The construction and operational GHG emissions associated with the combustion of the pre-drainage gas in the power station are being assessed under a separate assessment and have therefore not been addressed here.

14.4.2 Emission Factors

The estimation of GHG emissions associated with the clearing of vegetation utilised the Department of Industry Science Environment and Resources (DISER) FullCAM model to derive an emission factor in 'tonnes CO_2-e per hectare cleared'.

The results of the FullCAM Model simulation are summarised in **Table 14-3**. The tonnes of carbon per hectare output by FullCAM immediately post-clearing event was converted to tonnes CO_2-e using a factor of 44/12 (the ratio of the molecular weights of CO_2 and carbon). As shown in **Table 14-3**, the estimated tonnes CO_2-e/hectare is slightly higher for eucalyptus open woodland compared to native regeneration. To provide a conservative assessment of potential GHG emissions associated with land clearing during the Project, an emission factor of 162.60 t CO_2-e/ha/annum cleared was used.

Table 14-3 FullCAM Outputs

Output	Scenario	Carbon (t C/ha)	CO_2-e Equivalent (t CO_2-e/ha)
Carbon in debris after clearing	Eucalyptus open woodland	26.83	98.37
	Native species regeneration <500 mm rainfall	20.11	73.72
Total carbon, including soil carbon	Eucalyptus open woodland	44.35	162.60
	Native species regeneration <500 mm rainfall	38.45	140.98

The emission factors used to estimate other Scope 1 and Scope 3 emissions are shown in **Table 14-4** and **Table 14-5**, respectively.

Table 14-4 Scope 1 Emission Factors Used

Emission Source	Energy Content Factor	Scope 1 Emission Factors				
		CO_2	CH_4	N_2O	Total	Units
Fuel Use – Stationary (power generation and off-road equipment) [1]						
Coal seam methane that is captured for combustion	0.0377 GJ/m^3	51.4	0.2	0.03	51.63	kg CO_2-e/GJ
Diesel	38.6 GJ/kL	69.9	0.1	0.2	70.2	kg CO_2-e/GJ
Fuel Use - Transport [2]						
Diesel – Heavy duty vehicles	38.6 GJ/kL	69.9	0.1	0.4	70.4	kg CO_2-e/GJ
Diesel – Cars and light commercial vehicles	38.6 GJ/kL	69.9	0.01	0.5	70.41	kg CO_2-e/GJ
Oils and Greases [1]						
Petroleum based oils	38.8 GJ/kL	13.9	0	0	13.9	kg CO_2-e/GJ
Petroleum based greases	38.8 GJ/kL	3.5	0	0	3.5	kg CO_2-e/GJ
Fugitive Emissions						
Onshore gas gathering and boosting pipelines	-	0.0265	6.52	0	6.5465	t CO_2-e/km pipeline

Note:
[1] NGA Factors Workbook 2024, Table 5 and Table 8 (DCCEEW, 2024)
[2] NGA Factors Workbook 2024, Table 9 (DCCEEW, 2024), assumed Euro III factors

Table 14-5 Scope 3 Emission Factors Used

Fuels, Oils and Greases [1]			
Fuel / Substance	**Energy Content Factor (GJ/kL)**	**Scope 3 Emission Factor**	**Unit**
Diesel	38.6	17.3	kg CO_2-e/GJ
Petroleum based oils	38.8	18.0	kg CO_2-e/GJ
Petroleum based greases	38.8	18.0	kg CO_2-e/GJ
Embodied Energy of Construction Materials			
Material	**Product Description**	**Embodied Carbon Factor**	**Unit**
Steel [2]	Steel, welded pipe, world average	2.78	t CO_2-e/tonne
Road base [3]	2% cement stabilised aggregates	0.0295	t CO_2-e/tonne
Transport of Materials	**Transport Mode Emissions Intensity**		**Unit**
Road [4]	Rigid truck – default factor	0.00022	t CO_2-e/t-km

1 NGA Factors Workbook 2023, Table 8 (DCCEEW, 2024).
2 ICE Database (Hammond & Jones, 2019).
3 *Environmental Product Declaration: Quarry and Recycling Products (including recycled road base, sand, aggregate and stabilized product)* (Boral, 2024). Used embodied carbon reported for '2% stabilised products' produced by the Wollert Site, based on that being the highest value for that product from any site in Victoria. A density of 2.24 t/m^3 was assumed (WARRIP, 2017).
4 *Embodied Carbon Measurement for Infrastructure: Technical Guidance* (NSW Government, 2024).

14.4.3 Activity Data

The activity data for the life of Project is presented in **Table 14-6**, with a breakdown of the annual activity data provided in **Appendix G**.

Table 14-6 Project Construction and Operation Activity Data – Life of Project

Input Data	Units	Scope	Life of Project
Construction			
Vegetation clearance • Exploration [1] • Gas production [2] • Access roads [3]	hectares	1	 63.0 2.1 37.0
Diesel consumption [4] • Stationary/off-road • Transport	kL	1 & 3	 204 26
Use of petroleum-based oils [4]	kg	1 & 3	371
Use of petroleum-based greases [4]	kg	1 & 3	371
Steel used in construction [4]	tonnes	3	1.0
Road base used in construction [4]	m^3	3	18,180
Diesel for worker travel [5]	kL	3	105

Input Data	Units	Scope	Life of Project
Operation			
Wellhead engine gas use [6]	GJ		162,547
Length of pipeline [7]	kilometres	1	9.12

14.4.4 Estimated Emissions

14.4.4.1 Scope 1 Emissions

The estimated Scope 1 emissions for construction and operation are shown in **Figure 14-2**. A review of the estimated Scope 1 emissions indicates:

- During the initial four years of the Project, the main source of Scope 1 GHG emissions is estimated to be related to carbon loss from clearing of vegetation.
- From year 5 onwards, when it is assumed that the bulk of the land clearing and access road construction has been completed, the main source of Scope 1 emissions is the combustion of gas in the wellhead engines.
- The total estimated annual Scope 1 GHG emissions from the Project are well below 25,000 tonnes CO_2-e per year; as such the Project will be categorised as a **low emitter**.

It is noted that the estimated emissions associated with land clearing are subject to a high level of uncertainty and should be regarded as indicative only. Actual emissions will be highly dependent on the access road routes, wellhead locations, and the nature of the vegetation cover in the areas cleared.

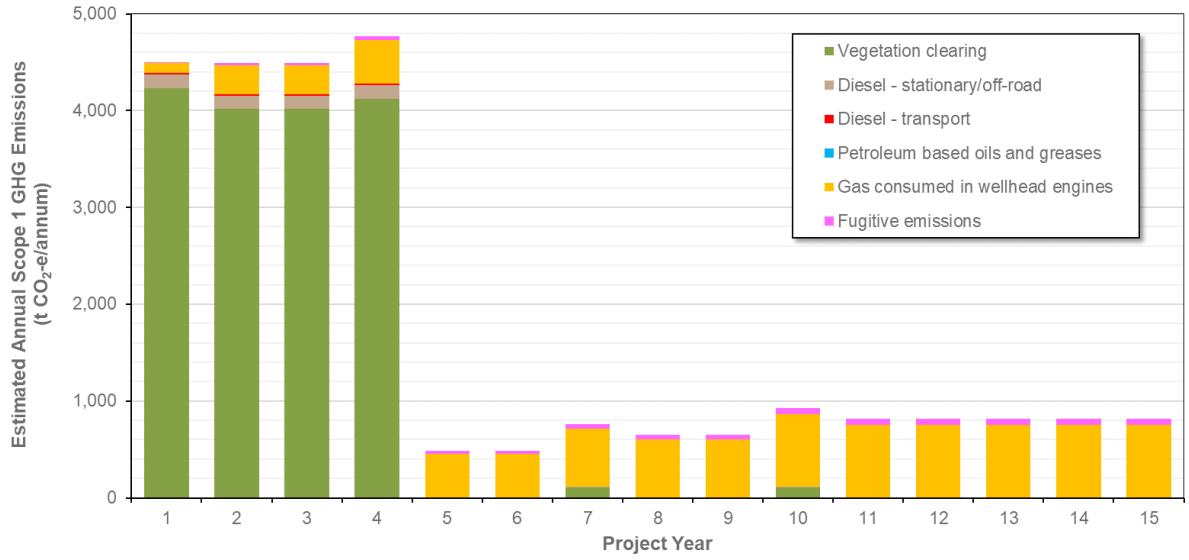


Figure 14-2 Estimated Scope 1 GHG Emissions for the Project

14.4.4.2 Scope 3 Emissions

The annual estimated Scope 3 GHG emissions for the Project are presented in **Figure 14-3**. A review of the estimated emissions shows that Scope 3 GHG emissions associated with construction of the Project are relatively minor, representing approximately 9% of the Scope 1 emissions over the life of the Project.

The main source (50%) of the estimated Scope 3 emissions is related to the embodied energy of the road base to be used for access road construction, based on the product specifications assumed (see **Table 14-5**). The delivery of steel and road base to site via third-party road transport is estimated to contribute 32% (based on delivery from Moranbah), while worker commuting contributes 12%.

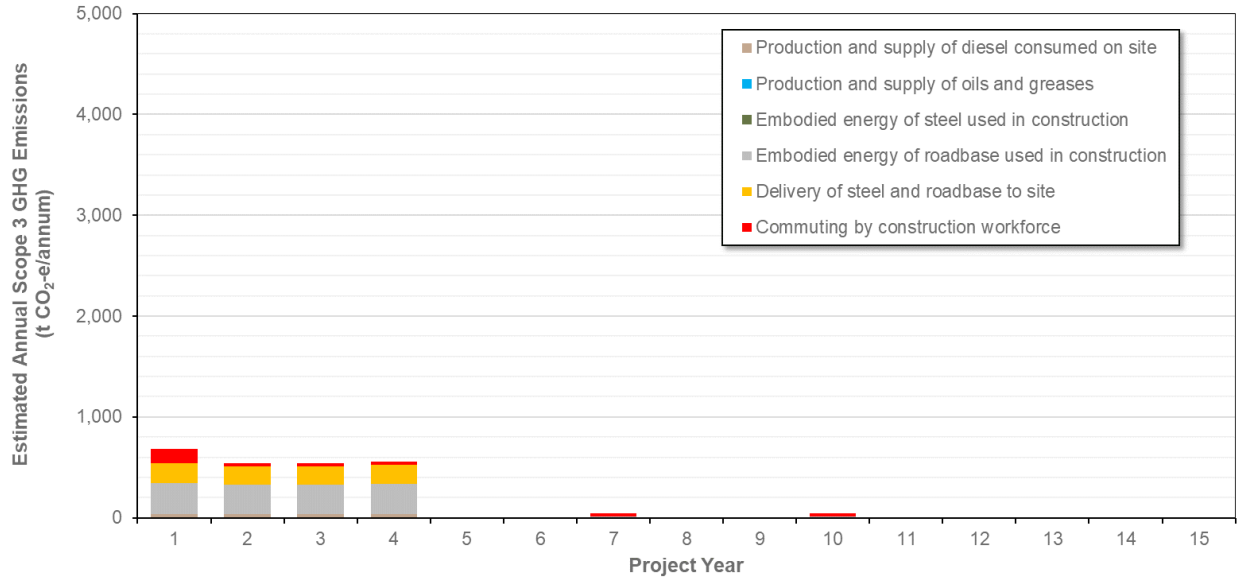


Figure 14-3 Estimated Scope 3 GHG Emissions for the Project – Construction

14.4.5 Risk Assessment

The Guideline requires that a risk assessment be performed to outline the scale of expected GHG emissions from the activity and how they are anticipated to contribute to climate change impacts on Queensland's environmental values.

For the 2022 reporting year, which is the most recent available data available at time of writing this report, Australia's total GHG emissions were reported to be 432.621 Mt CO_2-e, with 124.097 Mt CO_2-e contributed by Queensland (DCCEEW, 2024).

The maximum total annual Scope 1 GHG emissions from the Project (including construction activities) are estimated to be 4,767 t CO_2-e per annum. This represents approximately 0.001% of Australia's 2022 emissions, and 0.004% of Queensland's 2022 emissions. On this basis, construction and operation of the gas drainage network will be expected to be an insignificant contributor to climate change impacts on Queensland's environmental values.

In addition, in comparison to the overall site emissions, the Project represents an increase of 1.3% on SWC mine's current Scope 1 emissions and an increase of 1.1% on the combined Scope 1 and 2 emissions.

This EA Amendment is also a key enabler to delivering the power station project, which is proposed to reduce Scope 2 emissions from SWC Mine's operations by replacing consumption of grid power. It also has the potential to reduce Scope 1 emissions from SWC Mine's operations, assuming all gas burned in the power station will otherwise (eventually) be emitted as fugitive emissions during the mining of coal in the gas drainage area. Considering these potential benefits, the net change in emissions from SWC Mine's operations, once the reduction in fugitive methane emissions and avoided reliance on grid power is accounted for, is estimated to be a net reduction of approximately 647,000 t CO_2-e per annum[8]. This is further addressed in the GHG emissions assessment and approval application for the power station.

14.5 Mitigation and Management Measures

The Project is a key component of SWC Mine's decarbonisation strategy to reduce its Scope 1 emissions associated with fugitive methane emissions and Scope 2 emissions due to grid electricity consumption. To further leverage the GHG benefits of the Project, detailed design and construction plans for the exploration and drainage system will consider the measures outlined in **Table 14-7**.

As per the Guideline, projects classified as a low emitter are not required to submit a detailed GHG abatement plan as part of the application process.

Table 14-7 Project-Related Mitigation Measures

Measure	GHG Abatement Hierarchy
Minimise clearing of vegetation through access road route selection and siting of wells	Reduce
Maximise beneficial use of cleared vegetation	Reduce
Minimise methane leakage from plant and equipment through routine maintenance	Reduce
Specify and select appropriately sized and energy-efficient equipment for construction and operation	Avoid
Implement practices to minimise fuel consumption during construction	Reduce
Regularly maintain construction plant and ensure compliance with relevant exhaust emission guidelines	Reduce
Switch off plant and equipment when not in constant use, not left idling	Avoid
Plan construction works to ensure minimal movement of plant and equipment	Reduce
Source materials and consumables from local suppliers, where possible, and minimise, where feasible, the embodied energy in materials of construction	Reduce

[8] It is noted that currently SWC Mine uses default fugitive emission factors to estimate fugitive emissions associated with its mining operations (i.e. Method 1 as per the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*). Therefore, the reductions in fugitive methane emissions estimated as a result of the power plant will therefore not be addressed within the SWC Mine emissions inventory until the Method 2 approach is adopted for reporting.

15. PROPOSED AMENDMENT OF EA CONDITIONS

15.1 Proposed EA Amendments

Stanmore proposes amendments to the following EA conditions:

- EA Condition A18.
- EA Condition A19.
- EA Condition E12.
- Proposed New EA Condition 1.
- Proposed New EA Condition 2.

The proposed amendments to existing EA conditions and new EA conditions are set out below.

15.1.1 EA Condition A18

Existing Condition
Disturbance authorised within the areas marked "Authorised Additional Exploration Area" in Figure 2 (Authorised Additional Exploration Area) is limited to: a) exploration activities; and b) minor infrastructure; and c) must not result in a significant residual impact to prescribed environmental matters.
Proposed Amendment
Disturbance authorised within the areas marked "**Multi-year Exploration Program Extent**" in **Figure 2** (**Multi-year Exploration Program and Gas Drainage Project**) is limited to: a) exploration activities; and b) minor infrastructure; and c) must not result in a significant residual impact to prescribed environmental matters. In addition, EA Figure 1 and Figure 2, as shown in **Figure 15-1** and **Figure 15-2** respectively, will be updated to reflect this change. The surface disturbance figure component of EA Figure 1, and EA Figure 2, will be replaced by the figure shown in **Figure 15-3**.
Justification
The current approved EA shows an "Additional Exploration Area" in Figure 1 and Figure 2. This area will be incorporated into the larger proposed "Multi-year Exploration Program Extent" shown in **Figure 15-3**. Figure 1 (the surface disturbance component of this figure) and Figure 2 will be replaced by **Figure 15-3**. This amendment reduces duplication and streamlines all exploration into one large polygon (i.e., the Multi-year Exploration Program Extent).

15.1.2 EA Condition A19

Existing Condition
Activities authorised by condition **A18 (a)** and **(b)** must not exceed a total surface disturbance area of **eleven (11) hectares** at any one time.
Proposed Amendment
Activities authorised by condition **A18 (a)** and **(b)** must not exceed a total surface disturbance area of **twenty-five (25) hectares** at any one time.

Justification

The amendment to increase the total area to twenty-five hectares at any one time will support the exploration drill holes needed to evaluate subsurface conditions and resource potential. This amendment reduces the need for frequent boundary modifications and in doing so streamlining operations. By consolidating the disturbance within a defined area, the amendment ensures that the impacts are better considered and managed in accordance with regulatory requirements.

15.1.3 EA Condition E12

Existing Condition

Exploration activities authorised by condition A18 (a) which are conducted within the areas marked "Authorised Additional Exploration" in Figure 2 (Authorised Additional Exploration Area) must meet the following requirements:

a) drill pads must be located in existing cleared areas or on the margins of vegetated areas where practicable;
b) drill pads must be located adjacent to existing access tracks where practicable;
c) the total number of exploration drill holes must not exceed forty-one (41);
d) the width of new access tracks must not exceed 4.5m;
e) all exploration-related disturbance must avoid mature vegetation and hollow-bearing trees where practicable;
f) all infrastructure and disturbance associated with the exploration activities must be rehabilitated within 6 months of the area no longer being required to support exploration, unless either of the following apply:
    i. the structure is being utilised for other authorised mining activities; or
    ii. the area coincides with that of other authorised mining activities; and
g) in the case that (f)(i) or (f)(ii) apply, rehabilitation of the relevant area must be completed within 6 months of the cessation of the associated authorised mining activity.

Proposed Amendment

Exploration activities authorised by condition A18 (a) which are conducted within the areas marked "**Multi-year Exploration Program Extent**" in **Figure 2** (**Multi-year Exploration Program and Gas Drainage Project**) must meet the following requirements:

a) drill pads must be located in existing cleared areas or on the margins of vegetated areas where practicable;
b) drill pads must be located adjacent to existing access tracks where practicable;
c) the width of new access tracks must not exceed 4.5m;
d) all exploration-related disturbance must avoid mature vegetation and hollow-bearing trees where practicable;
e) all infrastructure and disturbance associated with the exploration activities must be rehabilitated within 6 months of the area no longer being required to support exploration, unless either of the following apply:
    i. the structure is being utilised for other authorised mining activities; or
    ii. the area coincides with that of other authorised mining activities; and
f) in the case that (e)(i) or (e)(ii) apply, rehabilitation of the relevant area must be completed within 6 months of the cessation of the associated authorised mining activity.

The 'Multi-year Exploration Program Extent' comprises access tracks and drill pads, except where these are under rehabilitation.

Justification

Item c has been removed from EA condition E12, which limited the number of drill holes to forty-one (41). Instead of a set number of drill holes, the total exploration footprint will be limited to twenty-five (25) hectares at any one time, as prescribed by the updated condition A19. This equates to approximately 125 to 150 drill pads depending on access track length. The exploration footprint comprises access tracks and drill pads, except where these are under rehabilitation.

15.1.4 New Condition 1

Proposed New Condition 1
Disturbance authorised within areas marked "Gas Drainage Project" and “Proposed Powerline Corridor from Power Station to Mine” in Figure 2 is limited to: • Exploration activities; and • Gas drainage wells and associated water and gas pipelines; and • Other associated infrastructure and facilities.
Justification
The proposed condition will delineate the specific areas where disturbance is permitted, as outlined in **Figure 15-3** as the "Gas Drainage Project" and “Proposed Powerline Corridor from Power Station to Mine”. This adjustment is necessary to: • Identify and assess potential mining reserves more effectively. • Enable safe extraction and management of gas, including the installation of pipelines for gas and water collection and usage. • Support the primary functions of the Project while minimising environmental impact where possible. By defining the scope of disturbance within the designated Gas Project Area, environmental impacts are managed appropriately and the activities remain compliant with regulatory requirements.

15.1.5 New Condition 2

Proposed New Condition 2
Activities authorised by **New Condition 1** must not exceed a total surface disturbance area of fifty (50) hectares at any one time.
Justification
The proposed condition, limiting surface disturbance to a maximum of fifty (50) hectares at any one time, is proposed to limit the extent of surface disturbance associated with the Gas Drainage Project, to better implement appropriate environmental mitigation measures. Defining a clear disturbance limit helps streamline project planning and execution, ensuring that activities are carried out within regulatory requirements.

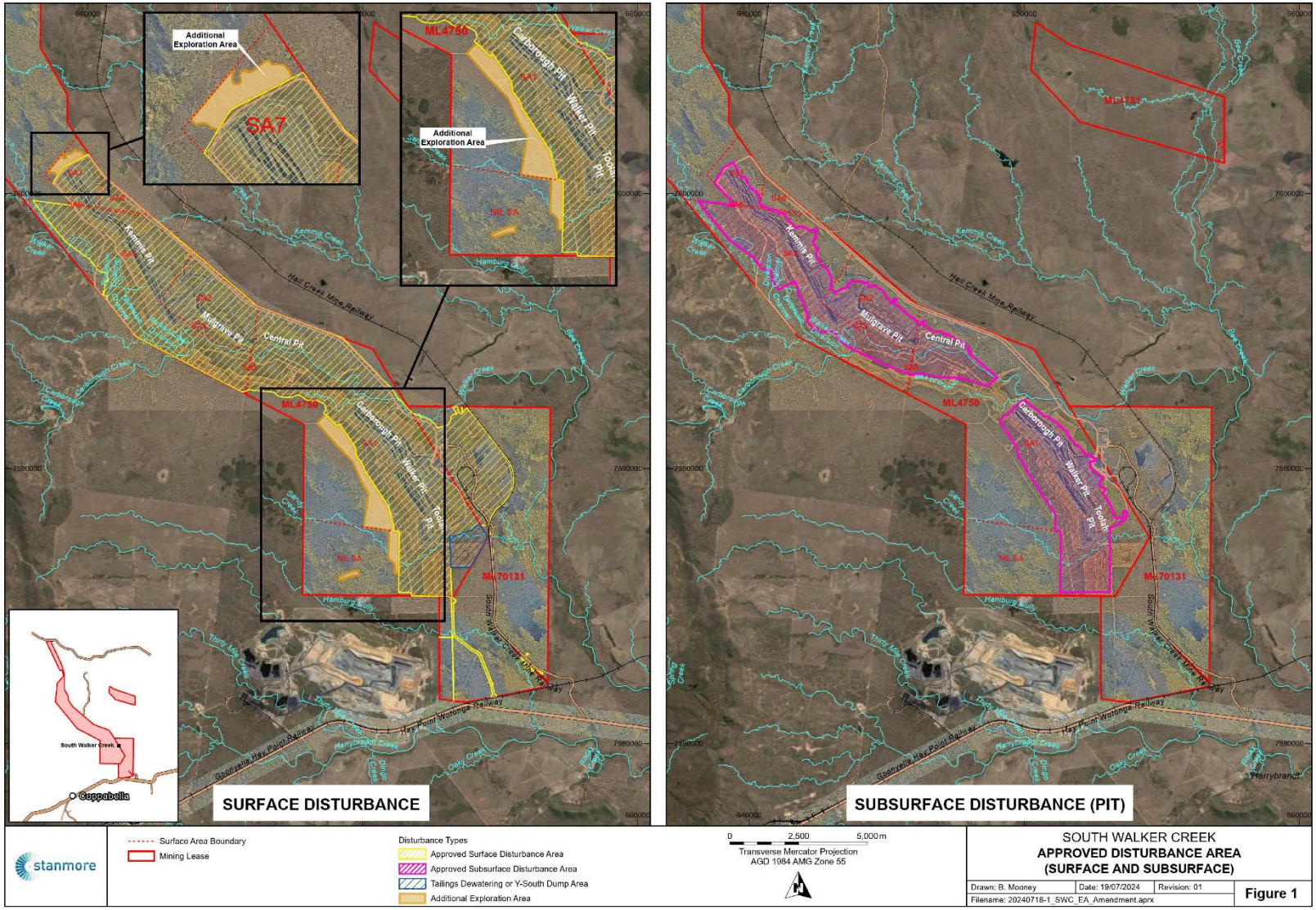


Figure 15-1 Existing EA Figure 1

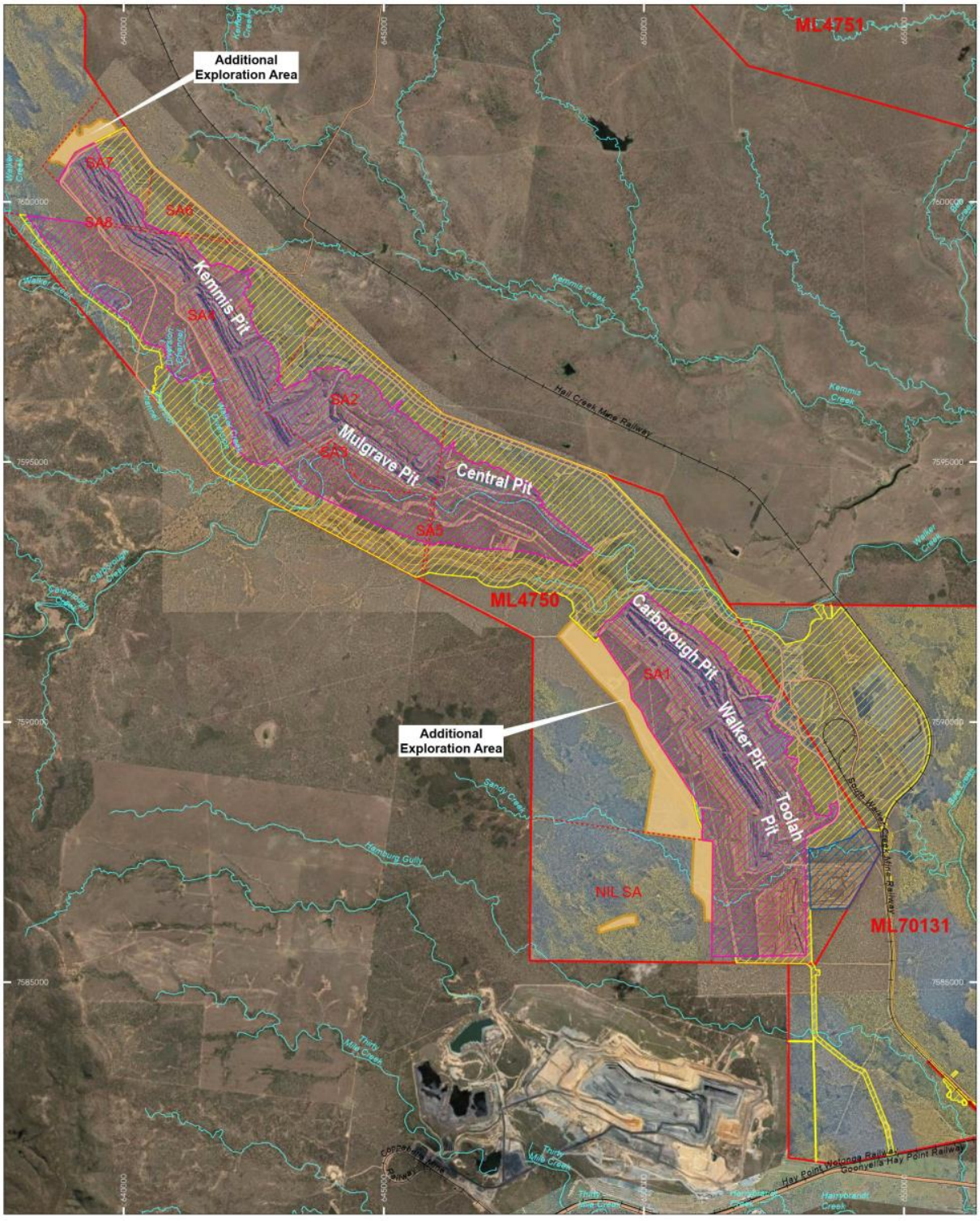
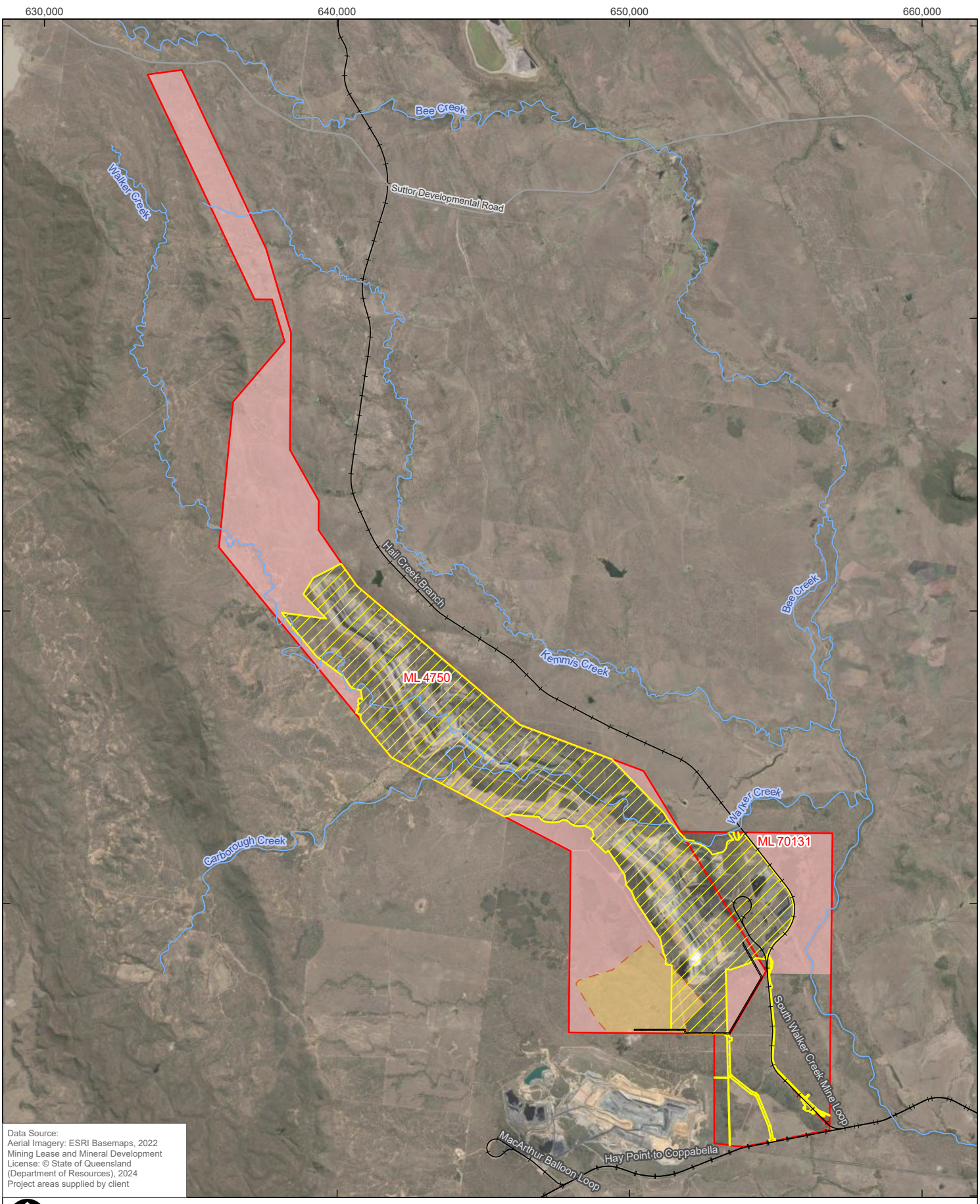


Figure 15-2 Existing EA Figure 2



Data Source:
Aerial Imagery: ESRI Basemaps, 2022
Mining Lease and Mineral Development License: © State of Queensland (Department of Resources), 2024
Project areas supplied by client

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:170,000 at A4
Project Number:	620.040822.00001
Date Drawn:	27-Sep-2024
Drawn by:	RB

LEGEND

- Railway
- Road
- Watercourse
- South Walker Creek Mine
- Approved Surface Disturbance Area (30/7/2024)
- Gas Drainage Project
- Multi-year Exploration Program Extent
- Proposed Powerline Corridor from Power Station to Mine

SOUTH WALKER CREEK EA AMENDMENT PROJECT

MULTI-YEAR EXPLORATION PROGRAM AND GAS DRAINAGE PROJECT

stanmore

FIGURE 15-3

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Notice

Environmental Protection Act 1994

Information request

This information request is issued by the administering authority under section 140 of the Environmental Protection Act 1994 *to request further information needed to assess an amendment application for a site-specific environmental authority.*

To: Stanmore SMC Pty Ltd
Level 32, 12 Creek Street
By email transmission only
Email:ryan.pane@stanmore.net.au

ATTN: Ryan Pane

Our reference: A-EA-AMD-100729271

Further information is required to assess an amendment application for environmental authority

1. Application details

The amendment application for a site-specific environmental authority was received by the administering authority on 30 September 2024.

The application reference number is: **A-EA-AMD-100729271**

Land description: ML4750 and ML70131

2. Information request

The administering authority has considered the abovementioned application and is writing to inform you that further information is required to assess the application (an information request).

The information requested is provided In Appendix 1 below:

3. Actions

The abovementioned application will lapse unless you respond by giving the administering authority -

(a) all of the information requested; or
(b) part of the information requested together with a written notice asking the authority to proceed with the assessment of the application; or
(c) a written notice –

i. stating that you do not intend to supply any of the information requested; and
ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by 22 May 2025 (the information response period). If you wish to extend the information response period, a request to extend the period must be made at least 10 business days before the last day of the information response period.

The response to this information request or a request to extend the information response period can be submitted to the administering authority by email to CRMining@des.qld.gov.au.

If the information provided in response to this information request is still not adequate for the administering authority to make a decision, your application may be refused as a result of section 176 of the *Environmental Protection Act 1994,* where the administering authority must have regard to any response given for an information request.

4. Human rights

A human rights assessment was carried out in relation to this decision/action and it was determined that the decision is compatible with human rights.

If you require more information, please contact Business Centre Coal on the telephone number listed below.

	22/11/2024
Signature	Date

Cate Puschmann
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Coal Business Centre
Phone: 07 4987 9320
Email: CRMining@des.qld.gov.au

Appendix 1: Information requested

Please note that Appendix D 'Terrestrial Ecology Report' submitted with the application supporting documentation comprised of two separate reports prepared by Eco Logical Australia Pty Ltd which are refenced separately in this request. References to the 'MSES Report' in this information request refer to the 'Matters of Sate Environmental Significance Impact Assessment Report'. References to the 'Ecological Assessment' refer to the 'South Walker Creek Mine Ecological Assessment Report.

References to 'Watercourse Regional Ecosystems' refer to 'Regulated vegetation within the defined distance from the defining banks of a relevant watercourse'

<table>
<tr><th>Item No.</th><th>Matter of Interest</th><th>Information Sought</th><th>Requested Action</th></tr>
<tr>
<td>1.</td>
<td>Environmental Authority Amendment Application Supporting Information – Section 11 – Terrestrial Ecology

Appendix D – Terrestrial Ecology Report</td>
<td>The MSES Report in Table 1 'MSES in the Impact Areas' summarises the Matters of State Environmental Significance (MSES) present within the gas drainage and multi-year exploration project activities (The Project) impact area.

From Table 1, the following impacts to MSES are understood in relation to the Project.

<u>Gas drainage</u>
<table>
<tr><th>RE Type</th><th>Impact Area</th></tr>
<tr><td>RE 11.3.1</td><td>0.6</td></tr>
<tr><td>RE 11.4.9</td><td>6.9</td></tr>
<tr><td>RE 11.3.4</td><td>0.3</td></tr>
</table>
</td>
<td>1.1 Revise the Significant Residual Impact assessment, to identify which Endangered, Of Concern, and watercourse regional ecosystems will have a significant residual impact as a result of the project activities.

1.2 Specifically update Table 2 to identify these matters and each impact area.

1.3 The significant residual impact assessment should extend to assessing the cumulative impact of the currently authorised impacts to prescribed environmental matters and the impacts associated with this amendment.</td>
</tr>
</table>

		Regulated vegetation within the defined distance from the defining banks of a relevant watercourse	1.9	

Multi Year Exploration Project

RE Type	**Impact Area (ha)**
RE 11.3.1	0.2
RE 11.4.9	3.9
RE 11.9.5	0.8
11.9.7a/ 11.9.9/11.9.5	0.6
11.9.9/11.9.5	1.0
11.3.2	4.6
11.3.4	4.8
11.3.4a	0.1
11.9.2/11.9.7a	0.3

11.9.7	7.5
11.9.7a	12.7
11.9.10	0.6
11.9.7a/11.9.9/11.9.2	1.2
11.9.7a/11.9.9/11.9.5	0.6
11.9.9/11.9.7a	5.8
11.9.9/11.9.7/11.9.2	0.3

The MSES Report, Section 5 confirms that the Project, will have a significant residual impact to the following prescribed environmental matters:

- Regulated vegetation – endangered and of concern RE's
- Regulated vegetation within the defined distance from the defining banks of a relevant watercourse

However the significant residual impact areas are provided as combined totals for each component of the Project. The significant residual impact assessment presented in Table 2 is missing the level of granularity as to define which regional ecosystem types each significant residual impact will occur.

2.	Environmental Authority Amendment Application Supporting Information – Section 11 – Terrestrial Ecology Appendix D – Terrestrial Ecology Report	Although the significant residual impact assessment does not include sufficient detail to allow the department to understand to what Regional Ecosystems (REs) to be affected by the significant residual impacts as raised in Item 1 above, the supporting document and MSES Report confirm the occurrence of significant residual impacts to certain REs. As such, the department must assess the applicability of the *Environmental Offset Act 2014 (Qld)* where a significant residual impact is identified. Neither the application supporting document, or terrestrial ecology report identify a strategy for offsetting any significant residual impacts to the matters mentioned above. Significant residual impacts to any of the MSES matters identified above will require an offset. If the impacts to MSES matters identified above cumulatively result in a significant residual impact, when considered alongside any pre-existing authorisation of impacts in EA EPML00712313, then the offset strategy should extend to delivering an offset for those matters too.	2.1 Revise the application supporting document, or provide an additional appendix to the application which details how significant residual impacts identified in item 1 will be offset. 2.2 This should include an assessment of the impacts against the 'avoid, mitigate, offset' hierarchy and demonstrate the area likely to be impacted after all reasonable avoidance and mitigation measures to be undertaken, but still resulting in a significant residual impact to RE's. 2.3 If an offset is proposed through proponent driven means, the additional information should include the details that would be necessary in an offset delivery plan in accordance with Table 2 of the General guide for the Queensland Environmental offset framework – V1.05. 2.4 If an offset is proposed through financial means, a details justification should be provided as to why offsets can't be secured through land-based means.
3	Section 11 – Terrestrial Ecology Appendix D – Terrestrial Ecology Report	As noted for referencing above, Appendix D – Terrestrial Ecology Report comprises 2 separate reports.	3. 1 Revise both reports in Appendix D to identify the impacts to any MNES within

		The MSES Report, as titled, only extends to the assessment of MSES. However, the Ecological Assessment was undertaken with the purpose of identifying and mapping both Matters of National Environmental Significance (MNES). While this study assesses the MNES over a study area of 5,152.4ha, it does not specify the impacts associated with the ~140ha of direct project disturbance. MNES are prescribed environmental matters in accordance with the *Environmental Offsets Act 2014* (Qld) and *Environmental Offsets Regulation 2014* (Qld) and impacts to these matters should be assessed for the project area as well as the broader study area.	the project area/s for the gas drainage and multi -year exploration project. 3. 2 For any impacts identified to MNES provide a significant residual impact assessment.

www.stanmore.au

4 December 2024

Jessica Edgar
Department of Environment Tourism Science and Innovation
99 Hospital Road
Emerald QDL 4720

RE: INFORMATION REQUEST – EPML00712313 EA AMENDMENT

Dear Jessica

Stanmore SMC Pty Ltd (Stanmore SMC) submitted an amendment to Environmental Authority (EA) EPML00712313 to the administering authority on 30 September 2024. An Assessment Level Decision was made by the administering authority on 18 October 2024, which determined that the proposed amendment was considered a Major Amendment. A Request for Information (RFI) was received from the administering authority on 22 November 2024, with three information items requested to progress the decision process. These items have been duplicated in the table below, with commentary as to how Stanmore SMC has addressed the department's comments.

Please feel free to contact me any time to discuss any of the below responses.

Yours sincerely

Ryan Pane
Principal Environmental Approvals

<table>
<tr><th>Item No.</th><th>Matter of Interest</th><th>Information Sought</th><th>Requested Action</th><th>Stanmore Comment</th></tr>
<tr>
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From Table 1, the following impacts to MSES are understood in relation to the Project.

<u>Gas Drainage</u>
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<u>Multi Year Exploration Program</u>
<table>
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1.2 Specifically update Table 2 to identify these matters and each impact area.

1.3 The significant residual impact assessment should extend to assessing the cumulative impact of the currently authorised impacts to prescribed environmental matters and the impacts associated with the amendment.</td>
<td>The SWC MSES SIA report (V4) (provided in the email with this response) has been updated to address these comments. Table 2 has been updated to provide additional detail regarding the endangered, of concern and watercourse REs that will result in a significant residual impact as a result of project activities.

Additional text has also been included to address cumulative impacts vs impacts solely associated with the amendment.</td>
</tr>
</table>

Item No.	Matter of Interest	Information Sought	Requested Action	Stanmore Comment
		11.3.4 4.8 11.3.4a 0.1 11.9.2/11.9.7a 0.3 11.9.7 7.5 11.9.7a 12.7 11.9.10 0.6 11.9.7a/11.9.9/11.9.2 1.2 11.9.7a/11.9.9/11.9.5 0.6 11.9.9/11.9.7a 5.8 11.9.9/11.9.7/11.9.2 0.3 The MSES Report, Section 5 confirms that the Project, will have a significant residual impact to the following prescribed environmental matters: • Regulated vegetation – endangered and of concern RE's • Regulated vegetation within the defined distance from the defining banks of a relevant watercourse However the significant residual impact areas are provided as combined totals for each component of the Project. The significant residual impact assessment presented in Table 2 is missing the level of granularity as to define which regional ecosystem types each significant residual impact will occur.		

Item No.	Matter of Interest	Information Sought	Requested Action	Stanmore Comment
2	Environmental Authority Amendment Application Supporting Information – Section 11 – Terrestrial Ecology Appendix D – Terrestrial Ecology Report	Although the significant residual impact assessment does not include sufficient detail to allow the department to understand to what Regional Ecosystems (REs) to be affected by the significant residual impacts as raised in Item 1 above, the supporting document and MSES Report confirm the occurrence of significant residual impacts to certain REs. As such, the department must assess the applicability of the *Environmental Offset Act 2014 (Qld)* where a significant residual impact is identified. Neither the application supporting document, or terrestrial ecology report identify a strategy for offsetting any significant residual impacts to the matters mentioned above. Significant residual impacts to any of the MSES matters identified above will require an offset. If the impacts to MSES matters identified above cumulatively result in a significant residual impact, when considered alongside any pre-existing authorisation of impacts in EA EPML00712313, then the offset strategy should extend to delivering an offset for those matters too.	2.1 Revise the application supporting document, or provide an additional appendix to the application which details how significant residual impacts identified in item 1 will be offset. 2.2 This should include an assessment of the impacts against the 'avoid, mitigate, offset' hierarchy and demonstrate the area likely to be impacted after all reasonable avoidance and mitigation measures to be undertaken, but still resulting in a significant residual impact to RE's. 2.3 If an offset is proposed through proponent driven means, the additional information should include the details that would be necessary in an offset delivery plan in accordance with Table 2 of the General guide for the Queensland Environmental offsets framework – V1.05. 2.4 If an offset is proposed through financial means, a details justification should be provided as to why offsets can't be secured through land-based means.	The updated SWC MSES SIA report V4 (provided in the email with this response) addresses the requested actions. Specifically, the consulsions have been updated to summarise the significant residual impacts, including a high-level discussion of offsets and a financial offset calculator estimate (provided in Appendix E of the document). More than sufficient potential offset area is available on Stanmore SMC and other Stanmore-owned properties; however, given the limited nature of the impacts and variety of REs affected, a financial offset is considered the more appropriate avenue. Proponent-driven offsets for such small areas would be impractical, and would result in a disconnected mosaic of offsets with limited overall conservation value.

Item No.	Matter of Interest	Information Sought	Requested Action	Stanmore Comment
3	Section 11 – Terrestrial Ecology Appendix D – Terrestrial Ecology Report	As noted for referencing above, Appendix D – Terrestrial Ecology Report comprises 2 separate reports. The MSES Report, as titled, only extends to the assessment of MSES. However, the Ecological Assessment was undertaken with the purpose of identifying and mapping both Matters of National Environmental Significance (MNES). While this study assesses the MNES over a study area of 5,152.4ha, it does not specify the impacts associated with the ~140ha of direct project disturbance. MNES are prescribed environmental matters in accordance with the Environmental Offsets Act 2014 (Qld) and Environmental Offsets Regulation 2014 (Qld) and impacts to these matters should be assessed for the project area as well as the broader study area.	3.1 Revise both reports in Appendix D to identify the impacts to any MNES within the project area/s for the gas drainage and multi-year exploration project. 3.2 For any impacts identified to MNES provide a significant residual impact assessment.	Impacts to and a significant residual impact assessment for MNES have been addressed in a separate report: South Walker Creek Mine Gas and Exploration Project – Matters of National Environmental Impact Assessment, V2 (ELA, 2024). The assessment found that the proposed project will not have a significant residual impact to MNES. The report has been provided in the email with this response.

South Walker Creek Mine Gas and Exploration Project - Matters of National Environmental Significance Impact Assessment

Stanmore

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DOCUMENT TRACKING

Project Name	South Walker Creek Mine Gas and Exploration Project - Matters of National Environmental Significance Impact Assessment
Project Number	23BRI7132
Project Manager	Jessie McCudden
Prepared by	Teresa Carvalho, Lisa Carter
Reviewed by	Talia Jenner
Approved by	Lisa Carter
Status	**Final**
Version Number	**V2**
Last saved on	**4 November 2024**

This report should be cited as 'Eco Logical Australia 2024. *South Walker Creek Mine Gas and Exploration Project - Matters of National Environmental Significance Impact Assessment*. Prepared for Stanmore.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Trend Environmental.

Template 2.8.1

Contents

List of Figures

List of Tables

Abbreviations

Abbreviation	Description
The Appendix	The Significant Impact Guidelines, Appendix – Information for industry sectors guidance for mineral exploration activity.
AOO	Area of occurrence
CSG	Coal seam gas
ELA	Eco Logical Australia
EA	Environmental Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESA	*Environmentally Sensitive Area*
LGA	Local Government Area
ML	Mining Lease
MNES	Matters of National Environmental Significance are prescribed under the *Environment Protection and Biodiversity Conservation Act 1999*
MSES	Matters of State Environmental Significance are defined by Schedule 2 of the *Environmental Offsets Regulation 2014* and include multiple prescribed environmental matters under Queensland legislation (and associated subordinate legislation and policies) including: *Nature Conservation Act 1992*, *Vegetation Management Act 1999*, *Environmental Protection Act 1994*, *Regional Planning Interests Act 2014*, *Marine Parks Act 2004*, and *Fisheries Act 1994*.
NC Act	*Nature Conservation Act 1992*
PMST	Protected Matters Search Tool
RE	A Regional Ecosystem is a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform, and soil. Regional Ecosystems are described in the Regional Ecosystem Description Database, produced by the Queensland Herbarium.
Significant Impact Guidelines	Commonwealth Matters of National Environmental Significance, Significant impact guidelines 1.1 (Department of the Environment, 2013a).
SMC	Stanmore SMC Pty Ltd
SMP	Species Management Program
SPRAT	Species Profile and Threats Database
Stanmore	Stanmore Resources Ltd
SWC	The South Walker Creek Mine is an existing and operational open cut coal mine located on ML4750 and ML70131.
TEC	Threatened Ecological Communities listed under the *Environment Protection and Biodiversity Conservation Act 1999.*
The Project	The South Walker Creek gas power project, including the construction and use of a 20MW gas fired power station and exploration campaign.
WoNS	Weeds of National Significance

1. Introduction

1.1. Project background

South Walker Creek Mine (SWC) is owned by Stanmore SMC Pty Ltd (SMC), a subsidiary of Stanmore Resources Ltd (Stanmore). SWC is situated in the Bowen Basin, approximately 135 km south-west of Mackay in Queensland. Mining activities at SWC are undertaken in accordance with Environmental Authority (EA) EMPL00712313 on Mining Lease (ML) 4750 and ML70131.

Eco Logical Australia (ELA) has been engaged to undertake an ecological assessment and significant impact assessment on Matters of National Environmental Significance (MNES) to support the SWC gas power project and a multi-year exploration campaign (the Project).

1.2. Project overview

The Project involves the construction and use of a 20MW gas fired power station and a multi-year exploration campaign at the Stanmore Resources Ltd owned and operated SWC Mine which is located approximately 27 kilometres southwest of Nebo in Queensland's Bowen Basin, within Issac Regional Council Local Government Area (LGA).

The aim of the power station project is to supply the SWC Mine's electrical demand on a continual basis with excess power directed to the Ergon Energy transmission network. The generation capacity will be delivered using multiple gas fuelled reciprocating engines. The power station project will utilise pre-drainage natural gas extracted ahead of open cut mining operations for its fuel source. In this way, the coal seam gas is used at the mine rather than contributing to a waste stream of emissions. The expected fuel reserves and consumption rates will be able to support a 20MW capacity station for greater than 100 years. The Project will utilise proven technology in a configuration that is already established at other mine sites in the wider region and across Australia where gas fired power stations support off grid mines and communities.

The construction phase of the power station project is scheduled to take between nine and twelve months. During this period, the following tasks will be completed:

- Site preparation and earthworks
- Foundations (including construction of new access road)
- Equipment installation and construction
- Plant commissioning.

Once construction is complete, the power station project will enter its operational phase. Project-related activities that extend beyond the scope of SWC Mine existing operations will involve an additional two to three full-time employees accessing the site and an increase in light and heavy vehicle movements.

The multi-year exploration campaign is expected to be delivered in stages with exploration activities to span an approximately five-year period. Exploration activities will involve the construction of drill pads and access tracks and are expected to be temporary in nature.

1.3. Objectives and scope of works

The objective of this assessment is to identify and determine the significance of impacts to MNES as a result of the Project. This assessment is based on data from several detailed ecological studies undertaken within ML4750 and ML70131. These assessments included both desktop level assessments and field surveys.

1.4. Impact area description

The impact area includes all parts of the coal-seam gas field, proposed power station and exploration drill pads and tracks that will require new disturbance for their construction outside of areas previously approved for disturbance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The impact area for the gas power project and exploration project encompasses a total area of 203 ha and is detailed on Figure 1.

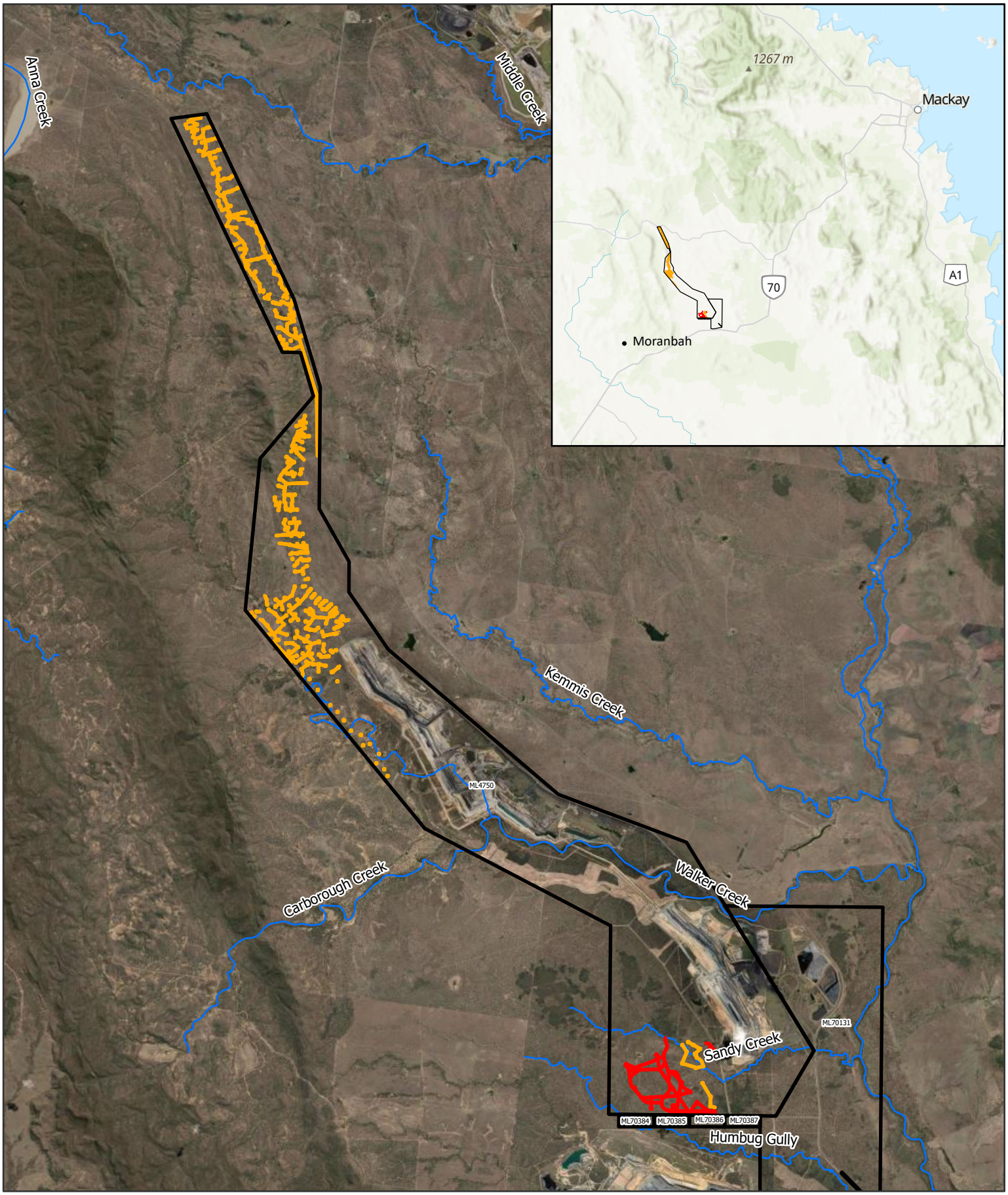

Figure 1 Project location and impact area

- Named watercourses
- Mining lease
- Exploration impact area
- Gas power project impact area

0 1.5 3 6
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7566-DH Date: 10/28/2024

N

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2. Methodology

2.1. Terrestrial ecological values assessment

A staged approach was implemented to identify MNES values within the impact area. This included a review of previous ecological studies relevant to the impact area. Ecological data collected from relevant ecological assessments undertaken between 2019 and 2024 was collated and analysed in GIS software to provide spatial representation of MNES across the impact area.

The following sections briefly summarise each stage of the ecological assessment.

2.1.1. Database assessment and literature review

A review of previous ecology reports, environmental databases, maps and other relevant literature was conducted to identify MNES values across the impact area.

The following resources were reviewed during the desktop assessment:

- Protected Matters Search Tool (PMST) Report, including a 50km buffer
- WildNet database, including a 50km buffer
- Regional ecosystem (RE) mapping
- Regulated vegetation mapping
- Queensland geological digital data
- Essential Habitat mapping
- Atlas of Living Australia records
- Queensland Wetland mapping
- VM Act watercourse data
- VM Act wetland data
- Referrable Wetland mapping
- Protected Plant High Risk Trigger mapping
- Environmentally Sensitive Area (ESA) mapping
- Commonwealth Species Profile and Threats (SPRAT) Database
- South Walker Creek Mine Ecological Assessment report (ELA, 2024)
- Other previous ecological survey data and reporting for SWC Mine
- Aerial imagery.

The likelihood of occurrence assessment for each threatened species identified in the desktop assessment was undertaken based upon the species known distribution, habitat quality within the impact area, occurrence within the region and occurrence within the study area. Species were classified as known, likely, potential, or unlikely to occur based on these attributes.

2.1.2. Field surveys

Ground-truthed ecological data from three ecological assessments has been incorporated into this assessment, the South Walker Creek Kemmis Pit Extension Project (ELA, 2019), the South Walker Creek Mine Tailings Solution Project (ELA, 2021) and the South Walker Creek Mine Ecological Assessment Report (ELA, 2024). The majority of the impact area was ground-truthed during the most recent field

surveys undertaken by ELA and Trend Environmental in 2024 (Appendix A) and supplemented with previous field surveys where required. The field survey methods included:

- Quaternary and tertiary survey sites in accordance with the Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland Version 6.0 (Neldner et al., 2022) to validate vegetation community / regional ecosystem and condition.
- Collection of data to support assessment against Threatened Ecological Community (TEC) composition, extent and condition thresholds.
- Collection of general vegetation condition data (e.g. evidence of recent or historical disturbance / grazing regime etc.).
- Opportunistic threatened flora and fauna species observations listed under the *Nature Conservation Act 1992* (NC Act) and EPBC Act.
- Collection of generic and targeted (species specific) threatened species habitat assessments focused on delineating habitat for species identified in the desktop assessment as likely to occur.
- Collection of presence and estimated occurrence data for species (weeds) listed as restricted matter under the *Biosecurity Act 2014* or listed as Weeds of National Significance (WoNS).

A full description of the field survey methods and ecological values identified can be viewed in the reports associated with each of the referenced ecological assessments.

3. Project description and impacts, avoidance, and mitigation measures

3.1. Project description

The extent of the overall impact area for the Project (including the gas power project and exploration project) encompasses a total area of 203 ha (Figure 1). The components of the gas power project and exploration project impact areas are detailed in the following sections.

3.1.1. Gas power project components

The impact area required to facilitate the necessary infrastructure for proposed gas power project will be present for the life of project to supply coal seam gas (CSG) to the power station and transmit power to the grid encompasses 32.6 ha, including:

- The power station site and access track
- Installation of CSG well pads
- Associated access tracks
- Installation of pipework and single/dual layout lines across the gas field (some of which will be drilled underground limiting the extent of surface impacts).

3.1.2. Exploration project components

The impact area required for the multi-year exploration campaign encompasses 170.2 ha, including:

- Exploration drill pads (generally 35 m x 35 m)
- Associated access tracks.

The impacts related to the exploration areas will be constructed in stages over approximately five years and will mostly be temporary as areas will be rehabilitated after drilling.

3.2. Summary of direct impacts to MNES

The impact area is situated within the north and south-west of the existing SWC mine (Figure 1). These locations predominantly comprise of remnant vegetation. *Eucalyptus populnea* (Poplar box) and C*orymbia clarksoniana* (Clarkson's bloodwood) dominate the remnant woodlands, identified as RE 11.5.3, and are the dominant vegetation communities in the western and eastern study areas. Remnant *Acacia harpophylla* (Brigalow) woodlands, identified as REs 11.3.1, 11.4.8, 11.4.9 and 11.9.5, are dispersed throughout the impact area in small to medium-sized patches (refer to Appendix A).

MNES identified within the impact area include one TEC listed as endangered under the EPBC Act and habitat for four threatened fauna species listed under the EPBC Act, as follows:

- Brigalow (*Acacia harpophylla* dominant and co-dominant) (Brigalow TEC) - endangered
- Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box TEC) - endangered
- *Phascolarctos cinereus* (Koala) – endangered
- *Petauroides volans* (Greater glider) – endangered
- *Geophaps scripta scripta* (Squatter pigeon southern) – vulnerable
- *Denisonia maculata* (Ornamental snake) – vulnerable.

Habitat for two migratory fauna species listed under the EPBC Act have also been recorded across the impact area including:

- *Apus pacificus* (Fork-tailed swift) – migratory
- *Hirundapus caudacutus* (White-throated needletail) – migratory.

Fork-tailed swift and White-throated needletail, two predominantly aerial species with broad habitat preferences have the potential to occur over most habitat types within and surrounding the impact area. The extremely widespread distribution of these two species, their aerial behaviours and broad habitat preferences mean that these species are unlikely to be affected by the proposed additional operational activities at SWC. While considered to have the potential to fly over habitat within the impact area, these species are considered unlikely to be impacted by the proposed works and have not been assessed further.

3.3. Potential project impacts

Potential direct and indirect impacts associated with the proposed activities include:

- Loss of habitat through vegetation clearing
- Injury or fatality through vehicle or machinery interaction (including during vegetation clearing)
- Habitat fragmentation and connectivity loss
- Degradation of habitat through increased noise, light, dust, vibration, weed and pest incursion, erosion and sedimentation or water quality changes
- Increased risk of bushfire / change to fire regimes.

The potential impacts related to the multi-year exploration campaign are expected to be temporary in nature and would be subject to rehabilitation / restoration of drill pads and access tracks upon completion of drilling.

3.4. Avoidance and mitigation measures

The environmental mitigation hierarchy of avoid, minimise, and mitigate impacts will be implemented during the design phase of the Project and will continue to be implemented throughout the life of the Project.

The Project has been designed in accordance with the principle of avoiding environmental harm. The impact area for the Project was developed with the intent of avoiding areas of higher environmental value. In particular, the impact areas have been refined to avoid the riparian zone of Sandy Creek and minimise impacts to Greater glider habitat. Avoidance and mitigation measures to be implemented for the Project include:

- Avoid / minimise clearing drainage lines, riparian zones and patches that may constitute climate refugia and may prove to be of strategic importance for movement opportunities for the Koala and the Greater glider, as well as the Squatter pigeon.
- Avoid / minimise clearing in areas identified as preferred habitat for Koala, where practicable.
- Avoid / minimise clearing along the watercourses identified as preferred and suitable habitat for the Greater glider, particularly Sandy Creek and Walker Creek where previous records exist.

- Avoid / minimise clearing of gilgai and associated suitable habitat for the Ornamental snake, where practicable.
- Pre-clearance surveys to identify animal breeding places and threatened flora.
- Areas of clearing will be demarcated to ensure only areas intended to be cleared are cleared and areas / habitat trees not required to be cleared within the impact area will be retained.
- Comply with the approved SWC Mine Species Management Program (SMP) (SWC SMP 2021), including:
  - Utilisation of spotter catcher(s) during the vegetation clearing
  - Retaining fauna animal breeding places.
- Implementing speed limits across the Project to reduce the likelihood of vehicle strike fauna injuries and fatalities.
- Remnant areas will be managed during the Project, where possible, to ensure threatened species persist in the impact area through the implementation of management plans.
- Move habitat features, such as logs into retained habitat.

The exploration program will be undertaken in an environmentally sensitive manner to minimise impacts as far as practical. Additional mitigation measures to be implemented may include:

- Sequential clearing, particularly for the exploration campaign which will be constructed over multiple stages
- Avoiding mature / habitat trees for drill pads and access tracks, where possible
- Clearing to occur outside of breeding season, where possible
- Implementation of buffer zones
- Management of habitat degrading processes such as dust and erosion through speed limits, implementation of erosion and sedimentation controls
- Management of noise and light pollution.

3.5. Management of impacts

Implementation of several existing SWC management plans and procedures will assist with the management of impacts to MNES, including the following:

- SWC SMP – outlines strategies for the management, monitoring and reporting of impacts to threatened fauna species.
- Minimise impacts to vegetation during the construction phase, and preliminary guidance on rehabilitation measures if needed.
- Aim to limit the risk of spread of invasive plants and pests caused by construction and post-construction operational maintenance.

4. Significance of impacts assessment

A significant impact assessment has been undertaken in accordance with the Commonwealth Matters of National Environmental Significance, Significant impact guidelines 1.1 (Significant Impact Guidelines) (Department of the Environment, 2013a).

The Significant Impact Guidelines also includes the Appendix – Information for industry sectors with information specific to several industry sectors (the Appendix), including mineral exploration activity. The guidance provided for exploratory drilling as part of a terrestrial exploration program indicates the following:

> "All exploratory drilling (including new field, wildcat, and appraisal drilling, auger, rotary air blast (RAB), open hole percussion, reverse circulation (RC), diamond drilling and wide diameter drilling), including the construction of drill pads, would not be expected to have a significant impact on a matter of national environmental significance where the discharges, emissions and waste from the drilling are contained and managed in an environmentally sensitive manner. However, an action involving exploratory drilling may have a significant impact on an endangered or critically endangered species if, for example, it is likely to damage habitat critical to the survival of the species or disrupt the breeding cycle of a population of the species. Such an action may also have a significant impact on listed threatened ecological communities where, for example, it adversely impacts on habitat."

Based on the excerpt above, potential impacts to habitat for the two vulnerable species, Squatter pigeon and Ornamental snake, as a result of the proposed exploration project is considered unlikely to result in significant impacts as they will be managed in an environmentally sensitive manner.

However, potential impacts to the endangered Brigalow TEC and habitat for two endangered species, Koala and Greater glider, as a result of the proposed exploration project will require an assessment against the relevant significant impact criteria to address the potential for significant impacts to occur. The relevant criterion for the Brigalow TEC is limited to the likelihood of adverse impacts on habitat for the TEC and the relevant criteria for the Koala and Greater glider is limited to the likelihood of damage habitat critical to the survival of the species or disruption of the breeding cycle of a population of the species.

The impacts of the gas power project are expected to comprise localised and longer-term impacts compared to the exploration program, which are expected to comprise scattered and stage impacts over a five-year program with rehabilitation of areas after drilling.

In consideration of the above guidance and due to the variation in the nature and extent of impacts for the two components of the Project, the impact assessment has addressed each criterion individually and then each MNES assessed for an overall likelihood to result in a significant impact.

5. Brigalow (Acacia harpophylla dominant and co-dominant) TEC

5.1.1. Occurrence within the impact area

Field surveys identified Brigalow TEC within the impact area across numerous distinct patches across the impact area, totalling an area of 1.5 ha. These patches of Brigalow TEC were analogous to RE 11.4.9 in remnant condition, meeting the key diagnostic and condition thresholds to obtain TEC status (DoE 2013b) as detailed further in the SWC Mine Ecological Assessment Report (ELA, 2024).

The proposed impacts for the project addressed in the significant impact assessment include:

- 0.75 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts
- 0.75 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.1.2. Significant impact assessment

The significant impact assessment addresses the criteria for an endangered TEC in accordance with the Significant Impact Guidelines for the gas power project impact area. Additionally, in line with the guidance provided in the Appendix, the assessment specifically addresses the potential for the exploration program to adversely impact on habitat for an endangered TEC.

Table 1 Significant impact assessment – Brigalow TEC

Criteria	Gas power project	Exploration project
Reduce the extent of an ecological community	A total of 0.75ha of Brigalow TEC occurs within the impact area. The current extent of Brigalow TEC in Queensland is estimated as 660,000 ha (TSSC 2001). The clearing of Brigalow TEC amounts to less than 0.3% recorded within the broader study area mapped for the EAR (ELA, 2024). The disturbance of these areas as a result of the Project will not reduce the extent of the TEC within the Bowen Basin such that impacts would be considered significant. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.	The Brigalow TEC within the impact area occurs south-west of the current mining operations and impacts on four patches of mapped Brigalow TEC, totalling an area of 0.75ha. These patches are already subject to fragmentation across the broader area and the Project has utilised existing clearings and tracks as far as practical to minimise impacts and minimise further fragmentation of existing Brigalow TEC habitat. Additional areas of Brigalow TEC will remain further south, west and north of the impact area. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Adversely affect habitat critical to the survival of an ecological community	A total of 0.75ha of Brigalow TEC will be directly impacted by the Project. The extent of habitat that is expected to be impacted is not considered necessary for the long-term maintenance of the ecological community and therefore is not considered critical for the survival of the TEC. Unlikely to result in a significant impact.	A total of 0.75ha of Brigalow TEC will be directly impacted by the Project. The impacts related to the exploration activities will be constructed in stages over approximately five years and will mostly be temporary as areas will be rehabilitated after drilling. Additionally, mitigation measures will be implemented to minimise impacts during construction, such as sequential clearing and avoiding mature / canopy trees for drill pads and access tracks as far as practical. The extent of habitat that is expected to be impacted is not considered necessary for the long-term maintenance of the ecological community and therefore is not considered critical for the survival of the TEC. Unlikely to result in a significant impact.

Criteria	Gas power project	Exploration project
Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	The Brigalow TEC occurring within the impact area is currently persisting adjacent to a previously cleared landscape and an active mine. Additional areas of Brigalow TEC that occur south and west of the impact area will not be disturbed and, thus the Project is unlikely to be impact abiotic factors necessary for its survival. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	The proposed activity is unlikely to result in a change in composition as management measures will be implemented, such as weed and pest management (vehicle hygiene practices) and management of dust. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: - assisting invasive species, that are harmful to the listed ecological community, to become established, or - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community	Erosion and sediment control and weed management strategies (including vehicle wash-downs) will be implemented during construction and operations, to ensure that sediments or additional weeds will not encroach into the remaining patches of TEC as well as to prevent spread of existing weeds. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of an ecological community	There is no adopted or made Recovery Plan for this community. Current known threats to the ecological community include clearing, fire, invasive species, inappropriate grazing regimes and climate changes (DoE 2013b). In accordance with the priority recovery and threat abatement actions where further clearance is unavoidable (DoE, 2013b), severity of impacts are mitigated by: • The impact area has been designed to reduce impact to the TEC as far as practicable.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Gas power project	Exploration project
	• Avoid spread of weeds. Management measures will be implemented to minimise impacts of weeds occurring within remaining Brigalow TEC patches to the south and west of the impact area. • The Project will directly impact 0.75ha of Brigalow TEC within the Project area. Clearing of this magnitude is not likely to interfere with the recovery of the TEC. Unlikely to result in a significant impact.	
Overall Significance outcome:	**Unlikely** - The Project is considered unlikely to result in a significant impact to Brigalow TEC, based on avoiding impacts to Brigalow TEC across the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to mature trees for drill pads and tracks as far as practical.	

5.2. Poplar box TEC

5.2.1. Occurrence within the impact area

Field surveys identified Poplar Box TEC associated with RE 11.3.2 and RE 11.3.4 in remnant condition within the exploration area impact area to north north-west of the existing mine. No vegetation communities within the gas power project impact area met the key diagnostic and condition thresholds for the Poplar Box TEC (DoEE 2019).

The proposed impacts for the project addressed in the significant impact assessment includes 1.14 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.2.2. Significant impact assessment

No impacts to Poplar Box TEC will occur as a result of the gas power project. However, in line with the guidance provided in the Appendix, the significant impact assessment specifically addresses the potential for the exploration project to adversely impact on habitat for an endangered TEC.

Table 2: Significant impact assessment - Poplar Box TEC

Criteria	Exploration project
Reduce the extent of an ecological community	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Adversely affect habitat critical to the survival of an ecological community	A total of 1.14ha of Poplar Box TEC will be directly impacted by the Project. The impacts related to the exploration activities will be constructed in stages over approximately five years and will mostly be temporary as areas will be rehabilitated after drilling. Additionally, mitigation measures will be implemented to minimise impacts during construction, such as sequential clearing and avoiding mature / canopy trees for drill pads and access tracks as far as practical. The extent of habitat that is expected to be impacted is not considered necessary for the long-term maintenance of the ecological community and therefore is not considered critical for the survival of the TEC. Unlikely to result in a significant impact.
Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Exploration project
Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: - assisting invasive species, that are harmful to the listed ecological community, to become established, or - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of an ecological community	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to Poplar Box TEC, based on avoiding impacts to Poplar Box TEC across the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to mature trees for drill pads and tracks as far as practical.

5.3. *Phascolarctos cinereus* (koala)

5.3.1. Occurrence within the impact area

Koala habitat was ground-truthed across large portions of the impact area and surrounding land (ELA, 2024). Koala habitat can be broadly defined as any forest or woodland containing canopy species that are known koala food trees, or shrubland with emergent food trees. In semi-arid environments in the western parts of the species' range, koala inhabit eucalypt dominated forests and woodlands, particularly near riparian environments.

Based on the ground-truthed data, preferred habitat within the broader area has been mapped as fringing riparian woodlands (RE 11.3.25) and eucalypt woodlands to open forest on alluvial plains (REs 11.3.2, 11.3.27f, 11.3.4, 11.3.9) with suitable habitat mapped across all areas of dry eucalypt woodland habitat.

The proposed impacts for the project addressed in the significant impact assessment include:

- 25.3 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.

- 79 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.3.2. Significant impact assessment

The significant impact assessment addresses the criteria for an endangered species in accordance with the Significant Impact Guidelines for the gas power project impact area. Additionally, in line with the guidance provided in the Appendix, the assessment specifically addresses the potential for the exploration project to impact on habitat critical to the survival of the species or disrupt the breeding cycle of a species.

In the broader area and surrounds, areas mapped as preferred habitat, particularly along riparian zones, are considered to provide habitat critical for the survival of Koala as these areas:

- Are known to known to provide refugia habitat for Koala during times of drought, particularly within the riparian zone and associated alluvial floodplains.
- May be used, at least periodically, for foraging, breeding or dispersal by Koala and therefore are likely to be essential to meeting the lifecycle requirements of Koala.
- May be used by an important population, at least periodically given the multiple records from the broader area.

Table 3 Significant impact assessment – Koala

Significant impact criteria	Gas power project	Exploration project
Lead to a long-term decrease in the size of population	A total of 25.3ha of Koala habitat will be cleared within the impact area. While some impacts are expected to be temporary for the construction phase, well and powerline infrastructure will be in place for the life of the gas project. The removal of 25.3ha of habitat for the species and increased disturbance across the area will decrease habitat availability and movement opportunities within the local area, however the local population is likely to rely on areas of higher value habitat to the west of the impact area. It is considered unlikely that the local impacts to habitat for this species will lead to a long-term decrease in the size of a local population. To ensure the least possible impact on individuals present, a pre-clearance survey will be carried out. Qualified spotter catchers will be present during clearing activities to detect the presence of the species and implement necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Reduce the area of occupancy of a population	A total of 25.3ha of habitat for Koala will be removed as a result of the Project. The species distribution extends throughout much of central and southern Queensland. The Project is not located near the edge of the species' distribution and is therefore not considered likely to reduce the area of occupancy (AOO) of the species. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment an existing population into two or more populations	The extent and location of clearing (i.e. 25.3ha adjacent to an operational mine) is unlikely to lead to fragmentation of an existing Koala population. The impact area is comprised of localised clearing for the power station, well pads and linear infrastructure (pipelines and access tracks) that are unlikely to prohibit movement across the broader area. Further, the impact area is not expected to divide or isolate habitat areas that would fragment an existing Koala population. Suitably qualified fauna spotter catchers will be present during clearing	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Significant impact criteria	Gas power project	Exploration project
	activities to detect the presence of Koala and implement necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.	
Adversely affect habitat critical to the survival of a species	A total of 25.3ha of habitat for Koala will be removed as a result of the Project. This is considered unlikely to affect habitat critical to the survival of the Koala as the local population is likely to be very sparse (no individuals recorded during multiple surveys of the area), and the local population is likely to rely on areas of higher value habitat to the west of the impact area. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To mitigate risks to Koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.	A total of 79ha of habitat for Koala will be removed as a result of the Project. Clearing for the exploration program will comprise localised scattered small-scale impact areas, staged over a five-year program. All activities will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling. This is considered unlikely to affect habitat critical to the survival of the Koala as the local population is likely to be very sparse (no individuals recorded during multiple surveys of the area), and the local population is likely to rely on areas of higher value habitat to the west of the impact area. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitats have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To mitigate risks to koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.
Disrupt the breeding cycle of a population	In central Queensland, Koalas are more active during the Spring breeding season in which males jostle for territory and mates. The size of home ranges varies depending on habitat availability and quality (food tree abundance). For example, in Clermont in central Queensland male Koalas were recorded to occupy a home range of 135ha (Ellis et al., 2002), whereas males on the New South Wales north coast occupied smaller home ranges of 20ha (Lassau et al., 2008). Males travel large distances during the breeding season, and the relatively small size of the impact area, it is unlikely the removal of habitat would significantly impact the breeding cycle of a population of Koala that may	In central Queensland, Koalas are more active during the Spring breeding season in which males jostle for territory and mates. The size of home ranges varies depending on habitat availability and quality (food tree abundance). For example, in Clermont in central Queensland male Koalas were recorded to occupy a home range of 135ha (Ellis et al., 2002), whereas males on the New South Wales north coast occupied smaller home ranges of 20ha (Lassau et al., 2008). Males travel large distances during the breeding season, and the relatively small size of the impact area, it is unlikely the removal of habitat would significantly impact the breeding cycle of a population of Koala that may occur in the local area as connecting

Significant impact criteria	Gas power project	Exploration project
	occur in the local area as connecting habitat surrounding the Project in which the species can move throughout will be retained. To mitigate risks to Koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.	habitat surrounding the Project in which the species can move throughout will be retained. To mitigate risks to Koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The species occurs throughout the eastern states and territories of Australia. Clearing of such a small proportion of available habitat within the broader area is not expected to decrease the availability or quality of habitat within the local area or region to the extent that it would result in a decline in the species. Nor is it likely to isolate the species from surrounding habitat given the presence of habitat that to be retained surrounding the impact area. As the clearing is proposed to occur adjacent to existing mine operations, it will not isolate remaining habitat or impede the species ability to survive in the surrounding area. Large tracts of habitat will remain in the south, east and west. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	A range of invasive weed and pest species are known to occur within the impact area. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. The SWC Weed and Feral Animal Management Procedure will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Introduce disease that may cause the species to decline	It is unlikely that the Project will facilitate the introduction or spread of diseases specific to the species (such as chlamydia or Koala retrovirus) or diseases that can significantly degrade critical habitat such as root rot (*Phytophthora cinnamomi*).	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala.

Significant impact criteria	Gas power project	Exploration project
	Unlikely to result in a significant impact.	Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of the species	The National Recovery Plan for the Koala *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) (DAWE 2022) establishes land use change which causes the loss, modification, and fragmentation of native vegetation cover, including dispersal habitat, as a direct threat to Koala populations. Another direct threat comprises predicted increase in the frequency and severity of droughts, periods of extremely high temperatures and the increased frequency of fire which relate to lack of access to refuges from climatic extremes. The document identifies other threats such as mortality due to vehicle strikes and dog attack. The Project will not increase mortality due to dog attack, introduce / facilitate the spread of pathogens or create a barrier to movement. Vehicle movements are considered a threat to Koala and the construction phase of the Project will result in increased vehicle movements in the area. However, the area is adjacent to an existing active mine site, so the increase in activity will be minimal. It is unlikely that increased traffic as a result of the Project will result in Koala mortalities to the extent that it will interfere substantially with the recovery of the species. Areas of preferred and suitable habitat surrounding the impact area will not be impacted and the clearing of a small area of habitat relative to the species AOO is unlikely to interfere with the recovery of Koala. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Koala, based on avoiding impacts to preferred habitat and connectivity through the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to Koalas and their habitat.	

5.4. *Petauroides volans* (greater glider (southern and central))

5.4.1. Occurrence within the impact area

Greater glider habitat was ground-truthed within the impact area and surrounding land (ELA, 2024) predominantly associated with riparian and alluvial floodplain vegetation. Four individuals of the species were recorded during field surveys within the Ecological Assessment Report study area in March and April 2024.

Greater glider is known to forage on eucalypt leaves and occasionally flowers and requires good habitat connectivity and an abundance of large hollows for breeding and sheltering. Preferred habitat for the species within the broader area includes fringing riparian woodlands (RE11.3.25) and suitable habitat includes all floodplain eucalypt woodlands and adjacent areas of dry eucalypt woodlands (dominated by Poplar Box or *Eucalyptus platyphylla*).

The proposed impacts for the project addressed in the significant impact assessment include:

- 0.2 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.
- 1.8 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.4.2. Significant impact assessment

The significant impact assessment addresses the criteria for an endangered species in accordance with the Significant Impact Guidelines for the gas power project impact area and specifically addresses the potential for the exploration project to impact on habitat critical to the survival of the species or disrupt the breeding cycle of a species may occur as noted in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Table 4 Potential impact and significant assessment – *Petauroides volans* (Greater glider (southern and central))

Criteria	Gas project	Exploration project
Lead to a long-term decrease in the size of population	The species has been recorded during surveys in habitat contiguous with the impact area in 2021 (ELA 2021) and was recorded during surveys undertaken in 2024. There is 0.2ha of habitat for the species present within the impact area. Suitable habitat within the impact area is mainly recorded within narrow riparian corridors associated with Sandy Creek and suitable habitat for the species will remain to the west and south of the impact area. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To minimise the impact on any individuals that may be present, a pre-clearance survey will be carried out, and suitably qualified fauna spotter-catchers will be present during the clearing activities. This will enable the detection of the species and the implementation of any necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Reduce the area of occupancy of a population	The species occurs throughout eastern Australia, occupying areas of vegetation with the presence of large-hollow bearing trees. The impact area does not occur at the outer extent of the species AOO. Areas of habitat which the species would occupy will still exist in remnant vegetation surrounding the impact area and throughout the species' AOO. As such, the project is unlikely to the reduce the AOO of Greater glider. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment an existing population into two or more populations	Preferred habitat for the Greater glider associated with fringing riparian woodlands (RE 11.3.25) and marginal habitat was identified as Poplar box dominated woodlands adjacent to preferred habitat. Preferred habitat for the species will remain in the region, however, the species is suggested to be sensitive to habitat fragmentation due to small home ranges (DCCEE, 2022). The proposed clearing is not expected to prohibit	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines

Criteria	Gas project	Exploration project
	movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To minimise potential impacts on the species, the following will be conducted: • Pre-inspection of denning habitat will be conducted prior to clearing. Hollows with Greater glider present will not be cleared, without the opportunity for the species to self-relocate (i.e., clearing occurs surrounding the occupied hollow-bearing tree, allowing that occupying individual to self-relocate at night). • Clearing will be conducted under the supervision of a fauna spotter catcher. Areas which are not required to be cleared will be retained. Areas of clearing will be demarcated to ensure only areas intended to be cleared are cleared. With the implementation of mitigation measures, the Project is considered unlikely to result in a significant impact through the fragmentation of an existing population of the species. Unlikely to result in a significant impact.	Appendix – Information for industry sectors guidance for mineral exploration activity.
Adversely affect habitat critical to the survival of a species	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. Although it contains essential habitat features to support foraging of the species, the abundance and size of hollow-bearing trees used for denning within the impact area is not significant. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. Although this habitat will be disturbed due to clearing activities (limited to 0.2ha), preferred habitat containing essential habitat features will still exist along Sandy Creek and directly to the west of the impact area. Clearing of such a small section of suitable habitat within the impact	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. Although it contains essential habitat features to support foraging of the species, the abundance and size of hollow-bearing trees used for denning within the impact area is not significant. Clearing for the exploration program will comprise localised scattered small-scale impact areas, staged over a five-year program. All activities will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling. Although this habitat will be disturbed due to clearing activities (limited to 1.8ha), this is comprised of small, localised clearing for wells and tracks across the broader area and preferred habitat

Criteria	Gas project	Exploration project
	area for the Project is therefore unlikely to cause disruption to habitat critical to the survival of the species. Unlikely to result in a significant impact.	containing essential habitat features will still exist directly to the west of the impact area. Clearing of such small areas of suitable habitat within the impact area over a period of five years for the Project is therefore unlikely to cause disruption to habitat critical to the survival of the species. Unlikely to result in a significant impact.
Disrupt the breeding cycle of a population	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. The abundance and size of hollow-bearing trees used for denning within the impact area is limited and not considered to be significant for supporting breeding opportunities for this species. Additionally, the proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. Although this habitat will be disturbed due to clearing activities (limited to 0.2ha), preferred habitat containing essential habitat features will still exist along Sandy Creek and directly to the west of the impact area. Clearing of such a small section of suitable habitat within the impact area for the Project is therefore unlikely to disrupt the breeding cycle of the population. Unlikely to result in a significant impact.	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. The abundance and size of hollow-bearing trees used for denning within the impact area is limited and not considered to be significant for supporting breeding opportunities for this species. Additionally, clearing for the exploration program will comprise localised scattered small-scale impact areas, staged over a five-year program. All activities will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling. Although this habitat will be disturbed due to clearing activities (limited to 1.8ha), this is comprised of small, localised clearing for wells and tracks across the broader area and preferred habitat containing essential habitat features will still exist directly to the west of the impact area. Clearing of such small areas of suitable habitat within the impact area over a period of five years for the Project is therefore unlikely to disrupt the breeding cycle of the population. Unlikely to result in a significant impact.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. Clearing of such a small proportion of available habitat within the broader area is not expected to decrease the availability or quality of habitat within the local area or region to the extent that it would result in a decline in the species. Nor is it likely to isolate the species from surrounding habitat given the presence of habitat that to be retained along Sandy Creek and the surrounding the impact area.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Gas project	Exploration project
	As the clearing is proposed to occur adjacent to existing mine operations, it will not isolate remaining habitat or impede the species ability to survive in the surrounding area. Large tracts of habitat will remain in the south, east and west. Unlikely to result in a significant impact.	
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	A range of invasive weed and pest species are known to occur within the impact area and surrounding region. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. Management measures will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Introduce disease that may cause the species to decline	Currently, there are no known diseases harmful to Greater glider. Proposed Project activities such as vegetation clearing are considered unlikely to introduce disease that may cause the species to decline. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of the species	Habitat within the impact area has the potential to support a population of Greater glider as it contains essential habitat features to support breeding and foraging of the species (such as hollow-bearing trees used for denning). Although the Project will require removal of 0.2ha of this habitat, the relatively small impact area relative to AOO means the Project is unlikely to interfere with the recovery of the species. To minimise impacts on individuals that may be present, a pre-clearance survey will be undertaken, and suitably qualified fauna spotter catchers will be present during clearing activities to detect the presence of the species and implement necessary mitigation actions should the species be observed.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Gas project	Exploration project
	Unlikely to result in a significant impact.	
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Greater glider, based on avoiding impacts to preferred habitat and connectivity through the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to Greater gliders and their habitat.	

5.5. *Geophaps scripta scripta* (squatter pigeon (southern))

5.5.1. Occurrence within the impact area

Squatter pigeon habitat was ground-truthed within the impact area and surrounding land (ELA, 2024). Squatter pigeon was also recorded during the current and former field survey undertaken across the broader area.

Squatter pigeon generally inhabits the grassy understorey of Eucalyptus, Corymbia, Acacia or Callitris dominated woodlands on well-draining sandy soils on gently sloping, flat to undulating plains, with a patchy ground cover (DoE 2024a). The species requires access to water on a near daily basis. Suitable water sources identified within the broader area include dams, ephemeral watercourses and oxbow lagoons.

All remnant and non-remnant areas within the impact area are considered to comprise habitat for Squatter pigeon. The proposed impacts for the Project addressed in the significant impact assessment include 32.6 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.

5.5.2. Significant impact assessment

The significant impact assessment addresses the criteria for a vulnerable species in accordance with the Significant Impact Guidelines for the gas power project impact area. The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Squatter pigeon. Exploratory drilling is not expected to have a significant impact on MNES as discussed in the Appendix and therefore has not been assessed further.

The local population of Squatter pigeon is not considered to comprise an important population in accordance with the criteria for an important population as it is:

- Not considered to be a key source population either for breeding or dispersal.
- Not considered to be a population necessary for maintaining genetic diversity.
- Not a population near the limit of the species' range.

Therefore, any local population is not considered to be an important population for the purposes of this assessment.

Table 5 Potential impact and significant assessment – *Geophaps scripta scripta* (Squatter pigeon (southern))

Criteria	Gas Power project
Lead to a long-term decrease in the size of an important population of a species	A total of 32.6ha of habitat for Squatter pigeon occurs within the impact area, and four occurrences of the species were recorded in the study area during surveys in 2024 (ELA 2024). The removal of 32.6ha of habitat is considered unlikely to lead to a long-term decrease in the size of the local squatter pigeon population due to scattered impact footprint and available of habitat in the surrounding areas. To minimise impacts on individuals that may be present in the impact area, suitably qualified fauna spotter catchers will be present during clearing activities to detect the presence of the

Criteria	Gas Power project
	species and implement necessary mitigation actions should the species be recorded. Unlikely to result in a significant impact.
Reduce the area of occupancy of an important population	A total of 32.6ha of habitat for Squatter pigeon will be removed as a result of the Project. The AOO of the species is estimated to be approximately 116,000,000ha in 2024 (BirdLife International 2024) and the species distribution extends throughout much of central and southern Queensland. The Project is not located near the edge of the species distribution and is therefore not considered likely to reduce the AOO of the species. Unlikely to result in a significant impact.
Fragment an important population into two or more populations	A total of 32.6ha of habitat for Squatter pigeon occurs within the impact area. Due to the species' ability to disperse, and the availability of water within the broader landscape, it is likely that similar and / or better-quality habitat exists outside of the impact area. Therefore, it is unlikely that the Project will result in the fragmentation of an existing population of Squatter pigeon. Unlikely to result in a significant impact.
Adversely affect habitat critical to the survival of a species	A total of 32.6ha of habitat for Squatter pigeon occurs within the impact area. The clearing is proposed to occur adjacent to an existing operating mine. The progressive clearing of this habitat is unlikely to isolate remaining habitat or adversely impact the species' ability to survive in the surrounding area. Due to the species' ability to disperse, and the availability of water within the broader landscape, it is likely that similar and / or better-quality habitat exists outside of the impact area. Therefore, it is unlikely that the Project will affect habitat critical to the survival of the species. Unlikely to result in a significant impact.
Disrupt the breeding cycle of an important population	The Project will not disrupt the breeding cycle of an important population of Squatter pigeon as the likelihood of the study area supporting an important population is low and the extent of clearing of potential breeding resources is very small. To minimise impacts on individuals or at a local population level that may be present, suitably qualified spotter catchers will be present during clearing activities to detect the presence of the species (and breeding sites) and implement necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The Project will result in the loss of 32.6ha of habitat for foraging, roosting and breeding. Squatter pigeons are highly mobile species, and there is habitat within the surrounding areas for the species to utilise. Therefore, the extent of clearing will unlikely modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. Unlikely to result in a significant impact.

Criteria	Gas Power project
Result in an invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	A range of invasive weed and pest species are known to occur within the impact area. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. The SWC Weed and Feral Animal Management Procedure will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.
Introduce disease that may cause the species to decline	Currently, there are no known diseases harmful to Squatter pigeon. Proposed project activities such as vegetation clearing are considered unlikely to introduce disease that may cause the species to decline. Unlikely to result in a significant impact.
Interfere substantially with the recovery of the species	There is no adopted or made Recovery Plan for the Squatter pigeon as, in 2015, the TSSC recommended that there should not be a recovery plan for it as the approved conservation advice for the subspecies (TSSC 2008) provides sufficient direction for the implementation of priority actions and the mitigation of key threats. The Conservation Advice lists that the disappearance of the subspecies has been attributed to overgrazing at times of drought, followed by clearing of vegetation. The Project is unlikely to materially intensify these threats (due to the relatively small impact area compared to the AOO) and will not interfere with the recovery of the species. Suitable species habitat will remain adjacent to the impact area, to the north and west. Unlikely to result in a significant impact.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Squatter pigeon.

5.6. *Denisonia maculata* (Ornamental snake)

5.6.1. Occurrence within the impact area

Ornamental snake habitat was ground-truthed within the impact area and surrounding land (ELA, 2024). The species occurs within Brigalow dominated woodland and open forest habitats in moist areas such as floodplains, undulating clay pans, near waterbodies (swamps and lakes) and along watercourses. It prefers these moist areas due to its diet of mostly frogs. The species shelters under woody debris and in soil cracks, particularly gilgais, where it can remain inactive for many months during dry periods.

Ornamental snake habitat within the broader area includes Brigalow dominated woodlands on alluvial (RE 11.3.1) and on clay plains (RE 11.4.8 and 11.4.9), some areas of eucalypt dominated woodlands on alluvial (RE 11.3.4), a small patch of Poplar box woodland with a Brigalow understory on clay plains (RE 11.4.10) and freshwater wetlands (RE 11.3.27f). Some non-remnant areas adjacent to these habitat types were also mapped as suitable habitat for Ornamental snake where they also contained essential microhabitat features such as gilgais and deep soil cracks.

The proposed impacts for the project addressed in the significant impact assessment include 7.1 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.

5.6.2. Significant impact assessment

The significant impact assessment addresses the criteria for a vulnerable species in accordance with the Significant Impact Guidelines for the gas power project impact area. The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Ornamental snake. Exploratory drilling is not expected to have a significant impact on MNES as discussed in the Appendix and therefore has not been assessed further.

Within the impact area, the potential habitat is generally mapped as remnant RE 11.4.9 on cracking clays, with most patches dominated by *Casuarina cristata*. The Draft Referral Guidelines for Brigalow Belt Reptiles (DSEWPAC, 2011) identifies gilgais and mounds within the species' range as important habitat. Within the broader area, ephemeral gilgais are present, however, within the impact area mapped Ornamental snake habitat was generally lacking gilgai and mounds and considered to be of marginal to suitable quality (i.e. not preferred).

While important habitat is likely to occur in the broader area (specifically to the north and east of the impact area where gilgai and mounds are present), the habitat within the gas power project impact area is not considered to comprise important habitat for the species.

Table 6 Potential impact and significant assessment – *Denisonia maculata* (Ornamental snake)

Criteria	Gas power project
Lead to a long-term decrease in the size of an important population of a species	The Project will result in the removal of a total of 7.1ha of habitat for the Ornamental snake. Ornamental snake was recorded within the broader area during surveys in 2021 (ELA 2021a). The removal of 7.1ha of Ornamental snake habitat may decrease the availability of habitat for this species in the local area, however it is considered unlikely to lead to decrease in the size of the local species population. To minimise impacts on any individuals that may be present, suitably qualified spotter catchers will be present during clearing activities. They will be responsible for detecting the presence of the species and implementing the necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Reduce the area of occupancy of an important population	The impact area is not at the edge of the species AOO, as Ornamental snake occupies areas of gilgais depressions and mounds throughout the Brigalow Belt Bioregion. The Project is therefore unlikely to reduce the AOO of Ornamental snake. Unlikely to result in a significant impact.
Fragment an important population into two or more populations	The species is geographically dispersed in a sparsely populated area, and the population size is currently unknown (TSSC 2014). Although 7.1ha of habitat for the species occurs within the impact area, the extent of clearing is unlikely to fragment an existing population into two or more populations given the availability of preferred habitat extending outside the impact area. To minimise impacts on any individuals that may be present, suitably qualified spotter catchers will be present during clearing activities. They will be responsible for detecting the

Criteria	Gas power project
	presence of the species and implementing the necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Adversely affect habitat critical to the survival of a species	A total of 7.1ha of habitat for Ornamental snake will be removed as a result of the Project. While this may affect the availability of habitat within the local area, it is not considered likely to result in disruption to habitat critical to the survival of the species (specifically, breeding and foraging) due to the presence of gilgai and habitat for prey species (frogs) within the surrounding landscape that will still be available to the local population. To mitigate any potential negative impacts to the species, the following will be carried out: • Clearing events will be avoided during periods of breeding, such as following large summer rainfall events, as this is when the species emerges from cracks to actively disperse, forage and breed. • If clearing is required to occur during potential breeding cycles, fauna spotter catchers will conduct night-time pre-clearance assessments to actively relocate snakes out of the impact area. • A fauna spotter catcher will be present during all clearing activities to ensure adverse effects to habitat of the species are minimised to the greatest extent. Clearing of species habitat will be conducted in accordance with the SWC Species Management Plan which will include sequential clearing. Unlikely to result in a significant impact.
Disrupt the breeding cycle of an important population	Removing 7.1ha of species habitat is unlikely to disrupt the breeding cycle of an important population of the species. While the project may affect the availability of habitat within the local area, it is not considered likely to result in disruption to the breeding cycle or availability of breeding habitat to the local population due to the presence of gilgai and habitat for prey species (frogs) within the surrounding landscape that will still be available. To minimise loss of the species individuals, spotter catchers will be present during times of clearing. Those snakes recovered will be relocated to adjacent nearby suitable habitat. Unlikely to result in a significant impact.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The Project will result in the loss of up to 7.1ha of suitable habitat for the species. Whilst local impacts to the species may occur, given the presence of the species occurrence throughout the region and the relatively small population likely present (evident through only detecting one individual in non-preferred habitat), it is unlikely the Project will impact to an extent that the species as a whole is likely to decline. To minimise the impact on any individuals that may be present, a pre-clearance survey will be carried out, and suitably qualified fauna spotter-catchers will be present during the clearing activities. This will enable the detection of the species and the

Criteria	Gas power project
	implementation of any necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Result in an invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	A range of invasive weed and pest species are known to occur within the impact area and surrounding region. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. The SWC Weed and Feral Animal Management Procedure will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.
Introduce disease that may cause the species to decline	Currently, there are no known diseases harmful to Ornamental snake. Proposed Project activities such as vegetation clearing are considered unlikely to introduce disease that may cause the species to decline. Unlikely to result in a significant impact.
Interfere substantially with the recovery of the species	There is no adopted or made Recovery Plan for this species. However, the Conservation Advice lists the main identified threat to the species as broadscale land clearing and habitat degradation, destruction of wetlands from feral pigs and destruction of frog habitat and direct competition for their food source (frogs). The Project is unlikely to materially intensify these threats (due to the small impact area) and will not interfere with the recovery of the species. Unlikely to result in a significant impact.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Ornamental snake.

6. Conclusion

ELA was engaged by SMC, on behalf of Stanmore, to conduct an ecological assessment for the proposed gas power project and a multi-year exploration campaign at the SWC Mine and to prepare a significant impact assessment to identify and quantify likely impacts to MNES as a result of the Project.

MNES identified within the impact area include TECs and habitat for threatened species, however significant impacts to MNES are considered unlikely to occur as a result of the Project. Avoidance, mitigation and management measures (see Sections 3.4 and 3.5) will be implemented to minimise the impacts to MNES.

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Appendix A South Walker Creek Ecological Assessment Report

South Walker Creek Mine Ecological Assessment Report

Stanmore

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DOCUMENT TRACKING

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Template 2.8.1

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Abbreviations

Abbreviation	Description
EA	Environmental Authority
ELA	Eco Logical Australia Pty Ltd
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESA	Environmentally Sensitive Area
ML	Approved Mining Lease under the *Mineral Resources Act 1989*
MNES	Matters of National Environmental Significance are prescribed under the *Environment Protection and Biodiversity Conservation Act 1999*
MSES	Matters of State Environmental Significance are defined by Schedule 2 of the *Environmental Offsets Regulation 2014* and include multiple prescribed environmental matters under Queensland legislation (and associated subordinate legislation and policies) including: *Nature Conservation Act 1992*, *Vegetation Management Act 1999*, *Environmental Protection Act 1994*, *Regional Planning Interests Act 2014*, *Marine Parks Act 2004*, and *Fisheries Act 1994*.
NC Act	*Nature Conservation Act 1992*
PMST	Protected Matters Search Tool
RE	A Regional Ecosystem is a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform, and soil. Regional Ecosystems are described in the Regional Ecosystem Description Database, produced by the Queensland Herbarium.
REDD	Regional Ecosystem Description Database
SWC	The South Walker Creek (SWC) Mine is an existing and operational open cut coal mine located on ML4750 and ML70131
TEC	Threatened Ecological Community listed under the *Environment Protection and Biodiversity Conservation Act 1999*
Trend	Trend Environmental
VM Act	*Vegetation Management Act 1999*
WO	Wildlife Online
WoNS	Weeds of National Significance

1. Introduction

1.1 Background

South Walker Creek Mine (SWC) is owned by Stanmore SMC Pty Ltd (SMC), a subsidiary of Stanmore Resources Limited (Stanmore). SWC is situated in the Bowen Basin, approximately 135km south-west of Mackay in Queensland. Mining activities at SWC are undertaken in accordance with Environmental Authority (EA) EMPL00712313 on Mining Lease (ML) 4750 and ML70131.

Eco Logical Australia (ELA) has been engaged to undertake an ecological assessment to support the South Walker Creek gas collection project and a multi-year exploration campaign (the Project). The Project comprises two main elements:

- An exploration program on ML4750 and ML70131 in areas beyond those authorised by Environmental Authority EPML00712313 (the EA).
- Development of a gas collection field on ML4750 to supply a proposed gas fired power station. This includes associated infrastructure to support the proposed gas fired power station including, powerlines, installation of pipework and single/dual layout lines.

Construction of the associated gas-fired power station is subject to a separate Development Application (DA) approvals process.

The purpose of this assessment is to support a major amendment to the EA, by determining the presence and extent of Commonwealth and State environmental values relevant to the Project.

1.2 Objective and scope of works

The objective of this ecological assessment report (EAR) is to identify ecological values relevant to the study area, with the purpose of supporting any required environmental approvals under both Commonwealth and State legislation. Specifically, the scope of work included:

- a desktop review of previous survey data and other available desktop information
- validation of the extent and condition of regional ecosystems (REs) within the study area
- confirmation of the presence or absence of threatened species and associated habitats
- identification and mapping of Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES)
- providing recommendations to reduce overall impacts to ecological values.

1.3 Study area

The study area is located within ML4750 and ML70131. It comprises a total of 5,152.4 ha of currently undisturbed land that surrounds the existing SWC open cut pits and associated infrastructure areas. To facilitate the discussion of relevant ecological values, the study area has been divided into three sections: northern, western, and eastern (Figure 1).

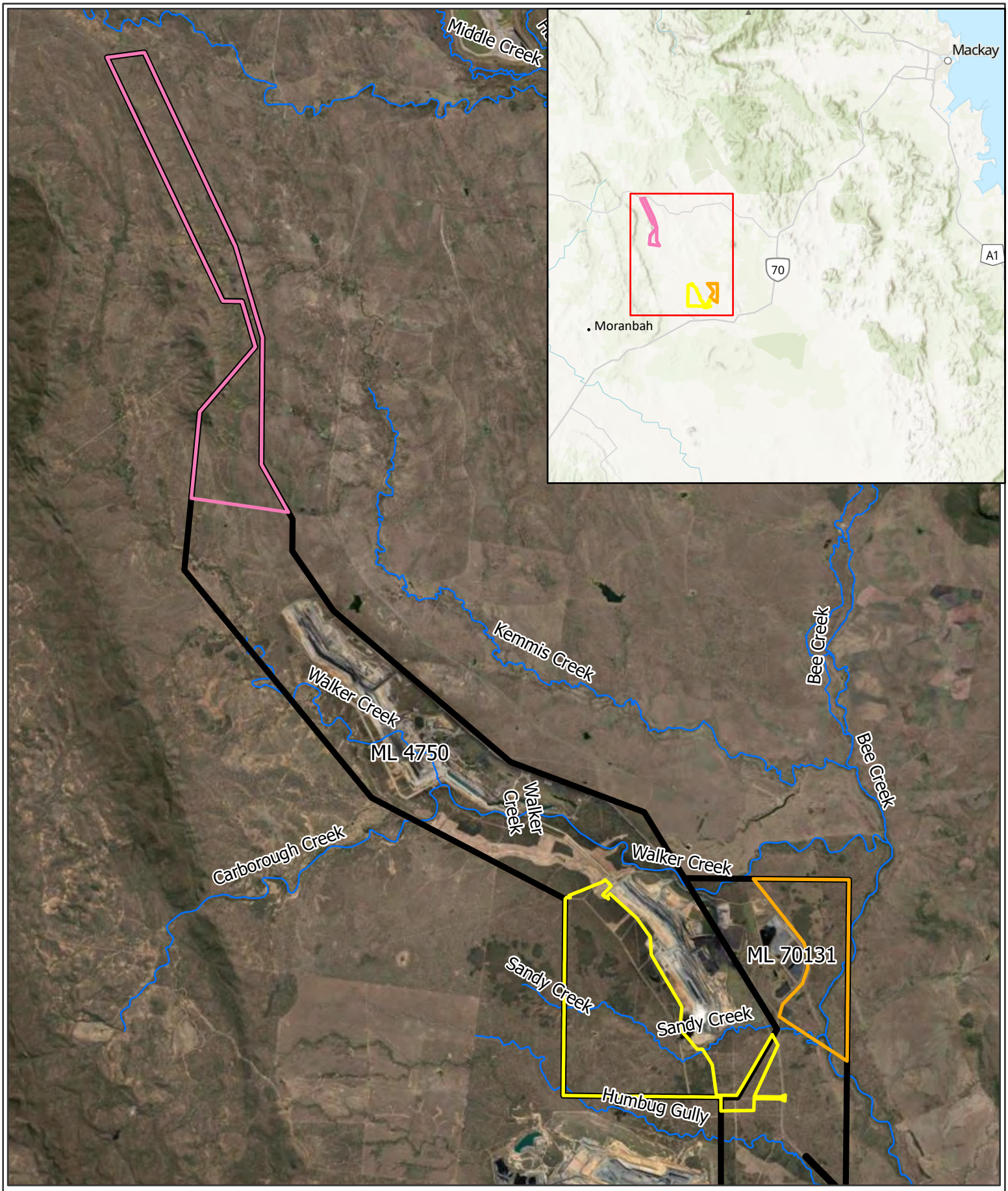

Figure 1: Location and study area

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining lease
- Watercourses (second-order and above)

0 1.25 2.5 5
Kilometers

Datum/Projection:
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Project: 7132-DH Date: 8/9/2024

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2. Methods

2.1 Desktop assessment

A desktop assessment was undertaken to review all existing data and to identify the presence or potential presence of ecological values occurring within the study area. The desktop assessment involved a review of previous ecological studies, environmental databases, maps, and literature. Results were used to compile a preliminary likelihood of occurrence assessment, which identified the target threatened species and any potential habitat types within the study area. Field survey methods and effort were based on this information. Desktop assessment data for the northern section of ML 4750 was provided by Trend Environmental (Trend) which has been included in this assessment.

2.1.1 Database searches

The following resources were reviewed during the desktop assessment, with searches undertaken to include a 50km buffer of the study area:

- Protected Matters Search Tool (PMST) Report
- Wildnet database
- RE mapping version 13
- Regulated vegetation mapping
- Queensland geological digital data
- Essential habitat mapping
- Atlas of Living Australia records
- Queensland Wetland mapping
- *Vegetation Management Act 1999* (VM Act) watercourse data
- VM Act wetland data
- Referrable Wetland mapping
- Protected Plant High Risk Trigger mapping
- Environmentally Sensitive Area (ESA) mapping
- Commonwealth Species Profile and Threats (SPRAT) Database
- Previous ecological survey data and reporting for SWC Mine
- Aerial imagery.

Key desktop search results are provided in Appendix A.

2.1.2 Likelihood of occurrence assessment

Database searches identified species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and / or the *Nature Conservation Act 1992* (NC Act) that have the potential to occur within the study area and surrounding region. The likelihood of occurrence assessment for these values was reviewed and updated at the conclusion of the field survey to reflect the survey results.

These updates were associated with:

- changing the assessment of likelihood to ‘known’ if a species was found to be present during the field surveys; or

- reducing the likelihood of occurrence, based on an absence of habitat within the study area as identified by the field survey.

The likelihood score was not downgraded in response to a failure to detect a species during field surveys when habitat suitable for the species was identified within the study area. This approach accommodates natural changes in the distribution and abundance of species over time and was applied in acknowledgement of the limitations of field sampling methods (e.g. lack of targeted searches) and survey conditions, which may not capture all target species present at the time of sampling.

Likelihood assessments were based on the known distribution and preferred habitat of the species and the identification of these habitat values during field surveys. The criteria used to assess the likelihood of species occurring within the study area are presented in Table 1. The results of the assessment are presented in Appendix B.

Table 1 Likelihood of occurrence criteria

Likelihood	Description
Known	The species was positively identified and recorded in the study area during the field assessment; previous records of occurrence within the study area.
Likely	The species was not recorded during the field survey or previously, however there are known records within the surrounding area (50km) and suitable habitat exists in the study area.
Potential	The species was not recorded during the field survey or previously, however known records occur within the surrounding area and habitat in the study area is marginal or may provide some suitability at some point during the species lifecycle.
Unlikely	Habitat in the study area might be suitable or marginal; however, the species was not recorded during the field survey, and no known records of the species exist within the surrounding area (50km), or the study area occurs outside the species current known range.

2.1.3 Review of previous ecological assessments

Ground-truthed ecological data for the study area and surrounding areas was available from seven previous ecological assessments:

- Kemmis 3 Pit Ecological Assessment (ELA 2019),
- MRA2C Dam Assessment (ELA 2017),
- South Walker Creek Mine Tailings Solution (ELA 2021),
- SWC Toolah Levee Ecology Project (ELA 2021),
- Bidgerley (Pink Lilly Lagoon) Ecology Survey (ELA 2021),
- Kemmis Pit Extension (ELA, 2022), and
- South Walker Creek Mine Tailing Solution Project - Matters of National Environmental Significance Impact Assessment (ELA 2022).

The MRA2C Dam Assessment involved assessment of ecological values within the proposed footprints of two dams. This assessment included a desktop assessment and field survey to validate and map REs, Threatened Ecological Communities (TECs) and threatened species habitat. Ground-truthed RE mapping for the dam included an area of RE11.4.9, which is a Brigalow TEC listed RE. Suitable habitat for *Geophaps scripta scripta* (squatter pigeon) was also identified within the dam footprint.

The Kemmis Pit Extension Ecological Assessment was a desktop and field ecology assessment of ecological values within a study area of 1,631.7ha, which completely overlaps with Commonwealth values as identified by the ELA 2017 and 2019 study. Deliverables included refinement of previous ground-truthed RE mapping, mapping of TECs, habitat mapping and confirmation of the presence and absence through diurnal and nocturnal surveys of for species listed under the EPBC Act and the NC Act, and collection of habitat quality data in accordance with the Guide to Determining Terrestrial Habitat Quality for use in offsets calculations.

The Tailings Solution Project was a desktop and field ecology assessment of ecological values within a study area of 222.9ha, which completely overlaps with Commonwealth values as identified by the ELA 2017 study. Deliverables included ground-truthed RE mapping, mapping of TECs, habitat mapping and confirmation of the presence and absence of species listed under the EPBC Act and NC Act, and collection of habitat quality data in accordance with the Guide to Determining Terrestrial Habitat Quality for use in offsets calculations.

The Bidgerley (Pink Lilly Lagoon) Ecology Survey involved a baseline ecological survey with a desktop analysis to gain an understanding of ecological values. This included ground truthing the extent, condition, and classification of REs, conducting TEC assessments, assessing the nature and quality of flora and fauna habitat through BioCondition surveys, and assessing the likelihood of threatened flora and fauna occurrence.

The desktop findings and ground-truthed ecological data available from the above assessments have been reviewed and incorporated into this study.

2.2 Field surveys

Four field surveys were undertaken by two qualified ecologists to assess ecological values within the study area. Three of the field surveys were conducted by ELA across the western and eastern sections of the study areas on the following dates:

- 26 February – 1 March 2024
- 15 April – 19 April 2024
- 29 April – 3 May 2024.

The remaining field survey of the northern study area was carried out by Trend between 18 and 22 March 2024. All data collected by Trend regarding the northern section of the study area (within ML4750) have been included in the assessment.

The surveys aimed to collect additional information on the relevant ecological values identified in the desktop assessment. The field survey included flora, fauna, and targeted habitat assessment. Survey sites are illustrated in Figure 2 (a, b, and c) and Figure 3.

2.2.1 Data collection

Flora and fauna surveys were undertaken in the field using mobile devices loaded with Field Maps for ArcGIS software and relevant Geographic Information System (GIS) datasets (aerial photography, draft RE mapping, contours, drainage, and existing infrastructure).

2.2.2 Flora surveys

The flora assessment consisted of ground-truthing REs across the study area, as well as validating the presence of regulated vegetation, TECs, watercourses (as defined in *Water Act 2000*), threatened flora species and Category B ESAs. Data on vegetation characteristics (floristic and structural form), ecological condition and extent of the vegetation communities, including RE and TEC classification. Data was collected via three methodologies – tertiary assessments, quaternary assessments, and TEC assessments, which are described in the sections below.

2.2.2.1 Tertiary assessment

Tertiary assessments were used to identify vegetation communities and REs across the study area by capturing data on the condition and species composition. Tertiary surveys were undertaken in accordance with the '*Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*' (Neldner et al 2019). At each survey point, the following information was recorded:

- RE classification
- Vegetation condition (remnant, high-value regrowth, regrowth, non-remnant)
- Dominant, co-dominant, sub-dominant and associated species, as well as average height and cover at each structure level (emergent, T1, T2, T3, S1, S2, ground).
- Ecologically dominant layer (emergent, T1, T2, T3, S1, S2, ground)
- Structure (dense, mid-dense, sparse, very sparse)
- Landform
- Slope class and degree
- Soil texture and colour
- Evidence of disturbance (e.g., weeds, clearing, grazing or fire) and erosion.

RE classification was determined based on the vegetation, soil and landform characteristics identified in the field, geological mapping for the region and the Regional Ecosystem Description Database (REDD). Condition status for woody vegetation was evaluated using the definitions of remnant vegetation under the VM Act.

A total of 79 tertiary surveys were undertaken across the study area (Figure 2a, Figure 2b and Figure 2c).

2.2.2.2 Quaternary assessment

Quaternary surveys were undertaken to validate the extent, classification and condition of vegetation communities and habitat types within the study area. Quaternary surveys were undertaken in accordance with Neldner et al (2019). At each survey point, the following information was recorded:

- RE classification
- Vegetation condition (remnant, high-value regrowth, regrowth, non-remnant)
- Dominant species at each structure level (emergent, T1, T2, T3, S1, S2, ground)
- Ecologically dominant layer height (m) and cover (%)
- Structure (dense, mid-dense, sparse, very sparse).

A total of 602 quaternary surveys were undertaken across the study area (Figure 2a, Figure 2b and Figure 2c).

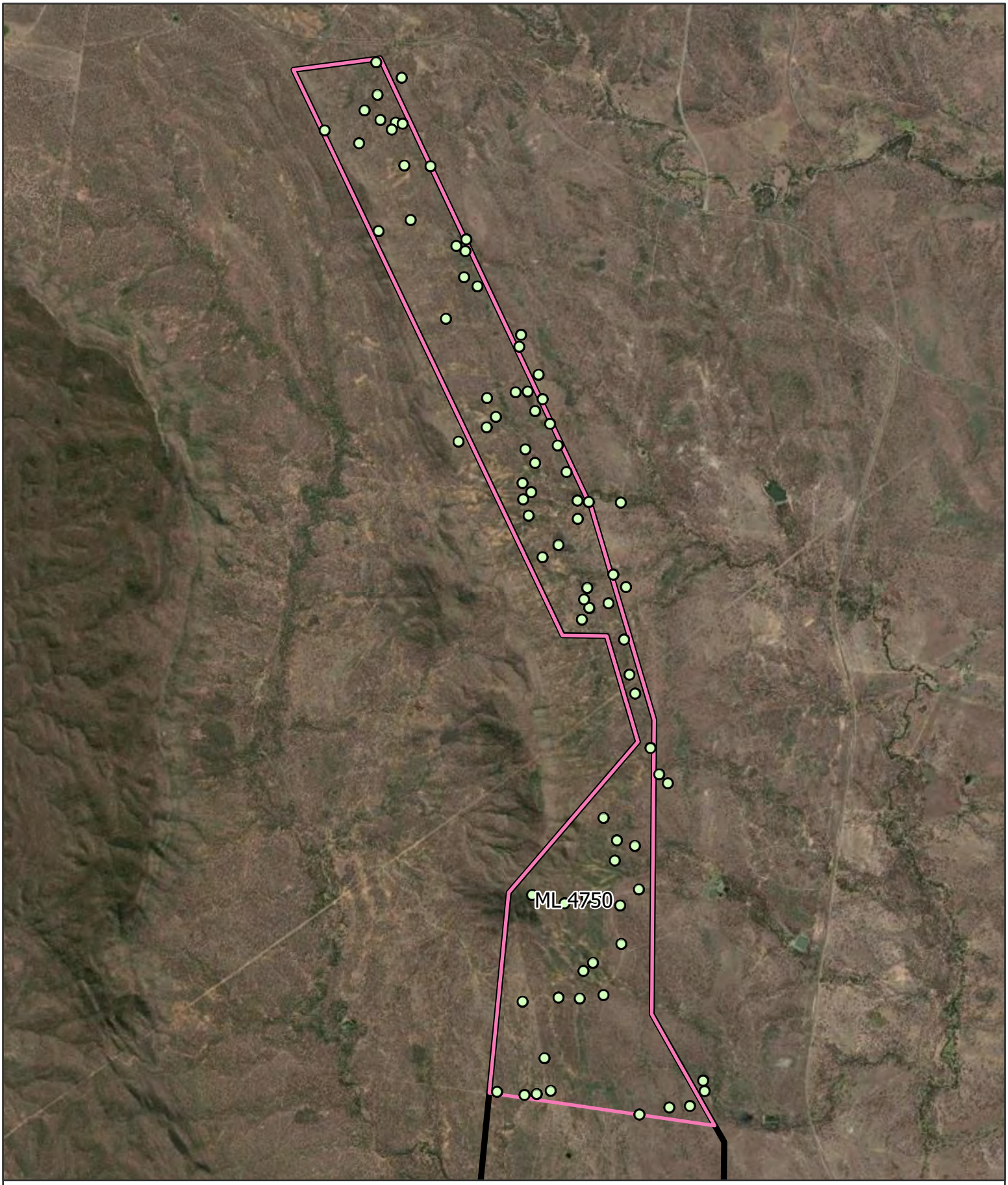

Figure 2a: Flora survey sites - northern

Study area (northern)

Mining lease

Quaternary site

0 0.5 1 2

Kilometers

Datum/Projection:
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Project: 7132-DH Date: 7/31/2024

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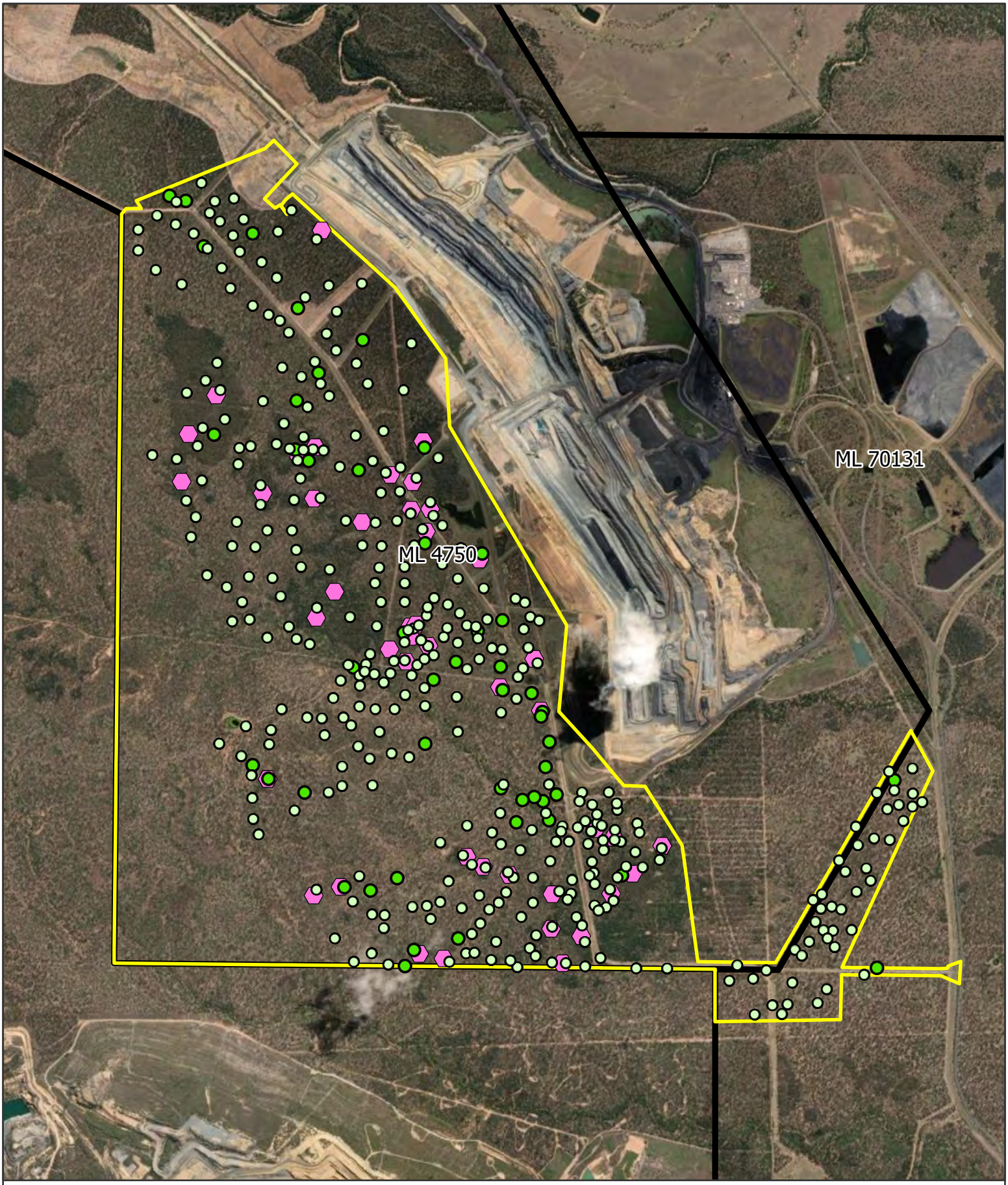

Figure 2b: Flora survey sites - western

Western study area
Mining lease
Quaternary site
Tertiary site
Brigalow TEC assessment

0 0.38 0.75 1.5
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 7/31/2024

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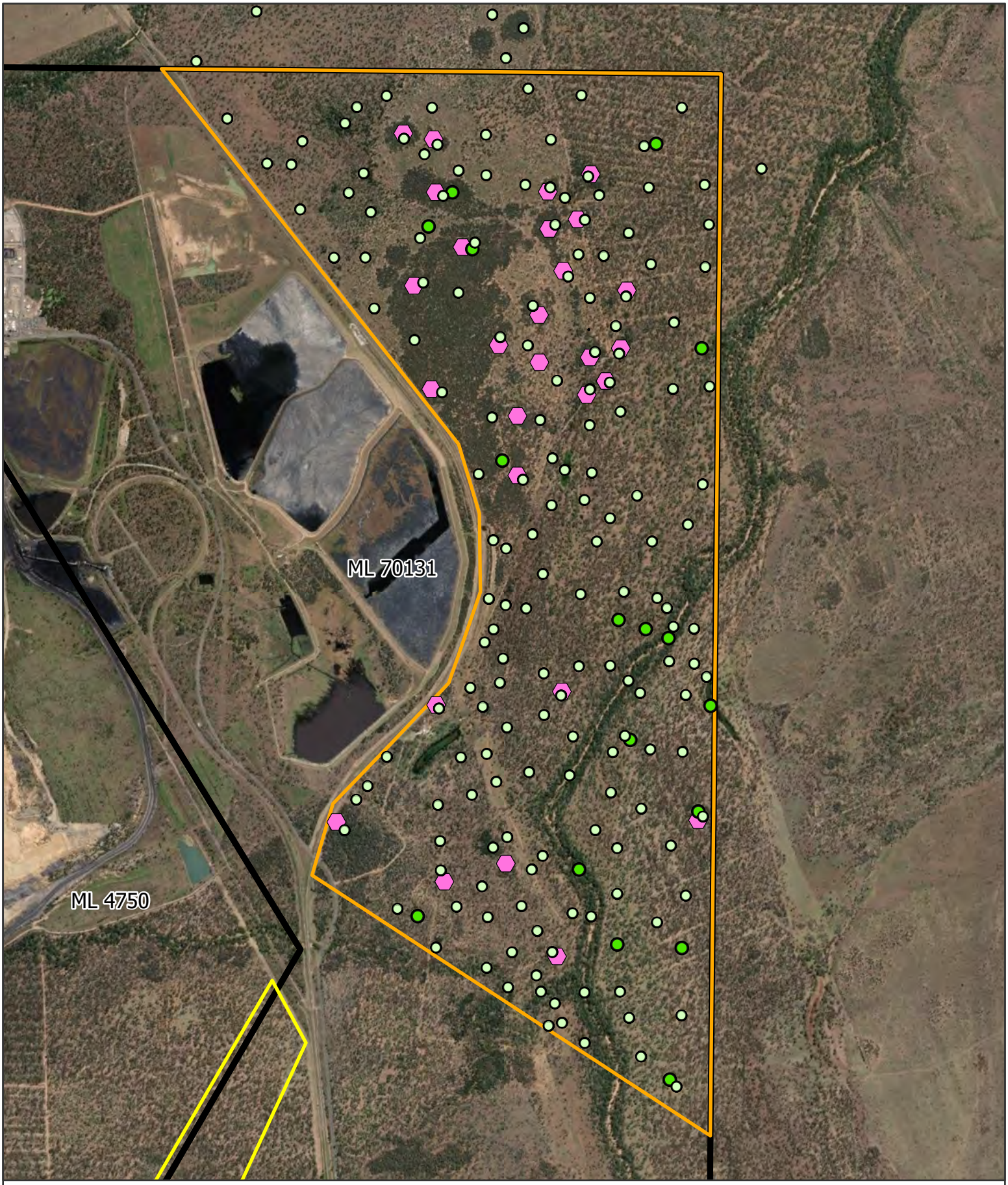

Figure 2c: Flora survey sites - eastern

Western study area
Eastern study area
Mining lease

Quaternary site
Tertiary site
Brigalow TEC assessment

0 0.25 0.5 1
Kilometers

Datum/Projection:
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Project: 7132-DH Date: 7/31/2024

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2.2.2.3 Threatened Ecological Community assessment

TEC assessments were undertaken to confirm the status of vegetation communities potentially comprising TECs.

Brigalow TEC assessments were undertaken to identify vegetation communities meeting the key diagnostic and condition threshold criteria as described in the Commonwealth Approved Conservation Advice (TSSC, 2013a). The assessment consisted of collecting the following data at various sites within occurring Brigalow vegetation:

- Dominance or co-dominance of *Acacia harpophylla* (brigalow)
- Constituent brigalow RE
- Exotic perennial cover (%)
- Exotic perennial plants must comprise less than 50% of the total vegetation cover of the patch, as assessed over a minimum sample area of 0.5ha (100m by 50m), that is representative of the patch
- Age of community
- Patch size
    - Patch must be at least 0.5ha in size.

Poplar Box Grassy Woodland on Alluvial Plains TEC assessments were conducted with the objective of identifying vegetation communities fulfilling the key diagnostic and condition threshold criteria as described in the Commonwealth Draft Conservation Advice (TSSC 2017b). The assessment consisted of collecting the following data at various sites within occurring Poplar Box Grassy Woodland vegetation:

- Associated with ancient and recent depositional alluvial plains with clay, clay-loam, loam and sandy loam, non-sodic soils.
- A grassy woodland to an open grassland, with tree cover of at least 10% at the scale of individual patches
- Tree canopy layer is characterised by a height of at least 10m
    - Dominance of *Eucalyptus populnea* (poplar box) or
    - Co-dominance with *E*. *populnea* hybrids
- Mid-layer (1-10m) crown cover of shrubs and small trees estimated to be 20% or less
- Ground layer mostly dominated across a patch by native grasses, other herbs and occasionally chenopods, ranging from sparse to thick
- ≥ 50% of the ground layer's perennial vegetation cover is native
- ≥ 20/ha perennial native plant species in the ground layer
- Patch size
    - Patch must be at least 1ha in size.

Natural grasslands of the Queensland Central Highlands and the northern Fitzroy Basin TEC assessments were undertaken to identify vegetation communities meeting the key diagnostic and condition threshold criteria as described in the Commonwealth Approved Conservation Advice (TSSC 2008b and 2009). The assessment consisted of collecting the following data at various sites within vegetation potentially comprising the TEC:

- Tree canopy absent or sparse (10% or less projective crown cover)

    - Total projected canopy cover of shrubs is less than 50%
- Ground layer typically dominated by perennial native grasses and containing at least three of the indicator native grass species indicated in the TSSC Listing Advice (TSSC 2009)
    - At least 200 native grass tussocks
- Non-woody introduced species account for less than 30% of the total projected perennial plant cover.
- Patch size
    - Patch must be at least 1ha in size.

TEC assessment sites are presented on Figure 2a, Figure 2b and Figure 2c.

2.2.3 Fauna survey

The focus of the fauna survey was on delineating habitat for the species identified in the desktop assessment as likely to occur within the study area (Appendix B). Individual animal breeding places were recorded opportunistically as the field team traversed the site. Fauna habitat suitability assessments and opportunistic species observations were carried out as outlined below.

2.2.3.1 Habitat suitability assessment

Habitat suitability assessments were undertaken to identify and quantify the presence and extent of suitable habitat for threatened species within the study area. Habitat assessments conducted for threatened species were derived from available literature (including the SPRAT Database (DoE 2024), relevant Government documents and published research papers) and vegetation assessments conducted in the field.

Both general and species-specific habitat assessments were conducted, and included identifying the presence of key values such as:

- habitat condition (i.e. remnant or regrowth vegetation)
- presence and abundance of foraging resources (Eucalyptus species, ground layer species)
- presence and abundance of shelter resources (hollows, soil cracks, fallen woody debris)
- canopy cover percentage and condition
- presence of / distance to water
- soil type and landform
- species-specific threat presence and severity.

2.2.4 Opportunistic observations

Opportunistic observations were recorded whilst traversing the site. These included opportunistic threatened flora and fauna records and records of flora species that were not already captured during formal RE assessment sites (tertiary or quaternary assessments). Observations of weed species listed as restricted matter under the *Biosecurity Act 2014* (Biosecurity Act) or listed as Weeds of National Significance (WoNS) were also recorded.

2.3 Survey limitations

The detection and accurate identification of some plant species, particularly during the last two surveys, was constrained by the scarcity and/or poor condition of the available reproductive material (e.g. flowers, fruit, and/or seed capsules). Nevertheless, the field surveys were considered to comprise sufficient

coverage and effort to confidently assess habitat and likelihood of species presence for threatened flora species. Additionally, the precautionary principle was employed to reconcile any uncertainty in species observations during the field surveys.

Data for the northern section of the study area comes from third party sources. Every effort has been made to verify their consistency; however, ELA does not assume responsibility for the accuracy or completeness of this data.

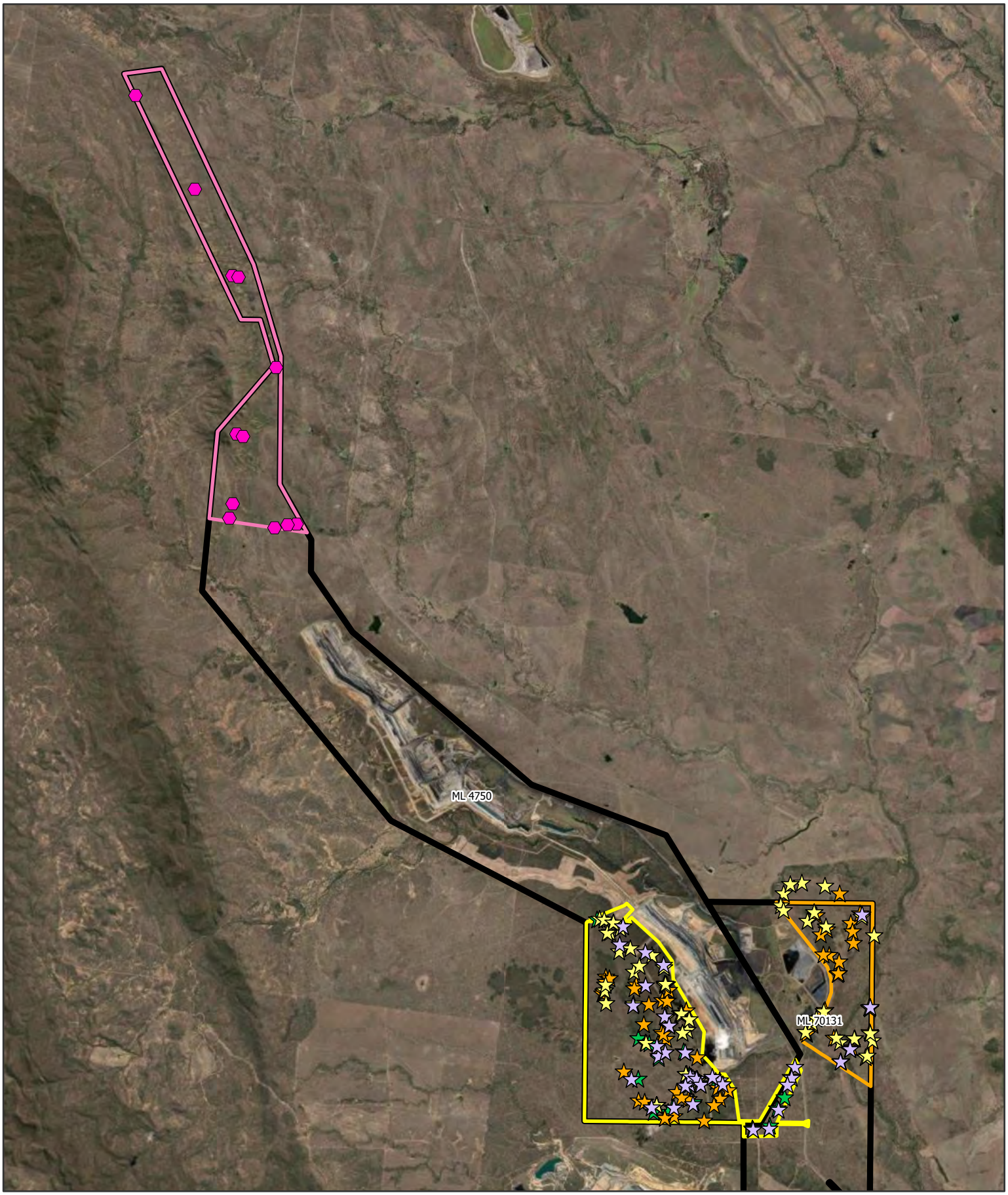

Figure 3: Fauna survey sites

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining leases
- Greater glider habitat assessment
- Ornamental snake habitat assessment
- Squatter pigeon habitat assessment
- Koala habitat assessment
- General habitat assessment

0 1.25 2.5 5
Kilometers

Datum/Projection:
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Project: 7132-DH Date: 7/31/2024

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3. Results

3.1 Survey conditions

Weather conditions leading up to and at the time of the survey are presented in Table 2. Weather data was obtained from recordings taken at Moranbah Airport (station number 034035), located approximately 45 km south-west of the study area.

Table 2 Weather conditions preceding and during the field surveys

Mobilisation	Date	Temperature (˚C)		Total rainfall (mm)
		Mean minimum	Mean maximum	
Preceding field surveys	December 2023	21.4	34.4	80.8
	January 2024	22.9	34.0	145.4
	1 - 25 February 2024	21.8	32.9	92.8
1 - ELA	26 February 2024	23.8	33.2	0
	27 February 2024	23.0	33.8	0
	28 February 2024	22.6	33.5	0
	29 February 2024	20.6	31.1	0
	1 March 2024	17.8	33.2	0
2 - Trend Environmental	18-Mar-24	20.0	33.7	0
	19-Mar-24	22.1	34.8	0
	20-Mar-24	21.4	34.8	0
	21-Mar-24	20.1	33.2	0
	22-Mar-24	21.5	32.7	1.2
3 - ELA	15-Apr-24	16.3	31.5	0
	16-Apr-24	20.0	–	0
	17-Apr-24	18.4	30.2	–
	18-Apr-24	19.4	31.6	0.2
	19-Apr-24	19.1	31.4	0
4 - ELA	29-Apr-24	16.8	30.5	0
	30-Apr-24	15.8	30.6	0
	1-May-24	18.0	29.4	0
	2-May-24	15.3	29.4	0
	3-May-24	15.7	28.4	0

3.2 State values

3.2.1 Vegetation communities

Ground-truthing of vegetation communities in the study area revealed some inaccuracies in the State mapping, including the extent of remnant vegetation and the identification and classification of REs.

The study area was found to be comprised of predominantly remnant vegetation (94.6%) (Table 3). *Eucalyptus populnea* and *Corymbia clarksoniana* (Clarkson's bloodwood) dominated remnant woodlands (identified as RE 11.5.3) and are the dominant vegetation community in the study area (western and eastern). Remnant Brigalow woodlands (identified as REs 11.3.1, 11.4.8, 11.4.9 and 11.9.5) are scattered throughout the study area in small to medium size patches.

A total of 18 REs associated with remnant vegetation communities were ground-truthed within the study area (Table 3 and Figure 4a, Figure 4b and Figure 4c). Where multiple REs were mapped within a single polygon, the area of each individual RE has been reported based on its percentage composition of that polygon.

Table 3 Ground-truthed REs within the study area

RE	Short description	VM Act status	Biodiversity status	Condition	Area (ha)
11.3.1	*Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains	Endangered	Endangered	Remnant	5.6
11.3.2	*Eucalyptus* populnea woodland on alluvial plains	Of concern	Of concern	Remnant	200.2
11.3.21	*Dichanthium sericeum* and/or *Astrebla* spp. grassland on alluvial plains. Cracking clay soils.	Of concern	Endangered	Remnant	13.1
11.3.25	*Eucalyptus tereticornis* or *E. camaldulensis* woodland fringing drainage lines	Of concern	Of concern	Remnant	82.4
11.3.27f	*Eucalyptus coolabah* and/or *E. tereticornis* open woodland to woodland fringing swamps	Least concern	Of concern	Remnant	9.4
11.3.4	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains	Of concern	Of concern	Remnant	142.9
11.3.9	*Eucalyptus platyphylla*, *Corymbia* spp. woodland on alluvial plains	Least concern	Of concern	Remnant	26.4
11.4.8	*Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains.	Endangered	Endangered	Remnant	17.4
11.4.9	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains	Endangered	Endangered	Remnant	645.5
11.4.10	*Eucalyptus populnea* or *E. woollsiana*, *Acacia harpophylla*, *Casuarina cristata* open forest to woodland on margins of Cainozoic clay plains	Endangered	Endangered	Remnant	9.8
11.5.3	*Eucalyptus populnea* +/- *E. melanophloia* +/- *Corymbia clarksoniana* woodland on Cainozoic sand plains and/or remnant surfaces	Least concern	No concern at present	Remnant	1,688.7

RE	Short description	VM Act status	Biodiversity status	Condition	Area (ha)
11.5.8c	*Eucalyptus platyphylla* woodland on white-yellow weathered sands on Cainozoic sand plains and/or remnant surfaces	Least concern	No concern at present	Remnant	196.6
11.5.9	*Eucalyptus crebra* and other *Eucalyptus* spp. and *Corymbia* spp. woodland on Cainozoic sand plains and/or remnant surfaces	Least concern	Least concern	Remnant	7.2
11.9.2	*Eucalyptus melanophloia* +/- *E. orgadophila* woodland to open woodland on fine-grained sedimentary rocks	Least concern	No concern at present	Remnant	137.7
11.9.5	*Acacia harpophylla* and/or *Casuarina cristata* open forest to woodland on fine-grained sedimentary rocks	Endangered	Endangered	Remnant	112.3
11.9.7a	*Eucalyptus populnea*, *Eremophila mitchellii* shrubby woodland on fine-grained sedimentary rocks	Of concern	Of concern	Remnant	412.6
11.9.9	*Eucalyptus crebra* woodland on fine-grained sedimentary rocks.	Least concern	No concern at present	Remnant	1,032.6
11.10.7	*Eucalyptus crebra* woodland on coarse-grained sedimentary rocks	Least concern	No concern at present	Remnant	131.7
-	Non-remnant	–	–	Non-remnant	280.2
				Total	**5,152.4**

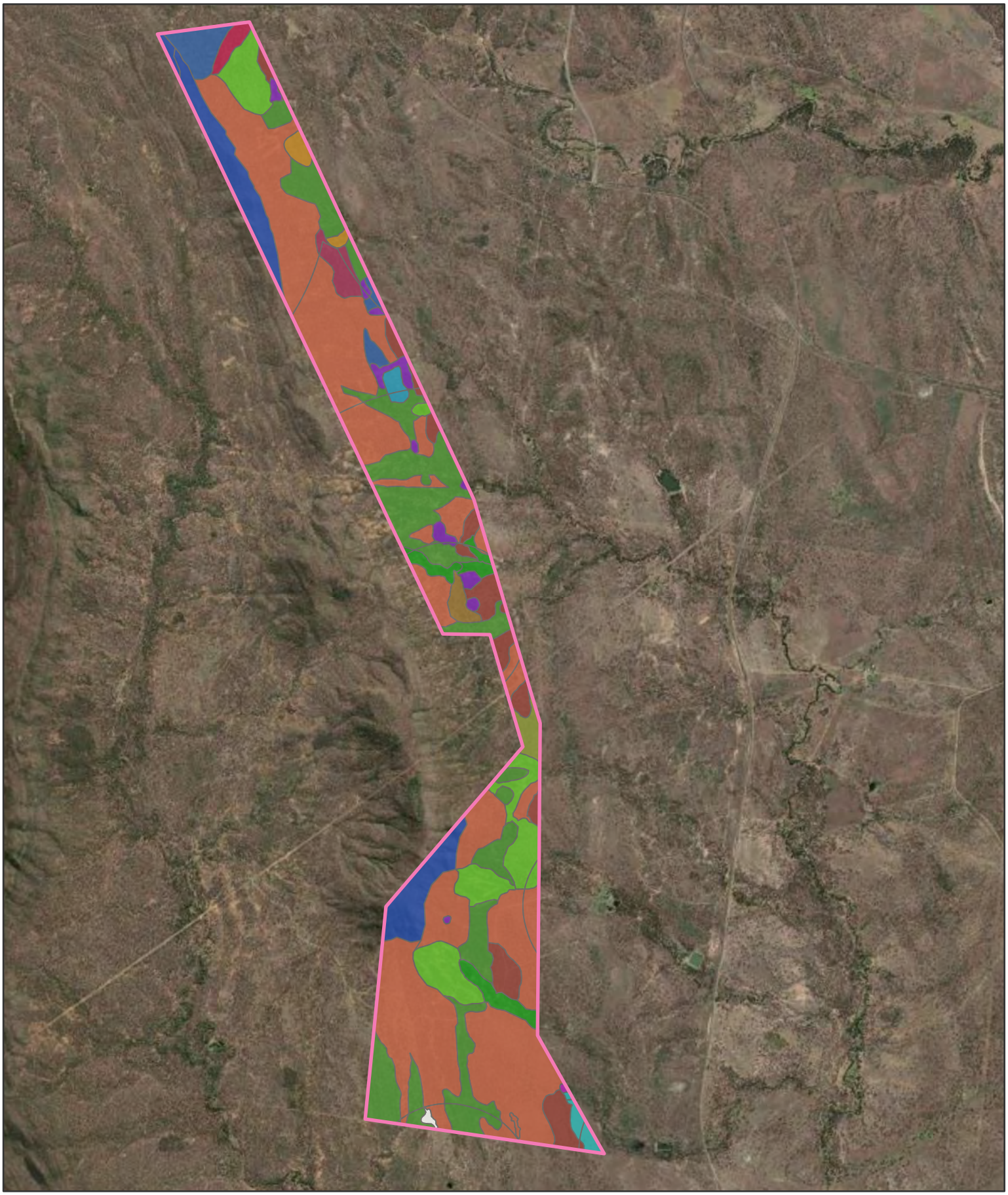

Figure 4a: Ground-truthed Regional Ecosystems - northern

Study area (northern)

Validated RE Code

- 11.10.7
- 11.3.2
- 11.3.21
- 11.3.25
- 11.9.2
- 11.9.2/11.9.7a
- 11.9.2/11.9.9
- 11.9.5
- 11.9.7a
- 11.9.7a/11.9.5
- 11.9.7a/11.9.9/11.9.2
- 11.9.7a/11.9.9/11.9.5
- 11.9.9
- 11.9.9/11.9.5
- 11.9.9/11.9.7a
- 11.9.9/11.9.7a/11.9.2
- Non-remnant

0 0.5 1 2

Kilometers

Datum/Projection:
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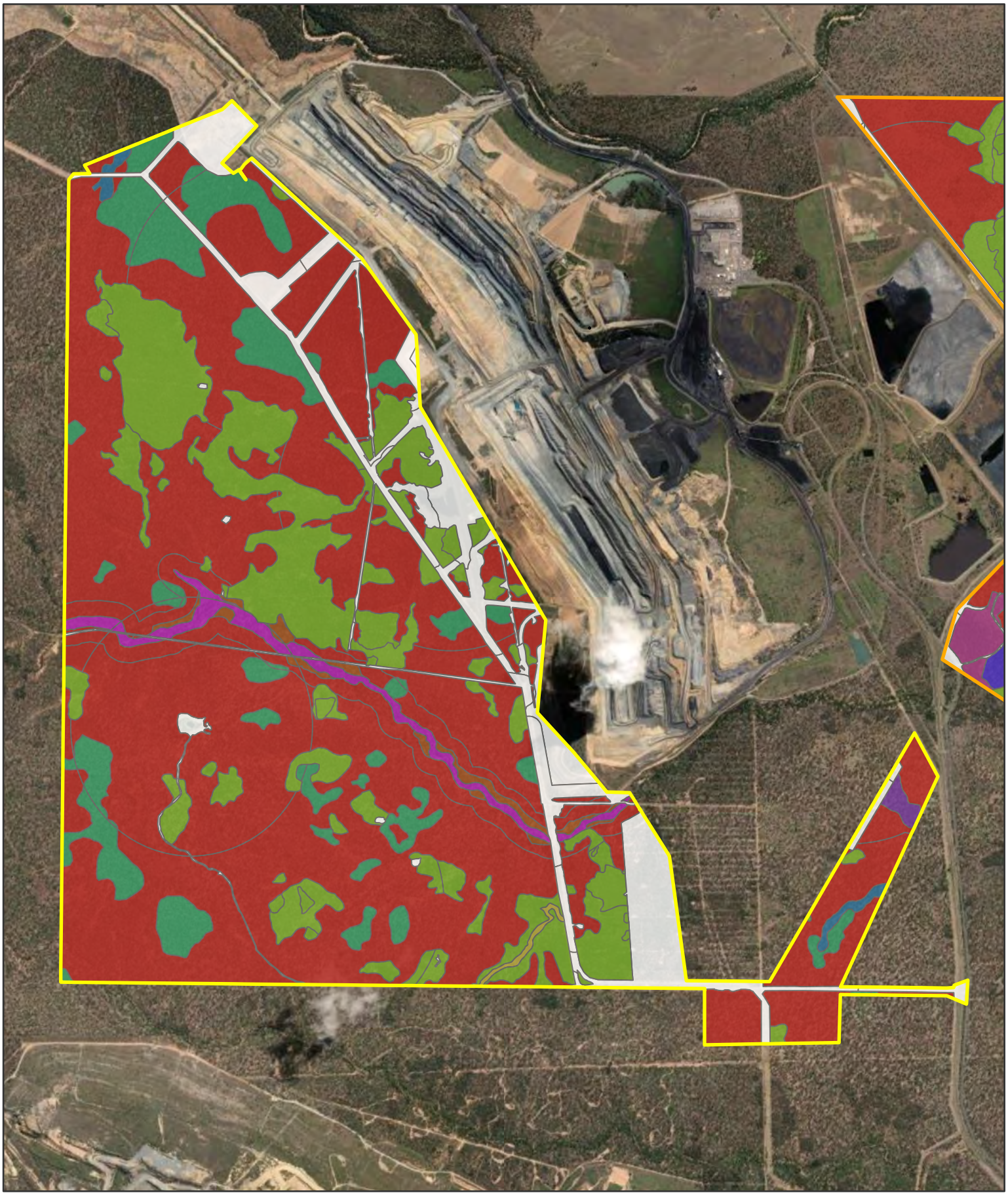

Figure 4b : Ground-truthed Regional Ecosystems - western

Study area (western)
Study area (eastern)

Validated RE Code

- 11.3.1
- 11.3.25
- 11.3.4
- 11.3.9
- 11.4.10
- 11.4.8
- 11.4.9
- 11.5.3
- 11.5.8c
- 11.5.9
- Non-remnant

0 0.38 0.75 1.5
Kilometers

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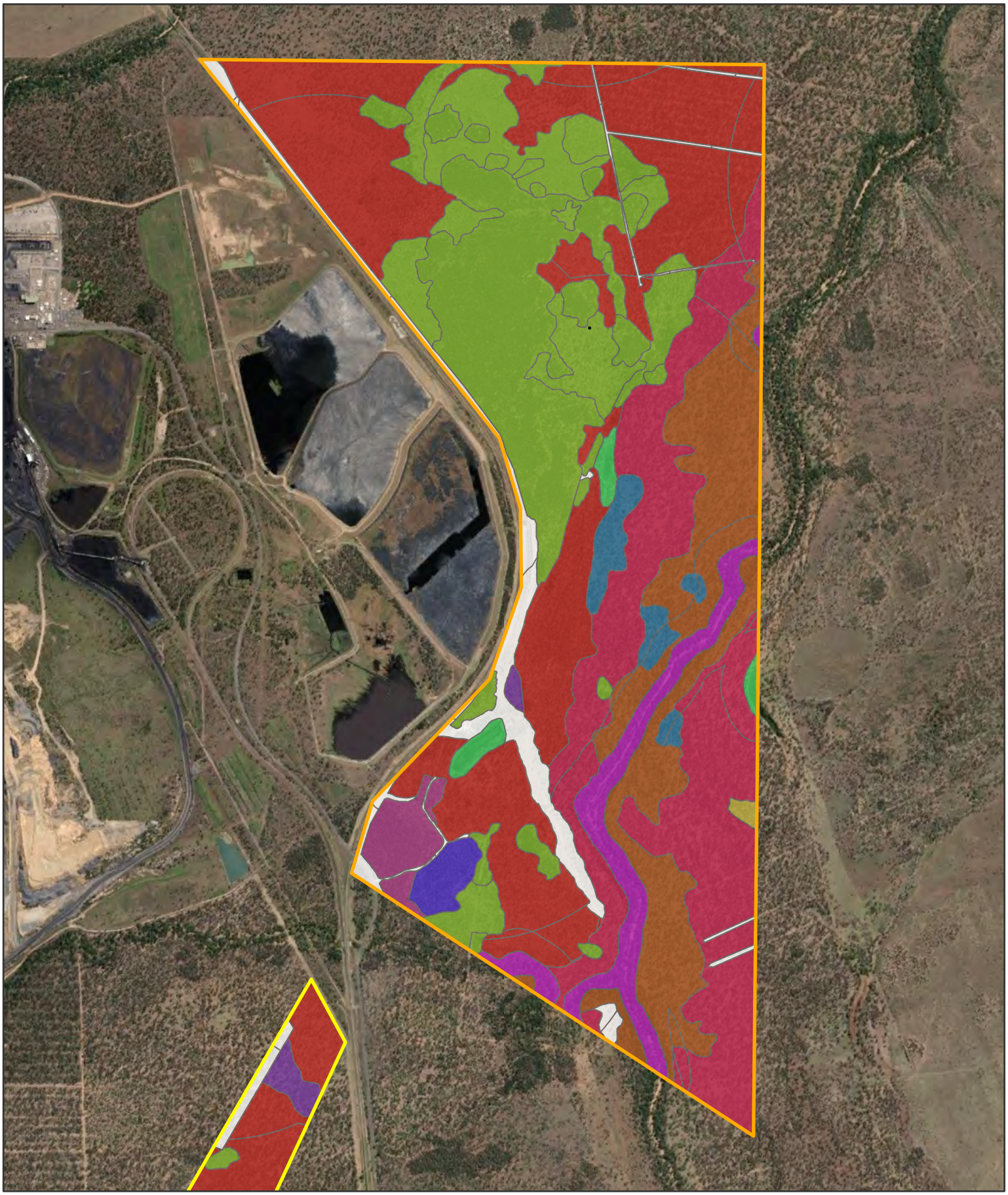

Figure 4c: Ground-truthed Regional Ecosystems - eastern

Study area (western)
Study area (eastern)
Validated RE Code
11.3.1
11.3.2
11.3.25
11.3.27f
11.3.4
11.3.9
11.4.10
11.4.8
11.4.9
11.5.3
11.5.9
Non-remnant

0 0.25 0.5 1
Kilometers

Datum/Projection:
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3.2.2 Environmentally Sensitive Areas

The current Queensland Environmentally Sensitive Areas (ESA) map identifies Category B ESA within the study area (Appendix A).

Under the *Environmental Protection Regulation 2019*, REs with an endangered Biodiversity status as defined in the REDD are classified as Category B ESAs. Therefore, REs 11.3.1, 11.3.21, 11.4.8, 11.4.9, 11.4.10, and 11.9.5, which were ground-truthed within the study area and have an endangered Biodiversity status, comprise Category B ESAs. The total extent of ground-truthed Category B ESAs throughout the study area is 803.7 ha (Table 3 and Figure 5).

No Category A ESAs are mapped or were ground-truthed within the study area.

3.2.3 Habitat types

A total of six habitat types were identified within the study area. These habitats provide a range of resources for native fauna species, including threatened species, which are described in the sections below. Habitat values associated with each habitat type are described in Table 4 and illustrated in Figure 6.

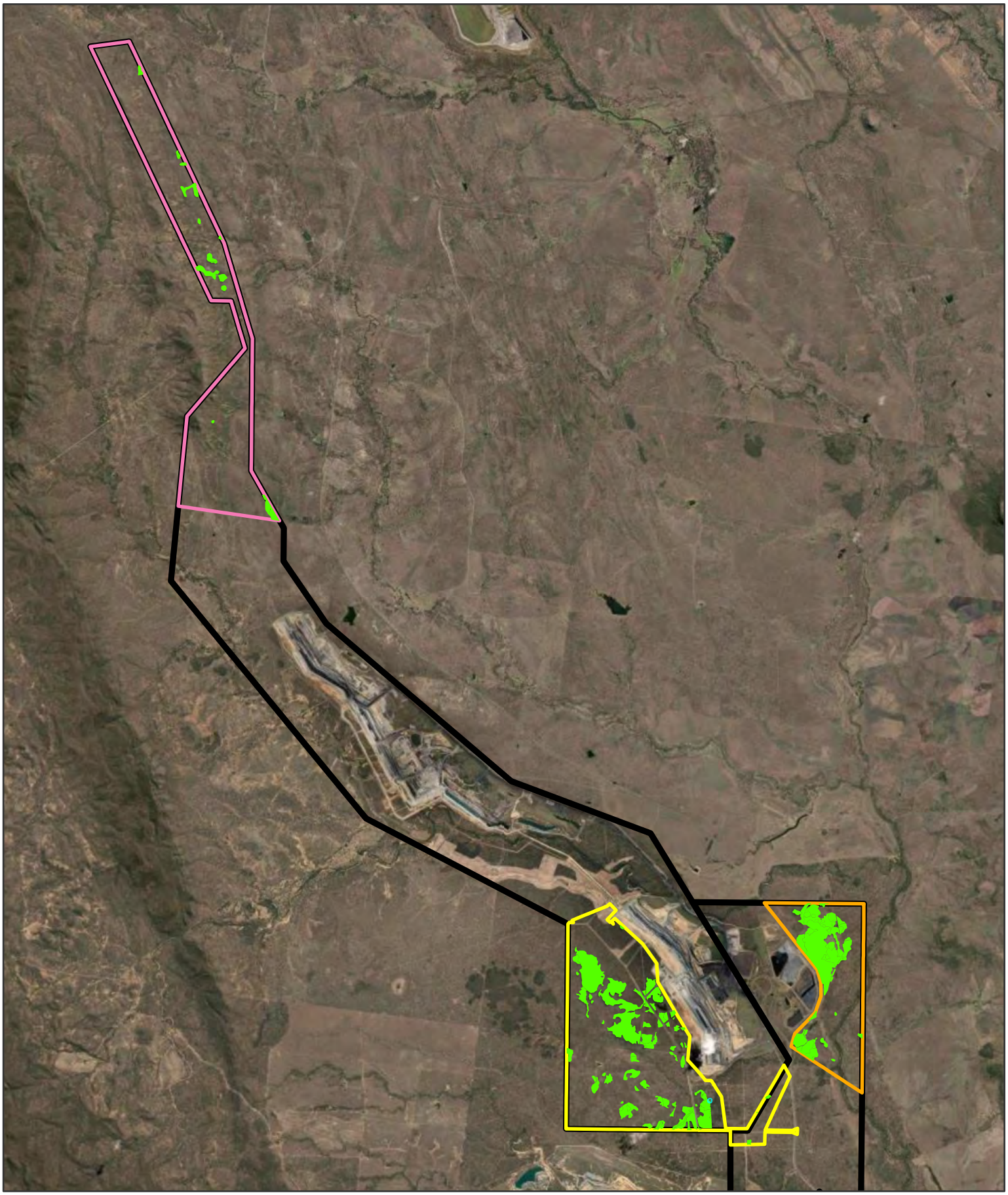

Figure 5: Category B ESAs

Study area (northern)
Study area (western)
Study area (eastern)
Mining lease
Category B ESAs

0 1.25 2.5 5
Kilometers

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Table 4 Habitat types identified within the study area

Habitat type	RE associations	Description of habitat values	Area (ha)
Brigalow woodlands	11.3.1, 11.4.8, 11.4.9, 11.4.10	This habitat type occurred in scattered patches as well as along a first-order stream throughout the westernmost section of the study area. Generally, the habitat was characterised by a mid-dense canopy dominated by *A. harpophylla* and /or sometimes with *Eucalyptus orgadophila* (mountain coolibah) and a sub-canopy often containing *Terminalia oblongata* (yellow wood). The shrub layer comprised *Carissa ovata* (currant bush) and *Lysiphyllum carronii* (Queensland ebony), amongst others. The soils were clayey loam. The cracks in the soil were varied, common but absent in some areas. The ground layer contained mostly native grasses. This habitat type is suitable for small mammals and reptiles, with a particular focus on the ornamental snake. The presence of suitable habitat for this species and/or its primary prey, frogs, has been recorded within the eastern and western sections of the study area. Marginal habitat for koala was also recorded, while squatter pigeon may occur mostly if native groundcover prevails.	711.4
Dry eucalypt woodlands	11.5.3, 11.5.8c, 11.5.9, 11.9.2, 11.9.5, 11.9.7a, 11.9.9, 11.10.7	This habitat type contained a sparse canopy cover dominated by eucalypts such as *E. populnea* or *E. crebra* (narrow-leaved ironbark) and *C. tessellaris*, or *C. clarksoniana* or/ and *C. intermedia* (pink bloodwood) with a scarce shrub layer and a grassy groundcover. Microhabitat features such as hollow bearing trees were scarce which suggests this is not preferred habitat for the greater glider (DCCEEW 2022). While there were mature trees present, their limited number did not guarantee breeding and/or foraging quality habitat for this species. Fallen woody debris was more frequent within this habitat type. Fallen woody debris and leaf litter may provide refuge for reptile and small mammal species. The squatter pigeon may also occur in open areas mostly where native groundcover prevails. This habitat type is suitable for koala due to the dominance of food trees; however, the open canopy structure of this habitat type would render it only marginally suitable for koala in extremely dry or hot conditions as it would not provide refuge against extreme weather. In the northern study area rocky outcrops were observed within this habitat type which is marginally suitable for Dasy*urus hallucatus* (northern quoll).	3,686.2
Floodplain eucalypt woodlands	11.3.2, 11.3.4, 11.3.9	This habitat type occurred on flats and plains adjacent to streams in the east and west section of the western section, as well as within the eastern section of the study area. It contained a sparse to mid-dense canopy of Eucalyptus (*E. platyphylla* (poplar gum) or *E. tereticornis* and *E. populnea*) and Corymbia (*C. tessellaris* with scarce *C. clarksoniana*). The shrub layer is sparse. Sandy loam soils with moderate groundcover, generally with a mix of native and invasive species, provide suitable habitat for squatter pigeon where present within one kilometre of water. This habitat type is dominated by koala food trees and provides preferred foraging and dispersal habitat. When present, small to medium tree hollows in mature eucalypt trees may provide refuge habitat for the greater glider, however the quality of habitat is marginal for this species given the low abundance of suitable hollows.	369.6

Habitat type	RE associations	Description of habitat values	Area (ha)
Riparian eucalypt woodlands	11.3.25, 11.3.27f	This habitat type was confined to riparian vegetation associated with a stream. It contains a sparse to mid-dense canopy, dominated by *E. tereticornis* and *C. tessellaris* with a sub-canopy of *Casuarina cunninghamii* (river she-oak) and sparse understory, shrub layer and groundcover. Sandy alluvial soils, low groundcover and some moderate sloping banks provide suitable habitat for squatter pigeon. If present, small to medium tree hollows present in mature eucalypt trees may provide habitat for greater glider but there were not enough of them during this survey. Areas along riparian zones that are dominated by koala food trees provide important habitat and connectivity values for the species.	91.8
Grassland on alluvial plains	11.3.21	This habitat type is found in a subtropical, subhumid climatic zone, characterised by a marked wet summer and moderately dry winter. It occurs on flat ground or gently undulating rises. These grasslands are dominated by native grasses, such as *Dichanthium* spp (bluegrasses), with tropical *Aristida* spp and *Panicum* spp also a major component. The native grasses are mixed with forbs and frequently include a very sparse layer of shrubs such as *Acacia salicina* (sally wattle) or *Pittosporum angustifolium* (weeping pittosporum). The tree canopy is frequently absent, and the canopy cover is typically less than ten percent, with a variable species composition that may include *Corymbia erythrophloia* (red bloodwood), *E. crebra* or *E. populnea*. This habitat, which has been recorded in the northern section of the study area, is likely to be used by the squatter pigeon for breeding, foraging or dispersal.	13.1
Non-remnant	–	This habitat type was recorded in two patches and one cleared area in the westernmost section of the study area as well as in access tracks. This habitat type included cleared and highly disturbed areas. These areas were most associated with very eroded areas, and pipeline easements.	280.2

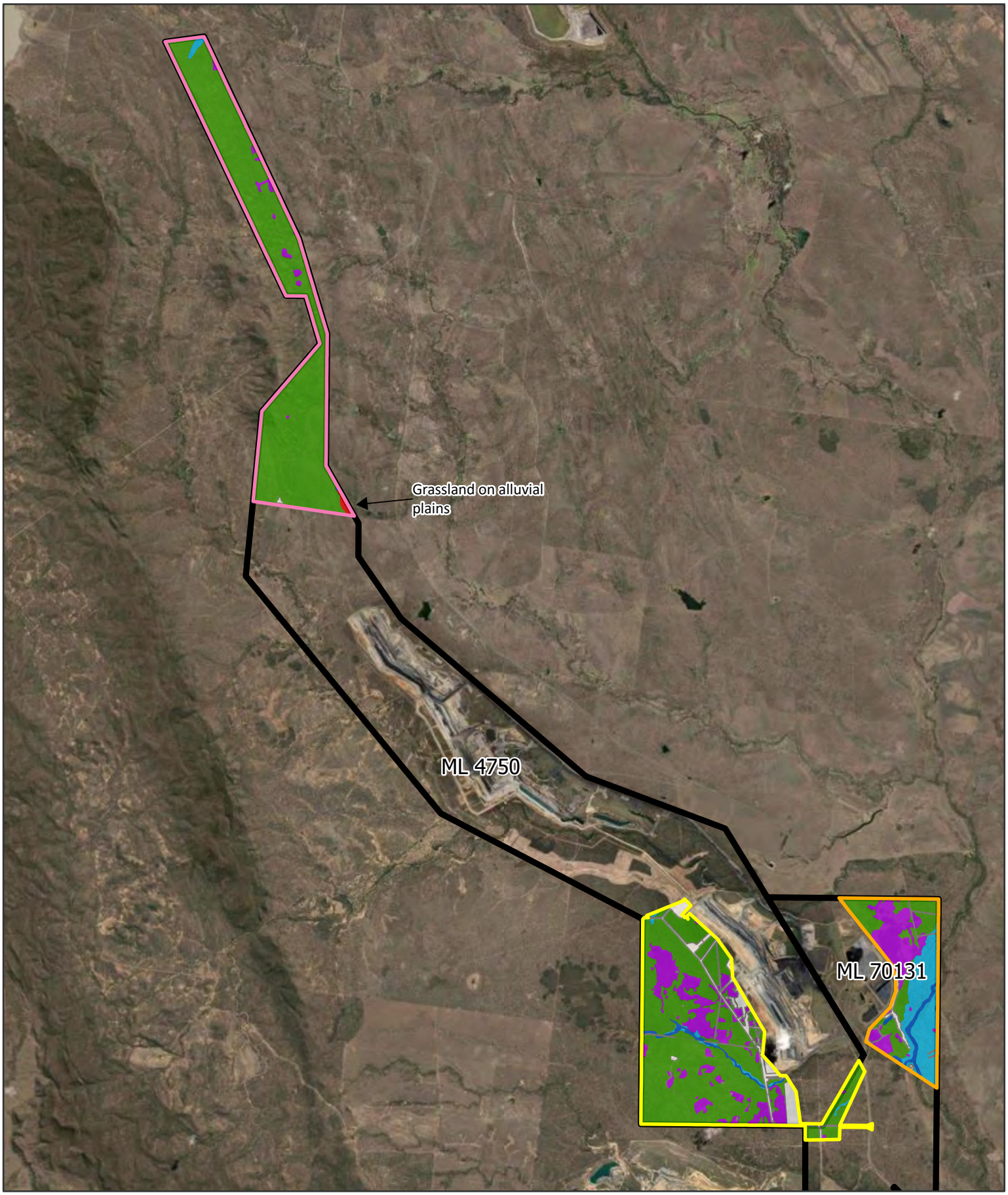

Figure 6: Habitat types

Study area (northern)
Study area (western)
Study area (eastern)
Mining lease

Habitat Types
Brigalow woodlands
Dry eucalypt woodlands
Floodplain eucalypt woodlands
Riparian eucalypt woodlands
Grassland on alluvial plains
Non-remnant areas

0 1.25 2.5 5
Kilometers

Datum/Projection:
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3.2.4 Threatened and special least concern fauna species

Three threatened fauna species listed under the NC Act, koala, greater glider and squatter pigeon, are known to occur within the study area (Table 5). Greater glider and squatter pigeon were recorded during field surveys in March and April 2024 and koala has been recorded on the boundary of the study area (western) during previous field surveys (ELA, 2019).

As well as koala, greater glider and squatter pigeon, an additional two species, ornamental snake and short-beaked echidna, are considered likely to occur within the study area (Table 5).

Fork-tailed swift and white-throated needletail, two predominantly aerial species with broad habitat preferences have the potential to occur over most habitat types within the study area. The extremely widespread distribution of these two species, their aerial ecology and broad habitat preferences mean that these species are unlikely to be affected by operational activities at SWC. While considered to have the potential to fly over habitat within the study area, these species have not been assessed further.

Table 5 NC Act listed fauna species known or likely to occur within the study area

Scientific name	Common name	NC Act status	Likelihood of occurrence	Area (ha)
Phascolarctos cinereus	Koala	Endangered	Known	4,102.0
Petauroides volans	Greater glider	Endangered	Known	543.9
Geophaps scripta scripta	Squatter pigeon	Vulnerable	Known	5,152.4
Denisonia maculata	Ornamental snake	Vulnerable	Likely	704.5
Tachyglossus aculeatus	Short-beaked echidna	Special least concern	Likely	4,872.2

Koala, greater glider, squatter pigeon and ornamental snake are all listed under the EPBC Act and habitat for these species within the study area is discussed in further detail in Section 3.3.2.

Suitable habitat for short-beaked echidna and its extent within the study area is described below.

3.2.4.1 Short-beaked echidna

Suitable habitat for short-beaked echidna is identified as all remnant vegetation within the study area, which includes a total area of 4,872.2 ha (Table 5). The species occurs in a diverse range of habitats (Rismiller 2019) provided there is a good supply of food, namely ants and termites, therefore, it is expected that the species could utilise all habitat types within the study area.

3.2.5 Threatened flora species

Based on the Protected Plants Flora Survey Trigger Map, there are areas mapped as high-risk areas for protected plants within the study area (northern). Additional targeted field surveys in accordance with the Flora Survey Guidelines - Protected Plants (DES, 2020a) would be required to be undertaken prior to any clearing in these areas to confirm presence/absence of threatened species and determine approvals requirements with respect to the NC Act.

Three NC Act listed threatened flora species have been identified as potentially occurring within the study area. These species are *Dichanthium queenslandicum* (king bluegrass), *Digitaria porrecta* (finger panic grass) and *Solanum elachophyllum* (Table 6).

Dichanthium queenslandicum is listed under the EPBC Act and habitat for this species within the study area is discussed in further detail in Section 3.3.2. Potential habitat for *Digitaria porrecta* and *Solanum elachophyllum* within the study area is presented on Figure 7 and discussed in Section 3.2.5.1 and Section 3.2.5.2, respectively.

Table 6 NC Act listed flora species potentially occurring within the study area

Scientific name	Common name	NC Act status	Likelihood of occurrence	Area (ha)
Dichanthium queenslandicum	King Bluegrass	Vulnerable	Potential	13.1
Digitaria porrecta	Finger Panic Grass	Near threatened	Potential	13.1
Solanum elachophyllum	-	Endangered	Potential	701.6

3.2.5.1 *Digitaria porrecta*

Suitable habitat for *Digitaria porrecta* within the study area is limited to a small patch of natural grassland located in the southern corner of the study area (northern). This natural grassland habitat is identified as RE 11.3.21.

3.2.5.2 Solanum elachophyllum

Suitable habitat for *Solanum elachophyllum* within the study area includes all remnant Brigalow woodlands. This habitat is identified as RE 11.3.1, 11.4.8, 11.4.9 and 11.9.5 and occurs as several small, scattered patches in the study area (northern) and several larger areas in the study area (western and eastern).

3.2.6 Animal breeding places

Animal breeding places are defined in Section 332(2) of the *Nature Conservation (Animals) Regulation 2020* and include obvious structures such as bird nests and tree hollows, as well as more cryptic places such as amphibian or reptile habitat where breeding takes place. Animal breeding places identified within the study area included stick nests, hollow bearing trees and hollow logs. Most of the identified animal breeding places were considered likely to be utilised periodically by least concern bird and mammal species, and some old growth hollow-bearing trees that were recorded potentially provide denning habitat for hollow dependent mammals, such as the greater glider (Hofman et al 2022).

3.2.7 Weeds and pest species

Five species listed as Category 3 restricted matters under the Biosecurity Act were identified in the study area. These are *Harrisia martinii* (harrisia cactus), *Opuntia stricta* (prickly pear), Parthenium *hysterophorus* (parthenium), *Vachellia nilotica* (prickly acacia) and *Lantana camara* (lantana) (Appendix C). *H. martinii* and *O. stricta* are abundant throughout the study area (western). The other species occur as scattered occurrences throughout the study area.

Three pest animal species (Appendix C) listed as Category 3 restricted matters under the Biosecurity Act were recorded within the study area *Sus scrofa* (wild boar), *Felis catus* (feral cat) and *Canis familiaris* (feral dog).

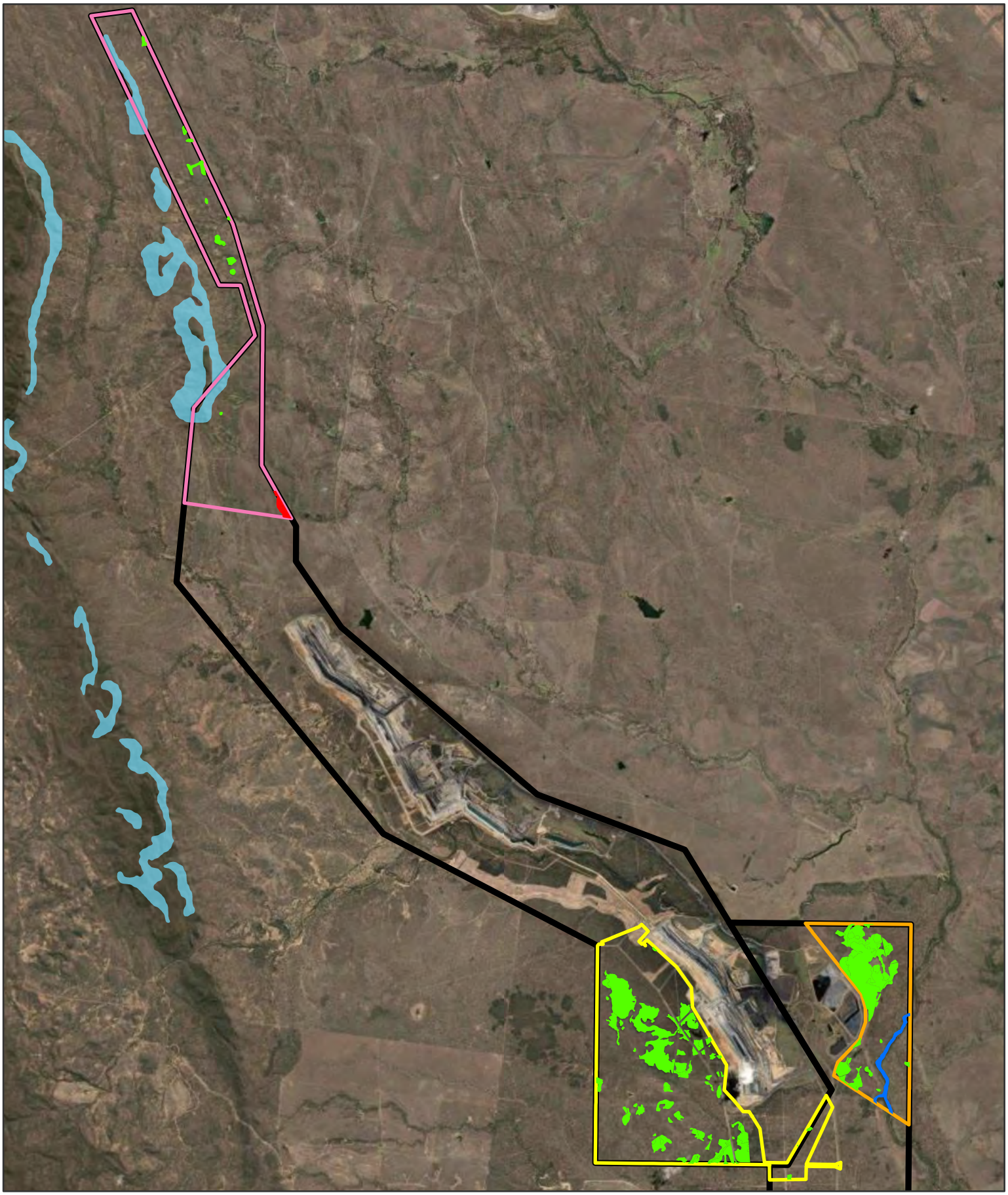

Figure 7: Threatened flora species habitat

3.2.8 Summary of MSES (Prescribed Environmental Matters)

MSES, as defined in Part 2, Section 5, and Schedule 2 of the *Environmental Offsets Regulation 2014* (EO Regulation), were assessed within the Project area. Two MSES identified in the EO Regulation are present within the Project area: regulated vegetation (prescribed REs listed as endangered and of concern, prescribed REs within a defined distance of a watercourse) and protected wildlife habitat (Table 7).

Table 7 MSES presence within study area

MSES	Presence within study area
Regulated vegetation[1] • Prescribed regional ecosystems that are endangered regional ecosystems • Prescribed regional ecosystems that are of concern regional ecosystems • Prescribed regional ecosystems that: o intersect with an area shown as a wetland on the vegetation management wetlands map (to the extent of the intersection); or o an area of essential habitat on the essential habitat map for an animal that is endangered wildlife or vulnerable wildlife or a plant that is endangered wildlife or vulnerable wildlife • A prescribed regional ecosystem to the extent that the ecosystem is located within a defined distance from the defining banks of a relevant watercourse	Present as: • Prescribed REs that are endangered: o RE 11.3.1 (5.6 ha) o RE 11.4.8 (17.4 ha) o RE 11.4.9 (645.5 ha) o RE 11.4.10 (9.8 ha) o 11.9.5 (112.3 ha) o Total: 790.6 ha. • Prescribed REs that are of concern: o RE 11.3.2 (200.2 ha) o RE 11.3.21 (13.1 ha) o RE 11.3.25 (82.4 ha) o RE 11.3.4 (142.9 ha) o RE 11.5.3 (1,688.7 ha) o RE 11.9.7a (412.6 ha). o Total: 2,539.9 ha • Prescribed REs that are essential habitat for koala, greater glider[2], squatter pigeon, ornamental snake, short-beaked echidna. • Prescribed REs that are located within a defined distance from the defining banks of a relevant watercourse[3] within a total area of 333.2 ha. (Not present as regional ecosystems that intersect an area shown as a wetland on the vegetation management wetlands map.)
Wetlands and watercourses • a wetland: o in a wetland protection area (WPA); or o of high ecological significance (HES) shown on the map of Queensland wetland environmental values • a wetland or watercourse in high ecological value waters.	Not present
Designated precinct in a strategic environmental area	Not present
Protected wildlife habitat	Present as suitable habitat for: • Protected plants (i.e. within the high risk-trigger area) (113.3 ha) • Koala (4,102.0 ha) • Greater glider (543.9 ha) • Squatter pigeon (5,152.4 ha)

MSES	Presence within study area
	• Ornamental snake (704.5 ha) • Short-beaked echidna (4,872.2 ha).
Protected areas	Not present
Highly protected zones of State marine parks	Not present
Fish habitat areas	Not present
Waterway providing for fish passage	Not present
Marine plants	Not present
Legally secured offset areas	Not present

[1]Definition of prescribed RE is in the EO Regulation and does not include regrowth vegetation; [2]Per VM Act essential habitat map. Essential habitat for koala, squatter pigeon and ornamental snake was ground-truthed within the study area. [3]Watercourses as shown on the vegetation management watercourse and drainage feature map (version 7.00) that intersect the study area were in accordance with the defined distances provided in Appendix 3 of the Queensland Environmental Offsets Policy (version 1.15).

3.3 Commonwealth values

3.3.1 Threatened ecological communities

Five TECs were identified in the desktop assessment as potentially occurring within the study area, which were:

- Brigalow (*A. harpophylla* dominant and co-dominant) (Brigalow TEC)
- Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland
- Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin (Natural Grasslands TEC)
- Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions
- Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box TEC).

Field survey results confirmed the presence of Brigalow TEC, Poplar Box TEC and Natural Grasslands TEC (Table 8 and Figure 8).

Table 8 Ground-truthed TECs within the study area

TEC	Area (ha)
Brigalow TEC	291.2
Poplar Box Grassy Woodland on Alluvial Plains TEC	186.9
Natural grasslands TEC	13.1

Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions TEC and Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland were not identified within the study area.

3.3.2 Threatened and migratory fauna species

Habitat for five threatened fauna species listed under the EPBC Act was ground-truthed within the study area (Table 9). Habitat for each of these species within the study area is described in the sections below.

Table 9 EPBC Act listed fauna species known or likely to occur within the study area

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Area (ha)
Phascolarctos cinereus	Koala	Endangered	Known	4,102.0
Petauroides volans	Greater glider	Endangered	Known	543.9
Geophaps scripta scripta	Squatter pigeon	Vulnerable	Known	5,152.4
Denisonia maculata	Ornamental snake	Vulnerable	Likely	704.5
Dasyurus hallucatus	Northern quoll	Endangered	Potential	131.7

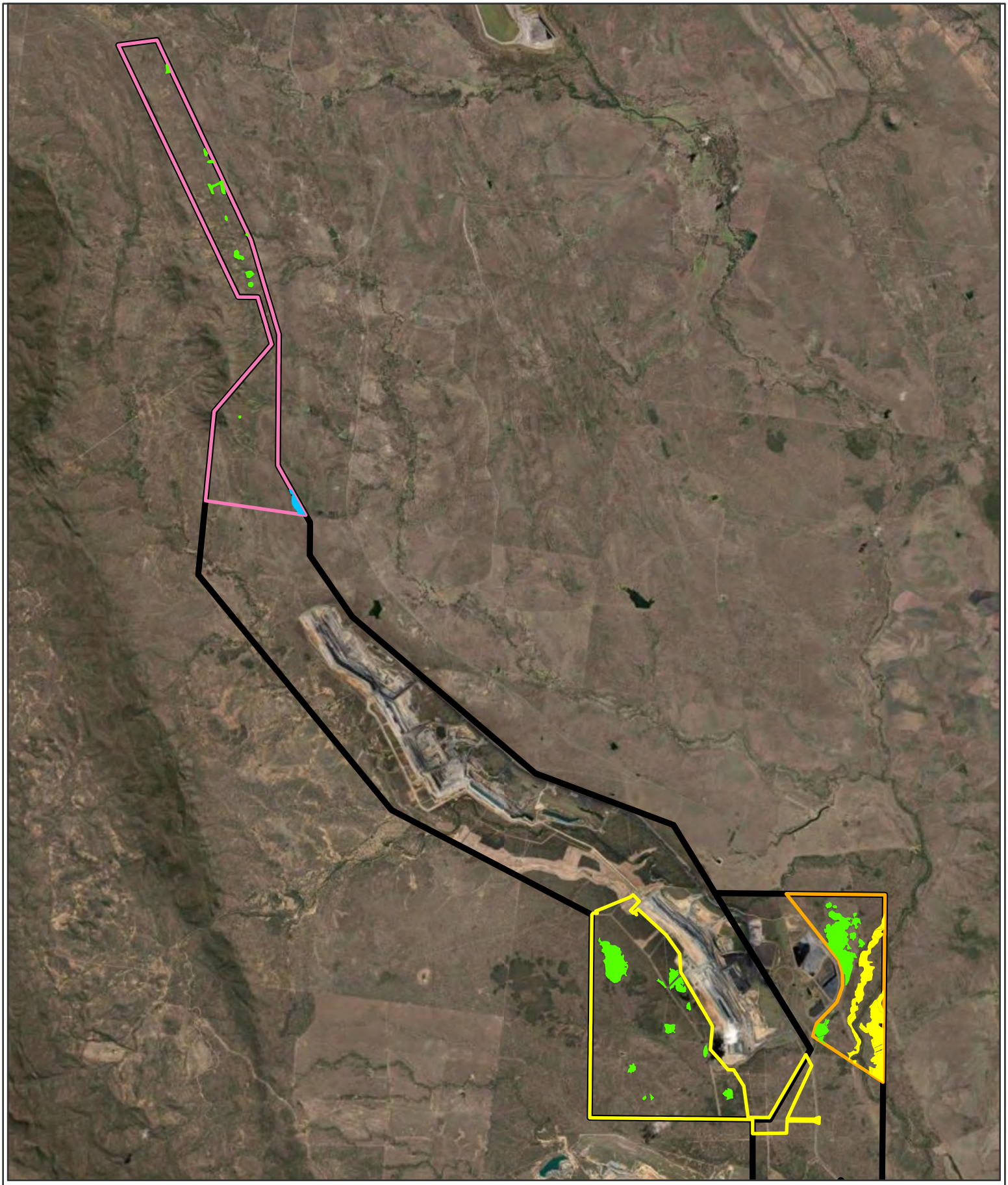

Figure 8: Threatened Ecological Communities

Study area (northern)
Study area (western)
Study area (eastern)
Mining lease

Threatened Ecological Community (TEC)

Brigalow TEC
Natural Grassland TEC
Poplar Box TEC

0 1.25 2.5 5
Kilometers

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3.3.2.1 Koala

Koala habitat was ground-truthed across large portions of the study area (northern, western and eastern) (Table 5 and Figure 9). Koala habitat can be broadly defined as any forest or woodland containing canopy species that are known koala food trees, or shrubland with emergent food trees. In semi-arid environments in the western parts of the species' range, koala inhabit eucalypt dominated forests and woodlands, particularly near riparian environments.

Areas of preferred habitat included fringing riparian woodlands (RE 11.3.25) and eucalypt woodlands to open forest on alluvial plains (REs 11.3.2, 11.3.27f, 11.3.4, 11.3.9). Suitable habitat included all areas of dry eucalypt woodland habitat.

3.3.2.2 Greater glider

Greater glider habitat was ground-truthed within the study area (eastern and western only) in association with riparian and alluvial floodplain vegetation (Table 5 and Figure 9). Four individuals of the species were recorded during field surveys within the study area in March and April 2024, and greater glider has previously been recorded in habitat contiguous with the study area (ELA 2019) (Figure 9).

Greater glider is known to forage on eucalypt leaves and occasionally flowers and requires good habitat connectivity and an abundance of large hollows for breeding and sheltering. Preferred habitat for the species within the study area includes fringing riparian woodlands (RE11.3.25) and suitable habitat includes all floodplain eucalypt woodlands and adjacent areas of dry eucalypt woodlands (dominated by *Eucalyptus populnea* or *Eucalyptus platyphylla*).

3.3.2.3 Squatter pigeon

Squatter pigeon habitat was ground-truthed across all parts of the study area (northern, western and eastern) (Table 9 and Figure 10). Squatter pigeon was recorded within the study area (western) during the field survey and has been recorded during recent field surveys adjacent to the study area (western) and directly adjacent to the study area (northern) (Figure 10).

Squatter pigeon generally inhabits the grassy understorey of Eucalyptus, Corymbia, Acacia or Callitris dominated woodlands on well-draining sandy soils on gently sloping, flat to undulating plains, with a patchy ground cover (DoE 2024a). The species requires access to water on a near daily basis. Suitable water sources identified within the study area include dams, ephemeral watercourses, and a string of oxbow lagoons in the study area (eastern).

All remnant and non-remnant areas within the study area are considered to comprise habitat for squatter pigeon.

3.3.2.4 Ornamental snake

Ornamental snake habitat was ground-truthed within the study area (western and eastern) (Table 5 and Figure 10). The species occurs within Brigalow dominated woodland and open forest habitats in moist areas such as floodplains, undulating clay pans, near waterbodies (swamps and lakes) and along watercourses. It prefers these moist areas due to its diet of mostly frogs. The species shelters under woody debris and in soil cracks, particularly gilgais, where it can remain inactive for many months during dry periods.

Ornamental snake habitat within the study area includes Brigalow dominated woodlands on alluvial (RE 11.3.1) and on clay plains (RE 11.4.8 and 11.4.9), some areas of eucalypt dominated woodlands on alluvial (RE 11.3.4), a small patch of *Eucalyptus populnea* woodland with a Brigalow understory on clay plains (RE 11.4.10) and freshwater wetlands (RE 11.3.27f). Some non-remnant areas adjacent to these habitat types were also mapped as suitable habitat for ornamental snake where they also contained essential microhabitat features such as gilgais and deep soil cracks.

Brigalow dominated woodlands within the study area (northern) identified as RE 11.9.5, did not have the required microhabitat features (gilgais, soil cracks, abundant coarse woody debris) to comprise habitat for ornamental snake.

3.3.2.5 Northern quoll

Habitat for northern quoll is present in the study area (northern). Potential habitat for the species was identified in association with a rocky ridge which intersects the western boundary of the study area (northern) in two locations (Figure 10). This habitat is identified as RE 11.10.7 and is considered to be of marginal habitat value for the species.

3.3.3 Threatened flora species

Three threatened flora species listed under the EPBC Act were identified as potentially occurring within the study area, *Dichanthium queenslandicum* (king bluegrass), *Dichanthium setosum* (bluegrass) and *Eucalyptus raveretiana* (black ironbox). Habitat for *Dichanthium queenslandicum* and *Dichanthium setosum* within the study area is limited to a small patch of natural grassland located in the southern corner of the study area (northern) (Table 9 and Figure 7). This natural grassland habitat is identified as RE 11.3.21 and occurs within an area of 13.1 ha. Potential habitat for *Eucalyptus raveretiana* is limited to the riparian channel of Bee Creek in the study area (eastern) (Table 10 and Figure 7). This vegetation is dominated by *Eucalyptus tereticornis* and identified as RE 11.3.25.

Table 10 EPBC Act listed flora species potentially occurring within the study area

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Area (ha)
Dichanthium queenslandicum	king bluegrass	Endangered	Potential	13.1
Dichanthium setosum	bluegrass	Vulnerable	Potential	13.1
Eucalyptus raveretiana	black ironbox	Vulnerable	Potential	37.4

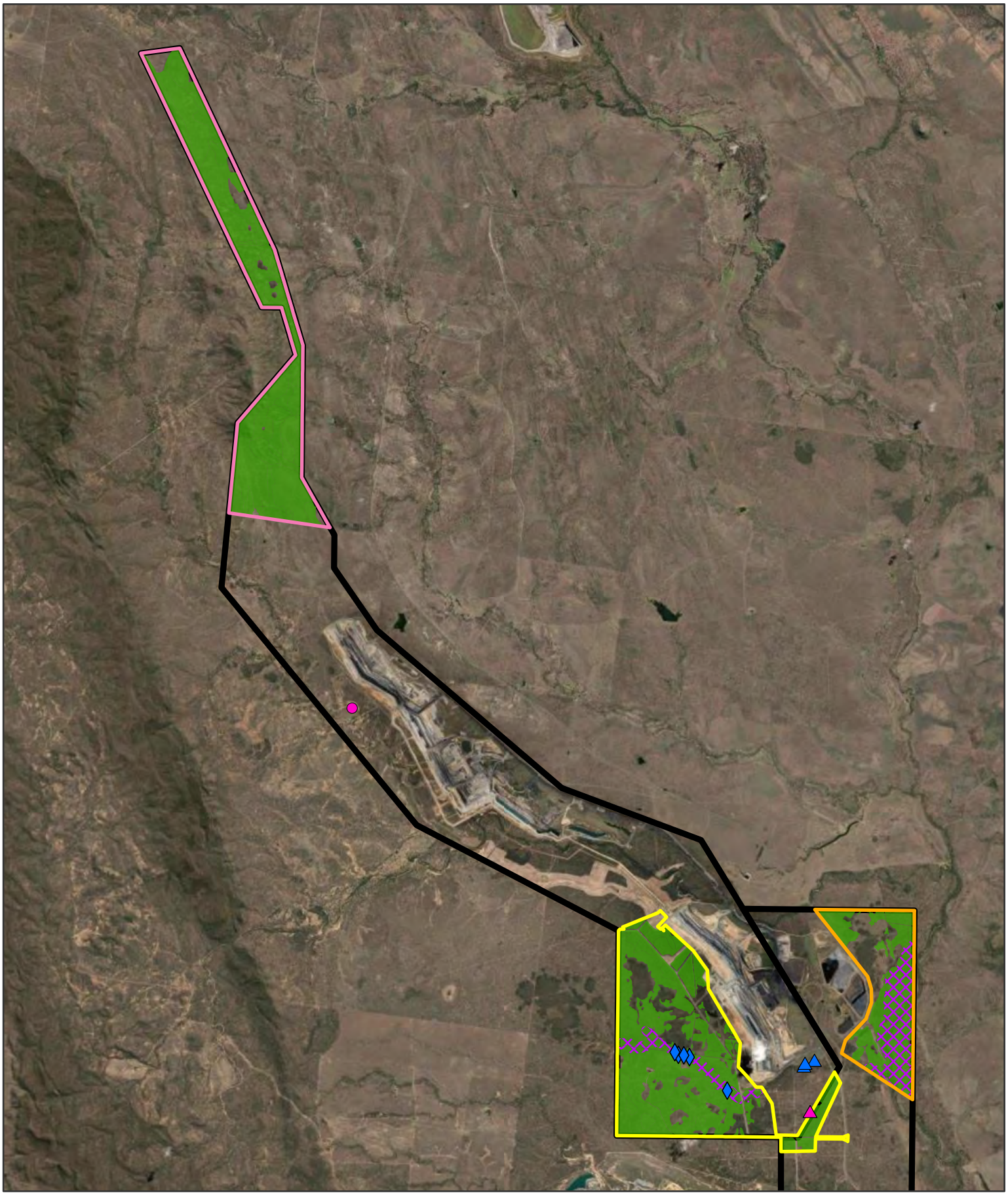

Figure 9: Koala and greater glider habitat and species records

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining lease
- Greater glider habitat
- Koala habitat
- Koala record (ELA, 2020)
- Koala record (ELA, 2019)
- Greater glider record (ELA, 2019)
- Greater glider record (ELA, 2024)

0 1.25 2.5 5
Kilometers

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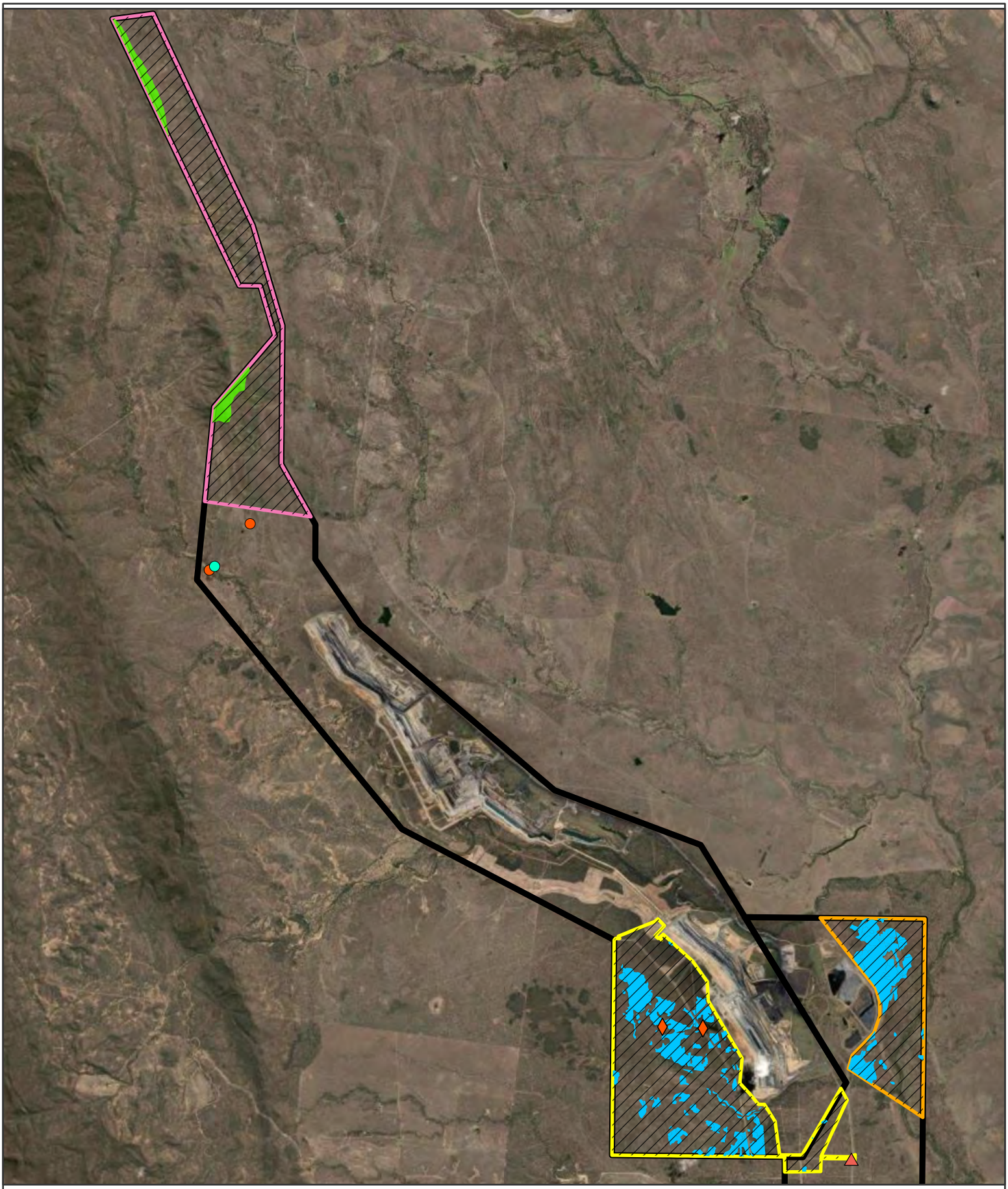

Figure 10: Squatter pigeon, ornamental snake and northern quoll habitat

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining lease
- Ornamental snake habitat
- Northern quoll habitat
- Squatter pigeon habitat
- Ornamental snake record (ELA, 2020)
- Squatter pigeon record (ELA, 2020)
- Squatter pigeon record (ELA, 2019)
- Squatter pigeon record (ELA, 2024)

0 1.25 2.5 5
Kilometers

Datum/Projection:
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4. Conclusion

Four field surveys conducted between 26 February – 3 May 2024 were undertaken to validate on-ground ecological values within the study area. The field surveys identified the study area as predominantly remnant vegetation with non-remnant areas interspersed throughout, associated with existing mine infrastructure such as access tracks and powerline or pipeline easements.

Ecological values identified within the study area include Category B ESAs, Regulated vegetation, Protected wildlife habitat, TECs and threatened flora and fauna species habitat. High-risk areas for protected plants are mapped within the study area (northern) which require additional targeted flora surveys to be undertaken in accordance with the Flora Survey Guidelines - Protected Plants (DES, 2020a) prior to any clearing in these areas. Depending on the results of detailed flora surveys, clearing within any of the mapped high-risk areas will trigger approvals requirements under the NC Act, requiring either submission of an exempt clearing notification or approval of a protected plant clearing permit.

Based on the results of the desktop and field survey findings, it is recommended that impact assessment is undertaken prior to any proposed works with the study area and appropriate mitigation and management measures are developed to ensure potential impacts to ecological values are minimised. Mitigation and management should consider, but not be limited to, the following recommendations:

- the environmental mitigation hierarchy of avoid, minimise and mitigate impacts is implemented through the Project
- vegetation clearing is minimised and refined to the greatest extent possible
- secondary impacts to remnant vegetation are minimised and managed during the works to protect threatened species in the study area, through implementation of management plans including Weed and Feral Animal Management Procedure and Bushfire Management Plan
- Project impacts aim to protect and minimise impacts to drainage lines, riparian zones and patches that exhibit resilience to periods of environmental stress, including droughts and heatwaves. Such areas constitute climate refugia and may prove to be of strategic importance for threatened species such as koala and greater glider, as well as threatened bird species such as squatter pigeon
- measures are developed and implemented as part of the project environmental management plan to protect threatened species and their habitat as far as practicable.
- fauna spotter catcher(s) are present prior to/during vegetation clearing, in compliance with the approved SWC Species Management Program
- If any threatened flora or fauna species are found during works, an unexpected threatened species finds protocol is to be in place. This protocol is to be developed before the commencement of works.

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Appendix A Desktop assessment results

Appendix A Desktop assessment results

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: 28-Apr-2024

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:	35
Listed Migratory Species:	14

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:	19
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:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	16
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
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may 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 known to 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
[Hirundapus caudacutus](#)			
White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[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 likely to occur within area	In feature area
[Stagonopleura guttata](#)			
Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tyto novaehollandiae kimberli](#)			
Masked Owl (northern) [26048]	Vulnerable	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 known to occur within area	In feature area
[Macroderma gigas](#)			
Ghost Bat [174]	Vulnerable	Species or species habitat likely to 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Petauroides minor			
Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
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
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
PLANT			
Bertya opponens			
[13792]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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 likely to occur within area	In feature area
Dichanthium setosum			
bluegrass [14159]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus raveretiana			
Black Ironbox [16344]	Vulnerable	Species or species habitat known to occur within area	In feature area
Omphalea celata			
[64586]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phlegmariurus tetrastichoides			
Square Tassel Fern [86555]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Solanum graniticum Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In buffer area only
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 buffer area only
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In buffer area only
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			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In buffer area only
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to 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 feature area
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 likely to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area overfly marine area	In buffer area only
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Homevale	National Park	QLD	In buffer area only

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Lake Elphinstone	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Urannah Dam and Pipelines Project	2020/8708		Completed	In buffer area only
Controlled action				
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In feature area
Ellensfield Underground Coal Mine	2007/3643	Controlled Action	Post-Approval	In buffer area only
Goonyella Riverside Mine to South Walker Creek Mine Dragline Move	2016/7788	Controlled Action	Completed	In buffer area only
Hail Creek coal mine extension transition project, Bowen Basin, Qld	2014/7240	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Hillalong coal mine and associated infrastructure project	2012/6566	Controlled Action	Post-Approval	In feature area
Kemmis 2 open cut coal mine South Walker Creek, 25 km WSW of Nebo Bowen Basin, QLD	2013/7025	Controlled Action	Post-Approval	In buffer area only
MRA2C Project, South Walker Creek Operations	2017/7957	Controlled Action	Post-Approval	In buffer area only
New Lenton Coal Project	2012/6303	Controlled Action	Completed	In buffer area only
New Lenton Coal Project, 65kms north of Moranbah, QLD	2020/8778	Controlled Action	Assessment Approach	In buffer area only
South Walker Creek Mulgrave Pit mine extension, Nebo, QLD	2014/7272	Controlled Action	Post-Approval	In buffer area only
The Broughton Coal Mine Project, Bowen Basin, QLD	2014/7132	Controlled Action	Completed	In buffer area only
Not controlled action				
Hail Creek open cut coal mine expansion	2006/2506	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Nebo to Strathmore 275kV Transmission Line	2006/2997	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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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: 20-Feb-2024

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:	5
Listed Threatened Species:	44
Listed Migratory Species:	16

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:	21
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:	5
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	64
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 buffer area only
Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland	Endangered	Community may occur within area	In buffer area only
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
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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 likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area	In buffer area only
FROG			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Taudactylus eungellensis](#) Eungella Day Frog [1887]	Endangered	Species or species habitat likely to 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 known to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to 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 minor](#) Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Petauroides volans](#) Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
[Petaurus australis australis](#) Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[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
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
PLANT			
[Arthraxon hispidus](#) Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bertya opponens [13792]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Cycas ophiolitica [55797]	Endangered	Species or species habitat may occur within area	In buffer area only
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 known to occur within area	In feature area
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat known to occur within area	In feature area
Omphalea celata [64586]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Ozothamnus eriocephalus [56133]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phalaenopsis rosenstromii listed as Phalaenopsis amabilis subsp. rosenstromii Native Moth Orchid [15984]	Endangered	Species or species habitat may occur within area	In buffer area only
Phlegmariurus tetrastichoides Square Tassel Fern [86555]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Polianthion minutiflorum [82772]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Solanum graniticum Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In buffer area only
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 buffer area only
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In buffer area only
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In buffer area only
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 Marine Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			
[Cuculus optatus](#) Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area	In buffer area only
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 known to occur within area	In feature area
Pandion haliaetus			
Osprey [952]		Breeding known to 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

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 feature area
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[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 known to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In buffer area only
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca			
Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
Pandion haliaetus			
Osprey [952]		Breeding known to occur within area	In buffer area only
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only
Reptile			
Crocodylus porosus			
Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Crediton	Forest Reserve	QLD	In buffer area only
Dipperu	National Park (Scientific)	QLD	In buffer area only
Homevale	National Park	QLD	In buffer area only
Homevale	Resources Reserve	QLD	In buffer area only
Homevale	Conservation Park	QLD	In buffer area only

Nationally Important Wetlands

[Resource Information]

Wetland Name	State	Buffer Status
Lake Elphinstone	QLD	In buffer area only

EPBC Act Referrals

[Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Caval Ridge Mine Horse Pit Extension, Bowen Basin	2021/9031		Assessment	In buffer area only
Isaac Downs coal mine project, near Moranbah, Qld	2019/8413		Post-Approval	In buffer area only
Isaac River Coal Mine Project	2021/8980		Post-Approval	In buffer area only
Moranbah North & Grosvenor Mines rail and pipeline realignment	2023/09489		Assessment	In buffer area only
Moranbah North Extension Project, Moranbah, Qld	2018/8338		Post-Approval	In buffer area only
Olive Downs Project	2005/2377		Post-Approval	In buffer area only
Olive Downs Project Mine Site and Access Road	2017/7867		Post-Approval	In buffer area only
Peak Downs Mine Continuation Project	2022/09350		Assessment	In buffer area only
Urannah Dam and Pipelines Project	2020/8708		Completed	In buffer area only
Winchester South Project Mine Site and Access Road, near Moranbah, Qld	2019/8460		Assessment	In buffer area only
Controlled action				
Alpha Coal Project - Mine and Rail Development	2008/4648	Controlled Action	Post-Approval	In buffer area only
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In buffer area only
Caval Ridge Open Cut Coal Mine Project	2008/4417	Controlled Action	Post-Approval	In buffer area only
Codrilla Open Cut Coal Mining and Processing Operation with Associated Infrastructure	2009/4892	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
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 buffer area only
Develop an Open Cut Coal Mine at Daunia	2008/4418	Controlled Action	Post-Approval	In buffer area only
Eagle Downs Coal Mine Central Queensland	2008/3945	Controlled Action	Post-Approval	In buffer area only
Ellensfield Underground Coal Mine	2007/3643	Controlled Action	Post-Approval	In buffer area only
Establishment of Galilee Coal Mine and Associated Infrastructure	2009/4737	Controlled Action	Post-Approval	In buffer area only
Extension to the exisiting 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
Hail Creek coal mine extension transition project, Bowen Basin, Qld	2014/7240	Controlled Action	Post-Approval	In buffer area only
Harrybrandt Open Cut Coal Mine and Associated Infrastructure, Bowen Basin, Qld	2012/6483	Controlled Action	Completed	In buffer area only
Hillalong coal mine and associated infrastructure project	2012/6566	Controlled Action	Post-Approval	In buffer area only
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only
Kemmis 2 open cut coal mine South Walker Creek, 25 km WSW of Nebo Bowen Basin, QLD	2013/7025	Controlled Action	Post-Approval	In buffer area only
Millenium Open Cut Coal Mine Expansion Project, QLD	2009/4821	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				
MRA2C Project, South Walker Creek Operations	2017/7957	Controlled Action	Post-Approval	In buffer area only
New Lenton Coal Project	2012/6303	Controlled Action	Completed	In buffer area only
New Lenton Coal Project, 65kms north of Moranbah, QLD	2020/8778	Controlled Action	Assessment Approach	In buffer area only
Olive Downs Project Electricity Transmission Line	2017/7869	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Rail Spur	2017/7870	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Water Pipeline	2017/7868	Controlled Action	Post-Approval	In buffer area only
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 buffer area only
Relocation of approximately 16km of Dysart Road and associated service infrastructure	2013/6868	Controlled Action	Post-Approval	In buffer area only
South Walker Creek Mulgrave Pit mine extension, Nebo, QLD	2014/7272	Controlled Action	Post-Approval	In buffer area only
The Broughton Coal Mine Project, Bowen Basin, QLD	2014/7132	Controlled Action	Completed	In buffer area only
The Grosvenor Coal Mine Project	2007/3785	Controlled Action	Post-Approval	In buffer area only
Winchester South Project Electricity Transmission Line, near Moranbah, Qld	2019/8458	Controlled Action	Assessment Approach	In buffer area only
Winchester South Project Water Pipeline, near Moranbah, Qld	2019/8459	Controlled Action	Assessment Approach	In buffer area only
Not controlled action				
275 kV double circuit transmission line	2006/2896	Not Controlled Action	Completed	In buffer area only
Broadlea North Coal Project open cut mine and associated infrastructure	2005/2179	Not Controlled Action	Completed	In buffer area only
Broadlea to Mallawa and Mallawa to Wotonga Rail Duplication	2006/3046	Not Controlled Action	Completed	In buffer area only
Carborough Downs mine extension	2006/3085	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
construction and operation of Carborough Downs Mine	2005/2064	Not Controlled Action	Completed	In buffer area only
Coppabella-Ingsdon Railway Duplication	2008/4103	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
Hail Creek open cut coal mine expansion	2006/2506	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
Nebo to Strathmore 275kV Transmission Line	2006/2997	Not Controlled Action	Completed	In buffer area only
Nebo Town Water Supply Pipeline	2012/6416	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 buffer area only
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
Not controlled action (particular manner)				
Moranbah South Feasibility Seismic Survey	2010/5497	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Moranbah South Project 2013 Seismic Exploration Program, Qld	2013/6814	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Expansion of open cut coal mine and diversion of creeks in existing mine operati	2006/2845	Referral Decision	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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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: 05-Aug-2024

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:	5
Listed Threatened Species:	43
Listed Migratory Species:	16

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:	21
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:	5
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	58
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
Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland	Endangered	Community may occur within area	In buffer area only
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
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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 likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area	In buffer area only
FROG			
Taudactylus eungellensis Eungella Day Frog [1887]	Endangered	Species or species habitat likely to occur within area	In buffer area only
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to 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 minor](#) Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Petauroides volans](#) Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
[Petaurus australis australis](#) Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[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
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
PLANT			
[Arthraxon hispidus](#) Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Bertya opponens](#) [13792]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cycas ophiolitica [55797]	Endangered	Species or species habitat may occur within area	In buffer area only
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 known to occur within area	In feature area
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat known to occur within area	In feature area
Omphalea celata [64586]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Ozothamnus eriocephalus [56133]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phalaenopsis rosenstromii listed as Phalaenopsis amabilis subsp. rosenstromii Native Moth Orchid [15984]	Endangered	Species or species habitat may occur within area	In buffer area only
Phlegmariurus tetrastichoides Square Tassel Fern [86555]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Solanum graniticum Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In buffer area only
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 buffer area only
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In buffer area only
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In buffer area only
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 Marine Species			
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In buffer area only
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Breeding known to 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

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 feature area
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 known to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In buffer area only
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Pandion haliaetus](#) Osprey [952]		Breeding known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only
Reptile			
Crocodylus porosus			
Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Crediton	Forest Reserve	QLD	In buffer area only
Dipperu	National Park (Scientific)	QLD	In buffer area only
Homevale	Resources Reserve	QLD	In buffer area only
Homevale	Conservation Park	QLD	In buffer area only
Homevale	National Park	QLD	In buffer area only

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Lake Elphinstone	QLD	In buffer area only

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
Barada Barna Road upgrade	2024/09791		Assessment	In buffer area only
Coppabella Mine Humbug Gully Project	2024/09867		Referral Decision	In buffer area only
Isaac Downs coal mine project, near Moranbah, Qld	2019/8413		Post-Approval	In buffer area only
Isaac River Coal Mine Project	2021/8980		Post-Approval	In buffer area only
Moranbah North & Grosvenor Mines rail and pipeline realignment	2023/09489		Assessment	In buffer area only
Moranbah North Extension Project, Moranbah, Qld	2018/8338		Post-Approval	In buffer area only
Olive Downs Project	2005/2377		Post-Approval	In buffer area only
Olive Downs Project Mine Site and Access Road	2017/7867		Post-Approval	In buffer area only
Urannah Dam and Pipelines Project	2020/8708		Completed	In buffer area only
Winchester South Project Electricity Transmission Line, near Moranbah, Qld	2019/8458		Approval	In buffer area only
Winchester South Project Mine Site and Access Road, near Moranbah, Qld	2019/8460		Approval	In buffer area only
Winchester South Project Water Pipeline, near Moranbah, Qld	2019/8459		Approval	In buffer area only
Controlled action				
Alpha Coal Project - Mine and Rail Development	2008/4648	Controlled Action	Post-Approval	In buffer area only
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In feature area
Codrilla Open Cut Coal Mining and Processing Operation with Associated Infrastructure	2009/4892	Controlled Action	Post-Approval	In buffer area only
Construct and Operate the Connors River Dam and Pipelines	2008/4429	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Develop an Open Cut Coal Mine at Daunia	2008/4418	Controlled Action	Post-Approval	In buffer area only
Eagle Downs Coal Mine Central Queensland	2008/3945	Controlled Action	Post-Approval	In buffer area only
Ellensfield Underground Coal Mine	2007/3643	Controlled Action	Post-Approval	In buffer area only
Establishment of Galilee Coal Mine and Associated Infrastructure	2009/4737	Controlled Action	Post-Approval	In buffer area only
Extension to the exisiting Isaac Plains Mine, near Moranbah, Qld	2016/7827	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
Hail Creek coal mine extension transition project, Bowen Basin, Qld	2014/7240	Controlled Action	Post-Approval	In buffer area only
Harrybrandt Open Cut Coal Mine and Associated Infrastructure, Bowen Basin, Qld	2012/6483	Controlled Action	Completed	In buffer area only
Hillalong coal mine and associated infrastructure project	2012/6566	Controlled Action	Post-Approval	In buffer area only
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only
Kemmis 2 open cut coal mine South Walker Creek, 25 km WSW of Nebo Bowen Basin, QLD	2013/7025	Controlled Action	Post-Approval	In buffer area only
Millenium Open Cut Coal Mine Expansion Project, QLD	2009/4821	Controlled Action	Post-Approval	In buffer area only
Moranbah South Project Coal Mine, QLD	2012/6337	Controlled Action	Post-Approval	In buffer area only
MRA2C Project, South Walker Creek Operations	2017/7957	Controlled Action	Post-Approval	In buffer area only
New Lenton Coal Project	2012/6303	Controlled Action	Completed	In buffer area only
New Lenton Coal Project, 65kms north of Moranbah, QLD	2020/8778	Controlled Action	Assessment Approach	In buffer area only
Olive Downs Project Electricity Transmission Line	2017/7869	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Olive Downs Project Rail Spur	2017/7870	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Water Pipeline	2017/7868	Controlled Action	Post-Approval	In buffer area only
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 buffer area only
South Walker Creek Mulgrave Pit mine extension, Nebo, QLD	2014/7272	Controlled Action	Post-Approval	In buffer area only
The Broughton Coal Mine Project, Bowen Basin, QLD	2014/7132	Controlled Action	Completed	In buffer area only
The Grosvenor Coal Mine Project	2007/3785	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
275 kV double circuit transmission line	2006/2896	Not Controlled Action	Completed	In buffer area only
Broadlea North Coal Project open cut mine and associated infrastructure	2005/2179	Not Controlled Action	Completed	In buffer area only
Broadlea to Mallawa and Mallawa to Wotonga Rail Duplication	2006/3046	Not Controlled Action	Completed	In buffer area only
Carborough Downs mine extension	2006/3085	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
Coppabella-Ingsdon Railway Duplication	2008/4103	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
Hail Creek open cut coal mine expansion	2006/2506	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
Nebo to Strathmore 275kV Transmission Line	2006/2997	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Nebo Town Water Supply Pipeline	2012/6416	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 buffer area only
Upgrade of a section of the Goonyella Rail System	2011/5857	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Moranbah South Feasibility Seismic Survey	2010/5497	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Expansion of open cut coal mine and diversion of creeks in existing mine operati	2006/2845	Referral Decision	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.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Queensland status: Rare and threatened species
Records: All
Date: All
Latitude: -21.6279
Longitude: 148.3397
Distance: 20
Email: max@trendenvironmental.com.au
Date submitted: Tuesday 16 Apr 2024 09:54:48
Date extracted: Tuesday 16 Apr 2024 10:00:13

The number of records retrieved = 10

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Limnodynastidae	*Adelotus brevis*	tusked frog		V		1
animals	birds	Accipitridae	*Erythrotriorchis radiatus*	red goshawk		E	E	2
animals	birds	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)		V	V	12
animals	mammals	Megadermatidae	*Macroderma gigas*	ghost bat		E	V	1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	9
animals	mammals	Pseudocheiridae	*Petauroides volans volans*	southern greater glider		E	E	18
animals	reptiles	Elapidae	*Denisonia maculata*	ornamental snake		V	V	4/1
plants	land plants	Apocynaceae	*Cerbera dumicola*			NT		1/1
plants	land plants	Combretaceae	*Macropteranthes leiocaulis*			NT		2/2
plants	land plants	Euphorbiaceae	*Omphalea celata*			V	V	1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

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

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

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).
This number is output as 99999 if it equals or exceeds this value. A second number located after a / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

WildNet Records
Species List

For the selected area of interest 6849.63 Lot: 7 Plan: SP155252
Current as at 28/05/2024 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 7 Plan: SP155252

Table 1. Area of interest details

Size (ha)	
6,849.63	
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 Enviornment, 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 occurence 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

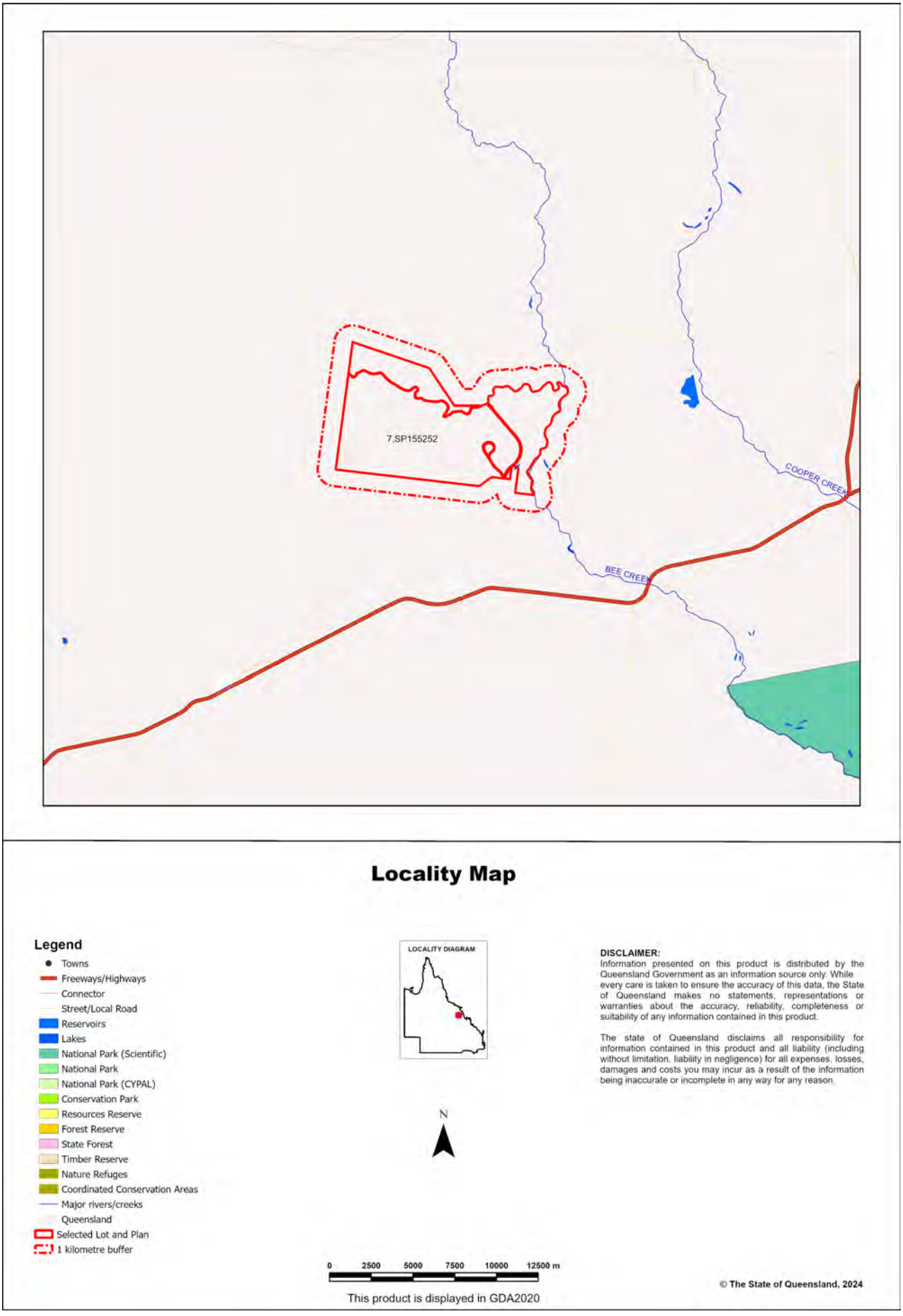

Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
627	Amphibia	Hylidae	*Litoria caerulea*	common green treefrog	C		0	3	2/02/2016
600	Amphibia	Hylidae	*Litoria rubella*	ruddy treefrog	C		0	1	8/05/2012
681	Amphibia	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog	C		0	4	2/02/2016
684	Amphibia	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog	C		0	1	8/05/2012
1422	Aves	Acanthizidae	*Acanthiza nana*	yellow thornbill	C		0	1	8/05/2012
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C		0	1	8/05/2012
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	2	21/06/2023
1767	Aves	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra	C		0	2	21/06/2023
1656	Aves	Artamidae	*Cracticus torquatus*	grey butcherbird	C		0	1	8/05/2012
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	8/05/2012
1637	Aves	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike	C		0	1	21/06/2023
1810	Aves	Columbidae	*Geopelia humeralis*	bar-shouldered dove	C		0	1	21/06/2023
1785	Aves	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)	V	V	0	1	20/06/2023
1744	Aves	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo	C		0	1	21/06/2023
1745	Aves	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo	C		0	2	21/06/2023
1342	Aves	Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C		0	1	8/05/2012
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	1	20/06/2023
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	1	20/06/2023
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	1	8/05/2012
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	1	8/05/2012
1471	Aves	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater	C		0	1	8/05/2012
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C		0	1	20/06/2023
1449	Aves	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush	C		0	2	21/06/2023

1437	Aves	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler	C		0	2	21/06/2023
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	2	21/06/2023
1955	Aves	Podargidae	*Podargus strigoides*	tawny frogmouth	C		0	7	27/06/2017
1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C		0	2	20/06/2023
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	1	8/05/2012
1575	Aves	Rhipiduridae	*Rhipidura albiscapa*	grey fantail	C		0	2	21/06/2023
1576	Aves	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail	C		0	2	21/06/2023
1006	Mammalia	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat	C		0	1	25/06/2017
901	Mammalia	Macropodidae	*Macropus giganteus*	eastern grey kangaroo	C		0	1	28/01/2016
862	Mammalia	Potoroidae	*Aepyprymnus rufescens*	rufous bettong	C		0	2	27/01/2016
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	E	E	0	2	9/08/2014
972	Mammalia	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat	C		0	14	27/06/2017
556	Reptilia	Agamidae	*Pogona barbata*	bearded dragon	C		0	2	26/06/2017
52	Reptilia	Chelidae	*Chelodina sp.*		C		0	1	9/09/2017
508	Reptilia	Colubridae	*Tropidonophis mairii*	freshwater snake	C		0	3	12/09/2017
429	Reptilia	Diplodactylidae	*Diplodactylus vittatus*	wood gecko	C		0	2	26/01/2016
18295	Reptilia	Diplodactylidae	*Oedura monilis*	ocellated velvet gecko	C		0	3	28/01/2016
493	Reptilia	Elapidae	*Demansia psammophis*	yellow-faced whipsnake	C		0	1	8/05/2012
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	9/09/2017
454	Reptilia	Elapidae	*Pseudonaja textilis*	eastern brown snake	C		0	2	2/02/2016
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C		0	12	28/01/2016
410	Reptilia	Gekkonidae	*Gehyra versicolor*		C		0	9	27/06/2017
413	Reptilia	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko	C		0	1	8/05/2012
297	Reptilia	Scincidae	*Carlia pectoralis sensu lato*		C		0	1	8/05/2012

283	Reptilia	Scincidae	*Cryptoblepharus pannosus*	ragged snake-eyed skink	C		0	1	8/05/2012
150	Reptilia	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink	C		0	1	8/05/2012
60	Reptilia	Varanidae	*Varanus tristis*	black-tailed monitor	C		0	3	28/09/2017

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
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		1	1	27/05/2007
14959	Equisetopsida	Asteraceae	*Vittadinia sulcata*	native daisy	C		1	1	27/05/2007
15618	Equisetopsida	Lamiaceae	*Basilicum polystachyon*		C		1	1	21/05/2007
37295	Equisetopsida	Lamiaceae	*Coleus*				1	1	27/05/2007
31412	Equisetopsida	Malvaceae	*Abutilon guineense*				1	1	27/05/2007
31580	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. incanum*		C		1	1	27/05/2007
14554	Equisetopsida	Myrtaceae	*Eucalyptus raveretiana*	black ironbox	C	V	1	1	14/03/2012
15364	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass	C		1	1	7/08/1980
17793	Equisetopsida	Portulacaceae	*Calandrinia pickeringii*		C		1	1	27/05/2007

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

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, 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.

WildNet Records
Species List

For the selected area of interest 6849.63 Lot: 7 Plan: SP155252
Current as at 05/08/2024 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 7 Plan: SP155252

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Size (ha)	
6,849.63	
Local Government(s)	
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Brigalow Belt	Northern Bowen Basin

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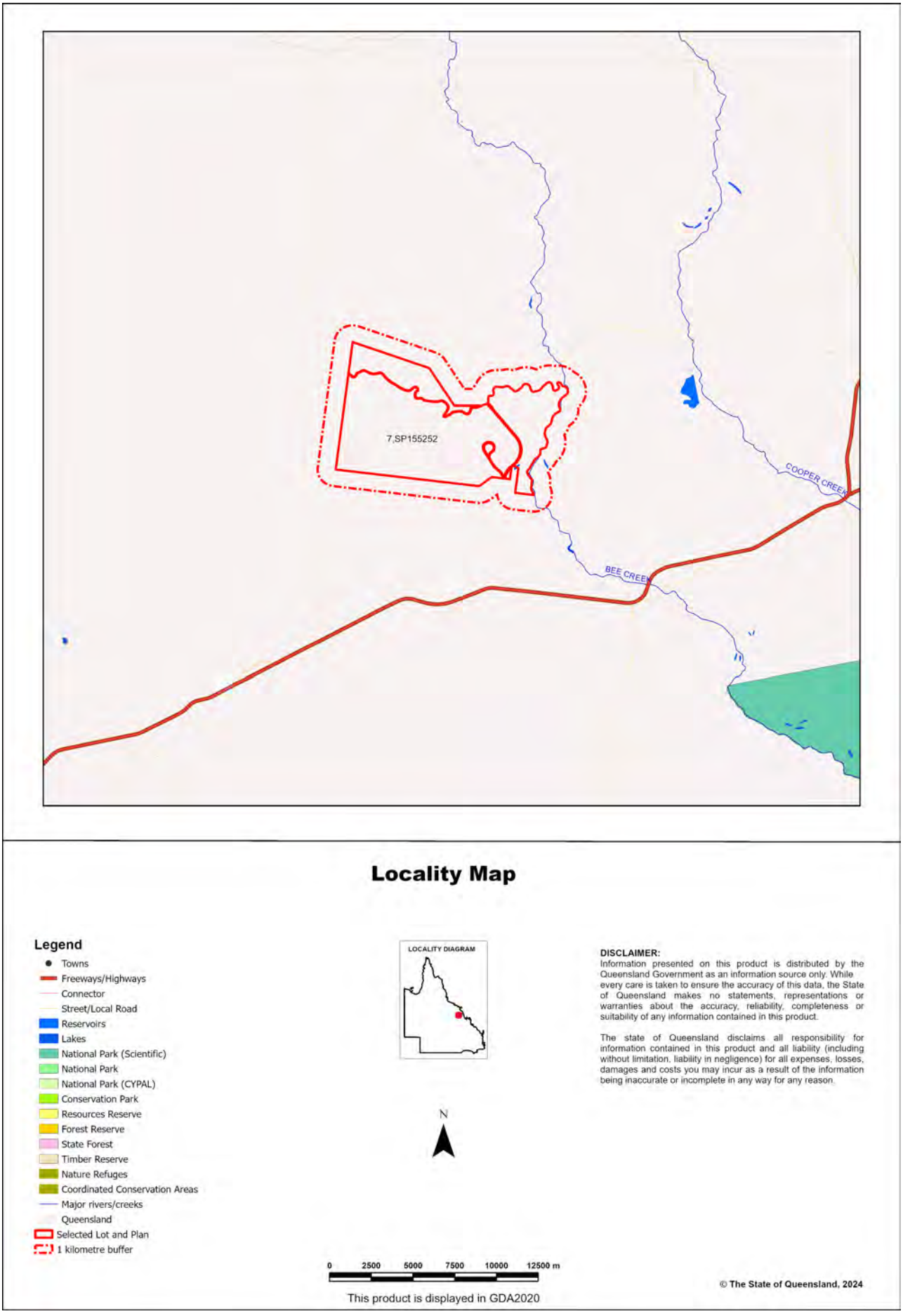
Map 1. Locality Map



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681	Amphibia	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog	C		0	4	2/2/2016
684	Amphibia	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog	C		0	1	5/8/2012
1422	Aves	Acanthizidae	*Acanthiza nana*	yellow thornbill	C		0	1	5/8/2012
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C		0	1	5/8/2012
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	2	6/21/2023
1767	Aves	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra	C		0	2	6/21/2023
1656	Aves	Artamidae	*Cracticus torquatus*	grey butcherbird	C		0	1	5/8/2012
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	5/8/2012
1637	Aves	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike	C		0	1	6/21/2023
1810	Aves	Columbidae	*Geopelia humeralis*	bar-shouldered dove	C		0	1	6/21/2023
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1744	Aves	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo	C		0	1	6/21/2023
1745	Aves	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo	C		0	2	6/21/2023
1342	Aves	Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C		0	1	5/8/2012
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	1	6/20/2023
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	1	6/20/2023
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	1	5/8/2012
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	1	5/8/2012
1471	Aves	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater	C		0	1	5/8/2012
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C		0	1	6/20/2023
1449	Aves	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush	C		0	2	6/21/2023

1437	Aves	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler	C		0	2	6/21/2023
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	2	6/21/2023
1955	Aves	Podargidae	*Podargus strigoides*	tawny frogmouth	C		0	7	6/27/2017
1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C		0	2	6/20/2023
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	1	5/8/2012
1575	Aves	Rhipiduridae	*Rhipidura albiscapa*	grey fantail	C		0	2	6/21/2023
1576	Aves	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail	C		0	2	6/21/2023
1006	Mammalia	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat	C		0	1	6/25/2017
901	Mammalia	Macropodidae	*Macropus giganteus*	eastern grey kangaroo	C		0	1	1/28/2016
862	Mammalia	Potoroidae	*Aepyprymnus rufescens*	rufous bettong	C		0	2	1/27/2016
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	E	E	0	2	8/9/2014
972	Mammalia	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat	C		0	14	6/27/2017
556	Reptilia	Agamidae	*Pogona barbata*	bearded dragon	C		0	2	6/26/2017
52	Reptilia	Chelidae	*Chelodina sp.*		C		0	1	9/9/2017
508	Reptilia	Colubridae	*Tropidonophis mairii*	freshwater snake	C		0	3	9/12/2017
429	Reptilia	Diplodactylidae	*Diplodactylus vittatus*	wood gecko	C		0	2	1/26/2016
18295	Reptilia	Diplodactylidae	*Oedura monilis*	ocellated velvet gecko	C		0	3	1/28/2016
493	Reptilia	Elapidae	*Demansia psammophis*	yellow-faced whipsnake	C		0	1	5/8/2012
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	9/9/2017
454	Reptilia	Elapidae	*Pseudonaja textilis*	eastern brown snake	C		0	2	2/2/2016
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C		0	12	1/28/2016
410	Reptilia	Gekkonidae	*Gehyra versicolor*		C		0	9	6/27/2017
413	Reptilia	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko	C		0	1	5/8/2012
297	Reptilia	Scincidae	*Carlia pectoralis sensu lato*		C		0	1	5/8/2012

283	Reptilia	Scincidae	*Cryptoblepharus pannosus*	ragged snake-eyed skink	C		0	1	5/8/2012
150	Reptilia	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink	C		0	1	5/8/2012
60	Reptilia	Varanidae	*Varanus tristis*	black-tailed monitor	C		0	3	9/28/2017

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
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		1	1	5/27/2007
14959	Equisetopsida	Asteraceae	*Vittadinia sulcata*	native daisy	C		1	1	5/27/2007
15618	Equisetopsida	Lamiaceae	*Basilicum polystachyon*		C		1	1	5/21/2007
37295	Equisetopsida	Lamiaceae	*Coleus*				1	1	5/27/2007
31412	Equisetopsida	Malvaceae	*Abutilon guineense*				1	1	5/27/2007
31580	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. incanum*		C		1	1	5/27/2007
14554	Equisetopsida	Myrtaceae	*Eucalyptus raveretiana*	black ironbox	C	V	1	1	3/14/2012
15364	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass	C		1	1	8/7/1980
17793	Equisetopsida	Portulacaceae	*Calandrinia pickeringii*		C		1	1	5/27/2007

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

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, 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.

WildNet Records
Species List

For the selected area of interest 11052.02 Lot: 8 Plan: SP155252
Current as at 05/08/2024 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 8 Plan: SP155252

Table 1. Area of interest details

Size (ha)	
11,052.02	
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 Enviornment, 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 occurence 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

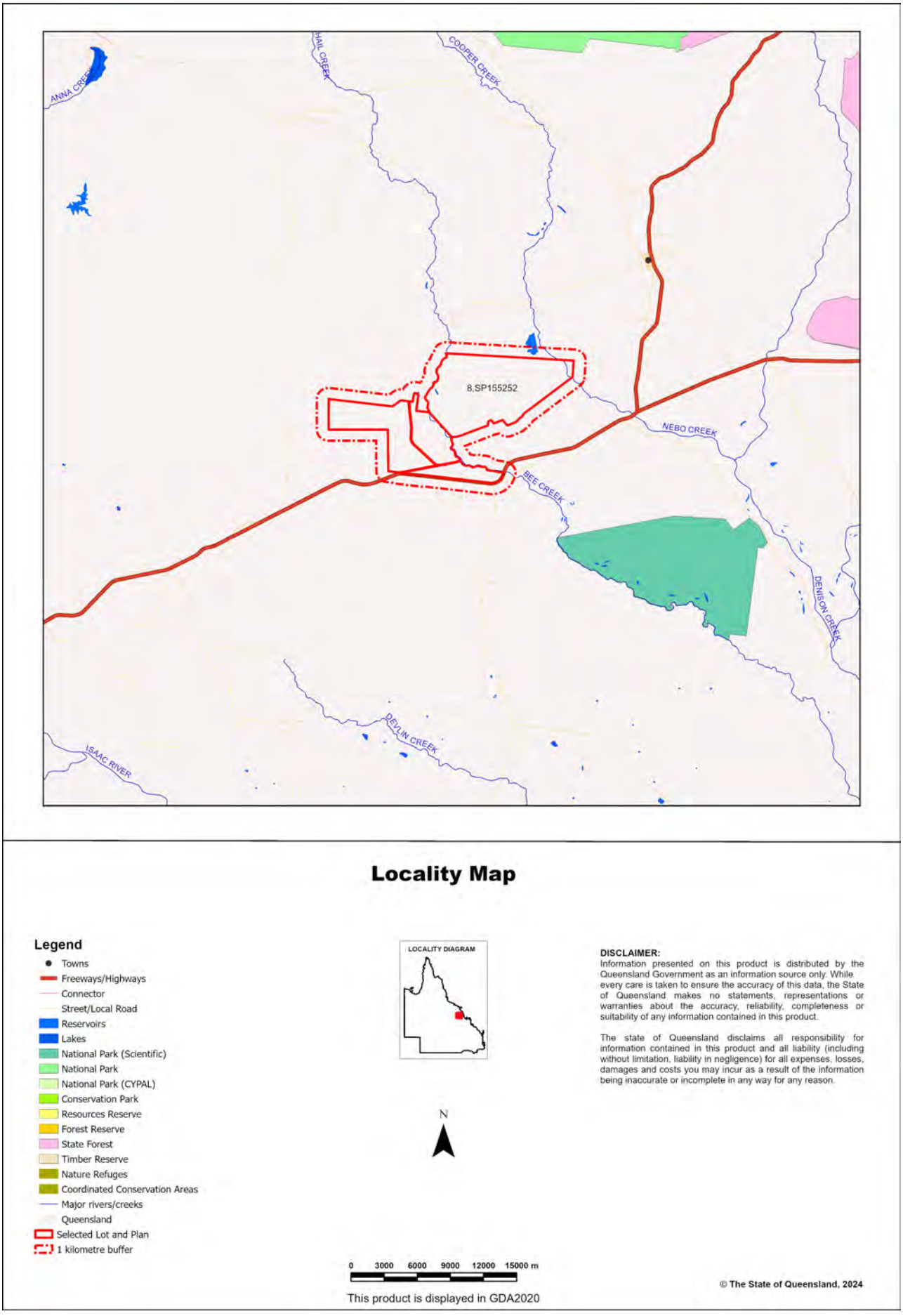

Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C		0	1	3/15/2000
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	1	11/14/2000
1998	Aves	Anatidae	*Anas superciliosa*	Pacific black duck	C		0	1	11/14/2000
1654	Aves	Artamidae	*Cracticus nigrogularis*	pied butcherbird	C		0	2	11/14/2000
1644	Aves	Artamidae	*Gymnorhina tibicen*	Australian magpie	C		0	2	11/14/2000
1193	Aves	Cacatuidae	*Eolophus roseicapilla*	galah	C		0	1	11/14/2000
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	11/14/2000
1294	Aves	Cisticolidae	*Cisticola exilis*	golden-headed cisticola	C		0	1	11/14/2000
1785	Aves	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)	V	V	0	1	3/15/2000
1795	Aves	Columbidae	*Phaps chalcoptera*	common bronzewing	C		0	1	3/15/2000
1779	Aves	Coraciidae	*Eurystomus orientalis*	dollarbird	C		0	1	3/15/2000
1605	Aves	Corcoracidae	*Struthidea cinerea*	apostlebird	C		0	2	11/14/2000
1609	Aves	Corvidae	*Corvus orru*	Torresian crow	C		0	2	11/14/2000
1704	Aves	Falconidae	*Falco cenchroides*	nankeen kestrel	C		0	1	11/14/2000
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	2	11/14/2000
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	2	3/15/2000
1499	Aves	Meliphagidae	*Manorina flavigula*	yellow-throated miner	C		0	1	3/15/2000
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	1	3/15/2000
1493	Aves	Meliphagidae	*Philemon citreogularis*	little friarbird	C		0	1	11/14/2000
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	1	3/15/2000
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C		0	2	11/14/2000
1595	Aves	Monarchidae	*Monarcha melanopsis*	black-faced monarch	SL		0	1	3/15/2000
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	3	11/14/2000

1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C		0	2	11/14/2000
1182	Aves	Psittaculidae	*Aprosmictus erythropterus*	red-winged parrot	C		0	1	11/14/2000
1136	Aves	Psittaculidae	*Platycercus adscitus*	pale-headed rosella	C		0	1	3/15/2000
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	2	11/14/2000
1161	Aves	Ptilonorhynchidae	*Chlamydera nuchalis*	great bowerbird	C		0	1	11/14/2000
859	Mammalia	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum	C		0	1	3/13/2014
860	Mammalia	Phascolarctidae	*Phascolarctos cinereus*	koala	E	E	0	5	8/8/2016
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	E	E	0	1	3/13/2014
949	Mammalia	Vespertilionidae	*Chalinolobus sp.*		C		0	1	4/21/2012
52	Reptilia	Chelidae	*Chelodina sp.*		C		0	1	9/9/2017
483	Reptilia	Elapidae	*Denisonia maculata*	ornamental snake	V	V	0	1	11/21/2014
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	9/9/2017
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C		0	1	6/14/2017
60	Reptilia	Varanidae	*Varanus tristis*	black-tailed monitor	C		0	1	6/14/2017

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
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		0	19	12/11/2009
16374	Equisetopsida	Acanthaceae	*Pseuderanthemum tenellum*		C		0	13	12/11/2009
16262	Equisetopsida	Acanthaceae	*Rostellularia adscendens*		C		0	9	12/11/2009
16015	Equisetopsida	Aizoaceae	*Trianthema triquetra*	red spinach	C		1	2	12/11/2009
18101	Equisetopsida	Amaranthaceae	*Achyranthes aspera*		C		0	4	12/11/2009
18026	Equisetopsida	Amaranthaceae	*Alternanthera denticulata*	lesser joyweed	C		0	2	12/11/2009
18029	Equisetopsida	Amaranthaceae	*Alternanthera nana*	hairy joyweed	C		0	16	12/11/2009
11738	Equisetopsida	Amaranthaceae	*Amaranthus cochleitepalus*		C		1	1	4/12/1997
17051	Equisetopsida	Amaranthaceae	*Gomphrena celosioides*	gomphrena weed			0	2	12/11/2009

12416	Equisetopsida	Amaryllidaceae	*Crinum flaccidum*	Murray lily	SL		0	1	12/11/2009
16424	Equisetopsida	Anacardiaceae	*Pleiogynium timorense*	Burdekin plum	C		0	1	12/11/2009
9698	Equisetopsida	Apocynaceae	*Carissa ovata*	currantbush	C		0	13	12/11/2009
35894	Equisetopsida	Apocynaceae	*Cynanchum viminale subsp. brunonianum*		C		0	7	12/11/2009
17050	Equisetopsida	Apocynaceae	*Gomphocarpus physocarpus*	balloon cottonbush			0	1	12/11/2009
41654	Equisetopsida	Apocynaceae	*Leichhardtia microlepis*		C		0	2	12/11/2009
41644	Equisetopsida	Apocynaceae	*Leichhardtia viridiflora subsp. viridiflora*		C		0	5	12/11/2009
16521	Equisetopsida	Apocynaceae	*Parsonsia lanceolata*	northern silkpod	C		0	12	12/11/2009
16184	Equisetopsida	Apocynaceae	*Secamone elliptica*		C		0	1	12/11/2009
15715	Equisetopsida	Asteraceae	*Acanthospermum hispidum*	star burr			0	1	12/11/2009
35061	Equisetopsida	Asteraceae	*Apowollastonia spilanthoides*		C		0	9	12/11/2009
18905	Equisetopsida	Asteraceae	*Calotis cuneata*		C		1	1	2/18/2003
15565	Equisetopsida	Asteraceae	*Calotis cuneifolia*	burr daisy	C		0	3	12/11/2009
8398	Equisetopsida	Asteraceae	*Chrysocephalum apiculatum*	yellow buttons	C		0	4	12/11/2009
22237	Equisetopsida	Asteraceae	*Cyanthillium cinereum*		C		0	10	12/11/2009
15401	Equisetopsida	Asteraceae	*Emilia sonchifolia*				0	5	12/11/2009
10959	Equisetopsida	Asteraceae	*Parthenium hysterophorus*	parthenium weed			1	4	12/11/2009
6541	Equisetopsida	Asteraceae	*Peripleura hispidula var. hispidula*		C		0	1	12/11/2009
15039	Equisetopsida	Asteraceae	*Sonchus oleraceus*	common sowthistle			0	6	12/11/2009
34624	Equisetopsida	Asteraceae	*Sphaeromorphaea australis*		C		0	4	12/11/2009
15393	Equisetopsida	Boraginaceae	*Ehretia membranifolia*	weeping koda	C		0	12	12/11/2009
14492	Equisetopsida	Boraginaceae	*Heliotropium*				0	1	12/11/2009
15968	Equisetopsida	Boraginaceae	*Trichodesma zeylanicum*		C		0	3	12/11/2009
15922	Equisetopsida	Byttneriaceae	*Waltheria indica*		C		0	7	12/11/2009

26344	Equisetopsida	Cactaceae	*Harrisia martinii*				0	10	12/11/2009
9535	Equisetopsida	Cactaceae	*Opuntia tomentosa*	velvety tree pear			0	12	12/11/2009
33856	Equisetopsida	Campanulaceae	*Lobelia concolor*		SL		0	1	12/11/2009
15918	Equisetopsida	Campanulaceae	*Wahlenbergia gracilis*	sprawling bluebell	SL		0	1	12/11/2009
13984	Equisetopsida	Capparaceae	*Capparis canescens*		C		0	1	12/11/2009
17726	Equisetopsida	Capparaceae	*Capparis lasiantha*	nipan	C		0	6	12/11/2009
18013	Equisetopsida	Casuarinaceae	*Allocasuarina luehmannii*	bull oak	C		0	3	12/11/2009
17707	Equisetopsida	Casuarinaceae	*Casuarina cristata*	belah	C		0	12	12/11/2009
34775	Equisetopsida	Celastraceae	*Denhamia cunninghamii*		C		0	10	12/11/2009
17455	Equisetopsida	Celastraceae	*Denhamia oleaster*		C		0	2	12/11/2009
22223	Equisetopsida	Celastraceae	*Elaeodendron australe*		C		0	1	12/11/2009
32391	Equisetopsida	Chenopodiaceae	*Dysphania melanocarpa forma melanocarpa*		C		0	2	12/11/2009
17320	Equisetopsida	Chenopodiaceae	*Einadia polygonoides*	knotweed goosefoot	C		0	1	12/11/2009
17296	Equisetopsida	Chenopodiaceae	*Enchylaena tomentosa*		C		0	6	12/11/2009
14431	Equisetopsida	Chenopodiaceae	*Maireana microphylla*		C		0	2	12/11/2009
8913	Equisetopsida	Combretaceae	*Terminalia oblongata*		C		0	10	12/11/2009
10033	Equisetopsida	Commelinaceae	*Commelina diffusa*		C		0	8	12/11/2009
10038	Equisetopsida	Commelinaceae	*Cyanotis axillaris*		C		0	5	12/11/2009
16599	Equisetopsida	Commelinaceae	*Murdannia graminea*	murdannia	C		0	5	12/11/2009
17599	Equisetopsida	Convolvulaceae	*Convolvulus erubescens*	Australian bindweed	C		0	1	12/11/2009
17176	Equisetopsida	Convolvulaceae	*Evolvulus alsinoides*		C		0	11	12/11/2009
9866	Equisetopsida	Convolvulaceae	*Ipomoea brownii*		C		0	1	12/11/2009
16862	Equisetopsida	Convolvulaceae	*Ipomoea plebeia*	bellvine	C		0	7	12/11/2009
16882	Equisetopsida	Convolvulaceae	*Jacquemontia paniculata*		C		0	14	12/11/2009

16396	Equisetopsida	Convolvulaceae	*Polymeria longifolia*	polymeria	C		0	5	12/11/2009
8914	Equisetopsida	Cucurbitaceae	*Cucumis anguria var. anguria*	West Indian gherkin			0	4	12/11/2009
9529	Equisetopsida	Cyperaceae	*Abildgaardia ovata*		C		1	5	12/11/2009
17511	Equisetopsida	Cyperaceae	*Cyperus bifax*	western nutgrass	C		1	1	1/22/1996
11060	Equisetopsida	Cyperaceae	*Cyperus concinnus*		C		1	3	12/11/2009
10520	Equisetopsida	Cyperaceae	*Cyperus cristulatus*		C		0	3	12/11/2009
14661	Equisetopsida	Cyperaceae	*Cyperus cyperoides*		C		0	3	12/11/2009
17515	Equisetopsida	Cyperaceae	*Cyperus difformis*	rice sedge	C		0	2	12/11/2009
17517	Equisetopsida	Cyperaceae	*Cyperus esculentus*	yellow nutgrass			1	1	1/22/1996
17519	Equisetopsida	Cyperaceae	*Cyperus fulvus*		C		1	1	1/22/1996
17521	Equisetopsida	Cyperaceae	*Cyperus gracilis*		C		0	9	12/11/2009
17524	Equisetopsida	Cyperaceae	*Cyperus iria*		C		0	2	12/11/2009
17528	Equisetopsida	Cyperaceae	*Cyperus leiocaulon*		C		1	1	1/22/1996
41243	Equisetopsida	Cyperaceae	*Cyperus leptocarpus*		C		0	2	12/11/2009
17473	Equisetopsida	Cyperaceae	*Cyperus perangustus*		C		0	1	12/11/2009
11454	Equisetopsida	Cyperaceae	*Cyperus rigidellus*		C		0	9	12/11/2009
14667	Equisetopsida	Cyperaceae	*Cyperus scariosus*		C		0	1	12/11/2009
11954	Equisetopsida	Cyperaceae	*Cyperus sesquiflorus*				1	1	1/22/1996
17480	Equisetopsida	Cyperaceae	*Cyperus squarrosus*	bearded flatsedge	C		0	7	12/11/2009
17107	Equisetopsida	Cyperaceae	*Fimbristylis dichotoma*	common fringe-rush	C		0	12	12/11/2009
14510	Equisetopsida	Cyperaceae	*Fimbristylis nuda*		C		0	1	12/11/2009
17109	Equisetopsida	Cyperaceae	*Fimbristylis nutans*		C		0	1	12/11/2009
14228	Equisetopsida	Cyperaceae	*Scleria mackaviensis*		C		0	13	12/11/2009
17351	Equisetopsida	Droseraceae	*Drosera*				0	4	12/11/2009

17445	Equisetopsida	Ebenaceae	*Diospyros humilis*	small-leaved ebony	C		1	8	5/31/2011
17288	Equisetopsida	Erythroxylaceae	*Erythroxylum australe*	cocaine tree	C		0	15	12/11/2009
6716	Equisetopsida	Euphorbiaceae	*Adriana tomentosa var. tomentosa*		C		1	1	2/17/1996
5515	Equisetopsida	Euphorbiaceae	*Euphorbia drummondii*		C		0	10	12/11/2009
4734	Equisetopsida	Euphorbiaceae	*Euphorbia hyssopifolia*				0	8	12/11/2009
17166	Equisetopsida	Euphorbiaceae	*Euphorbia tannensis subsp. eremophila*		C		0	3	12/11/2009
17060	Equisetopsida	Goodeniaceae	*Goodenia glabra*		C		0	2	12/11/2009
21715	Equisetopsida	Goodeniaceae	*Velleia*				0	5	12/11/2009
12249	Equisetopsida	Hemerocallidacea e	*Dianella*				0	2	12/11/2009
15974	Equisetopsida	Hemerocallidacea e	*Tricoryne elatior*	yellow autumn lily	C		0	4	12/11/2009
15286	Equisetopsida	Hypoxidaceae	*Hypoxis pratensis var. pratensis*		C		0	4	12/11/2009
17628	Equisetopsida	Lamiaceae	*Clerodendrum floribundum*		C		0	3	12/11/2009
41035	Equisetopsida	Lamiaceae	*Coleus australis*		C		0	4	12/11/2009
15026	Equisetopsida	Lamiaceae	*Teucrium integrifolium*		C		1	1	2/18/2003
17703	Equisetopsida	Lauraceae	*Cassytha filiformis*	dodder laurel	C		0	1	12/11/2009
15339	Equisetopsida	Laxmanniaceae	*Eustrephus latifolius*	wombat berry	C		0	6	12/11/2009
16776	Equisetopsida	Laxmanniaceae	*Lomandra longifolia*		C		0	2	12/11/2009
18792	Equisetopsida	Laxmanniaceae	*Lomandra multiflora*		C		0	2	12/11/2009
15798	Equisetopsida	Leguminosae	*Acacia excelsa*		C		0	4	12/11/2009
15746	Equisetopsida	Leguminosae	*Acacia flavescens*	toothed wattle	C		0	2	12/11/2009
15752	Equisetopsida	Leguminosae	*Acacia harpophylla*	brigalow	C		0	2	12/11/2009
15755	Equisetopsida	Leguminosae	*Acacia holosericea*		C		0	2	12/11/2009
14939	Equisetopsida	Leguminosae	*Acacia julifera*		C		0	2	12/11/2009
15694	Equisetopsida	Leguminosae	*Acacia salicina*	doolan	C		0	4	12/11/2009

6117	Equisetopsida	Leguminosae	*Alysicarpus muelleri*		C		1	1	2/17/1996
21988	Equisetopsida	Leguminosae	*Cassia brewsteri*		C		1	1	10/31/1974
15534	Equisetopsida	Leguminosae	*Cassia tomentella*		C		0	10	12/11/2009
21932	Equisetopsida	Leguminosae	*Chamaecrista absus*		C		0	5	12/11/2009
18870	Equisetopsida	Leguminosae	*Chamaecrista concinna*		C		0	2	12/11/2009
15469	Equisetopsida	Leguminosae	*Crotalaria medicaginea*	trefoil rattlepod	C		0	4	12/11/2009
15470	Equisetopsida	Leguminosae	*Crotalaria mitchellii subsp. mitchellii*		C		0	1	12/11/2009
15471	Equisetopsida	Leguminosae	*Crotalaria montana*		C		0	3	12/11/2009
14691	Equisetopsida	Leguminosae	*Crotalaria sessiliflora*		C		0	8	12/11/2009
13642	Equisetopsida	Leguminosae	*Desmodium brachypodum*	large ticktrefoil	C		0	8	12/11/2009
13935	Equisetopsida	Leguminosae	*Desmodium varians*	slender tick trefoil	C		0	3	12/11/2009
15343	Equisetopsida	Leguminosae	*Galactia tenuiflora*		C		0	2	12/11/2009
15354	Equisetopsida	Leguminosae	*Glycine falcata*		C		1	1	2/18/2003
15356	Equisetopsida	Leguminosae	*Glycine tabacina*	glycine pea	C		0	14	12/11/2009
15357	Equisetopsida	Leguminosae	*Glycine tomentella*	woolly glycine	C		0	9	12/11/2009
41975	Equisetopsida	Leguminosae	*Heliodendron basalticum*		C		0	8	12/11/2009
15292	Equisetopsida	Leguminosae	*Indigofera colutea*	sticky indigo	C		0	6	12/11/2009
15295	Equisetopsida	Leguminosae	*Indigofera linifolia*		C		0	1	12/11/2009
15296	Equisetopsida	Leguminosae	*Indigofera linnaei*	Birdsville indigo	C		0	6	12/11/2009
15298	Equisetopsida	Leguminosae	*Indigofera sericovexilla*		C		0	2	12/11/2009
15233	Equisetopsida	Leguminosae	*Lysiphyllum carronii*	ebony tree	C		0	1	12/11/2009
15204	Equisetopsida	Leguminosae	*Neptunia gracilis*		C		1	1	2/18/2003
14370	Equisetopsida	Leguminosae	*Neptunia gracilis forma gracilis*		C		0	2	12/11/2009
9173	Equisetopsida	Leguminosae	*Rhynchosia minima var. australis*		C		1	13	12/11/2009

15070	Equisetopsida	Leguminosae	*Senna coronilloides*		C		0	1	12/11/2009
12876	Equisetopsida	Leguminosae	*Stylosanthes scabra*				0	15	12/11/2009
12340	Equisetopsida	Leguminosae	*Tephrosia brachyodon var. longifolia*		C		0	2	12/11/2009
10816	Equisetopsida	Leguminosae	*Tephrosia dietrichiae*		C		0	2	12/11/2009
15021	Equisetopsida	Leguminosae	*Tephrosia juncea*		C		0	5	12/11/2009
10809	Equisetopsida	Leguminosae	*Tephrosia leptoclada*		C		0	3	12/11/2009
30907	Equisetopsida	Leguminosae	*Vachellia bidwillii*		C		0	3	12/11/2009
14952	Equisetopsida	Leguminosae	*Vigna lanceolata*		C		0	6	12/11/2009
13733	Equisetopsida	Leguminosae	*Zornia muelleriana*		C		0	1	12/11/2009
13734	Equisetopsida	Leguminosae	*Zornia muriculata*		C		0	8	12/11/2009
15196	Equisetopsida	Loganiaceae	*Mitrasacme alsinoides*		C		0	5	12/11/2009
12583	Equisetopsida	Loganiaceae	*Mitrasacme pygmaea*		C		0	8	12/11/2009
11979	Equisetopsida	Lythraceae	*Ammannia multiflora*	jerry-jerry	C		0	2	12/11/2009
12938	Equisetopsida	Lythraceae	*Lythrum paradoxum*		C		0	1	12/11/2009
31412	Equisetopsida	Malvaceae	*Abutilon guineense*				2	2	2/18/2003
18084	Equisetopsida	Malvaceae	*Abutilon malvifolium*	bastard marshmallow	C		0	1	12/11/2009
18088	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. subsagittatum*		C		0	16	12/11/2009
9763	Equisetopsida	Malvaceae	*Hibiscus sturtii var. sturtii*		C		0	8	12/11/2009
22230	Equisetopsida	Malvaceae	*Malvastrum americanum*				0	2	12/11/2009
16151	Equisetopsida	Malvaceae	*Sida*				0	7	12/11/2009
16195	Equisetopsida	Malvaceae	*Sida cordifolia*				0	12	12/11/2009
12919	Equisetopsida	Malvaceae	*Sida cunninghamii*		C		0	3	12/11/2009
22197	Equisetopsida	Malvaceae	*Sida hackettiana*		C		0	5	12/11/2009
16146	Equisetopsida	Malvaceae	*Sida rhombifolia*				0	11	12/11/2009

16147	Equisetopsida	Malvaceae	*Sida rohlenae*		C		0	7	12/11/2009
16557	Equisetopsida	Meliaceae	*Owenia acidula*	emu apple	C		0	1	12/11/2009
15998	Equisetopsida	Menispermaceae	*Tinospora smilacina*	snakevine	C		0	1	12/11/2009
42246	Equisetopsida	Myrtaceae	*Blakella dallachiana*		C		0	6	12/11/2009
6534	Equisetopsida	Myrtaceae	*Corymbia clarksoniana*		C		1	7	12/11/2009
6572	Equisetopsida	Myrtaceae	*Corymbia tessellaris*	Moreton Bay ash	C		0	3	12/11/2009
17247	Equisetopsida	Myrtaceae	*Eucalyptus camaldulensis*		C		0	1	12/11/2009
17252	Equisetopsida	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark	C		1	1	1/21/1996
12185	Equisetopsida	Myrtaceae	*Eucalyptus crebra x Eucalyptus orgadophila*		C		1	1	1/21/1996
12503	Equisetopsida	Myrtaceae	*Eucalyptus platyphylla*	poplar gum	C		0	3	12/11/2009
17188	Equisetopsida	Myrtaceae	*Eucalyptus populnea*	poplar box	C		0	13	12/11/2009
14554	Equisetopsida	Myrtaceae	*Eucalyptus raveretiana*	black ironbox	C	V	1	1	5/31/2011
17204	Equisetopsida	Myrtaceae	*Eucalyptus tereticornis*		C		0	3	12/11/2009
18283	Equisetopsida	Myrtaceae	*Melaleuca fluviatilis*		C		1	1	1/23/1996
13828	Equisetopsida	Myrtaceae	*Melaleuca nervosa*		C		0	5	12/11/2009
12869	Equisetopsida	Nyctaginaceae	*Boerhavia dominii*		C		0	9	12/11/2009
16837	Equisetopsida	Oleaceae	*Jasminum didymum subsp. lineare*		C		0	6	12/11/2009
13835	Equisetopsida	Oleaceae	*Notelaea microcarpa*		C		0	1	12/11/2009
17505	Equisetopsida	Orchidaceae	*Cymbidium canaliculatum*		SL		0	3	12/11/2009
17808	Equisetopsida	Phyllanthaceae	*Breynia oblongifolia*		C		0	11	12/11/2009
16474	Equisetopsida	Phyllanthaceae	*Phyllanthus*				0	1	12/11/2009
14309	Equisetopsida	Phyllanthaceae	*Phyllanthus fuernrohrii*		C		0	1	12/11/2009
9602	Equisetopsida	Phyllanthaceae	*Phyllanthus maderaspatensis*		C		0	6	12/11/2009
16470	Equisetopsida	Phyllanthaceae	*Phyllanthus mitchellii*		C		0	1	12/11/2009

16473	Equisetopsida	Phyllanthaceae	*Phyllanthus virgatus*		C		0	16	12/11/2009
16505	Equisetopsida	Picrodendraceae	*Petalostigma pubescens*	quinine tree	C		0	10	12/11/2009
14019	Equisetopsida	Pittosporaceae	*Bursaria incana*		C		0	9	12/11/2009
26012	Equisetopsida	Pittosporaceae	*Pittosporum angustifolium*		C		0	3	12/11/2009
16183	Equisetopsida	Plantaginaceae	*Scoparia dulcis*	scoparia			0	3	12/11/2009
13600	Equisetopsida	Plantaginaceae	*Stemodia glabella*		C		1	1	2/18/2003
14843	Equisetopsida	Poaceae	*Alloteropsis cimicina*		C		0	3	12/11/2009
15670	Equisetopsida	Poaceae	*Alloteropsis semialata*	cockatoo grass	C		0	4	12/11/2009
15675	Equisetopsida	Poaceae	*Ancistrachne uncinulata*	hooky grass	C		0	10	12/11/2009
15648	Equisetopsida	Poaceae	*Aristida benthamii var. benthamii*		C		0	2	12/11/2009
15649	Equisetopsida	Poaceae	*Aristida calycina var. calycina*		C		0	10	12/11/2009
18398	Equisetopsida	Poaceae	*Aristida holathera*		C		0	3	12/11/2009
15652	Equisetopsida	Poaceae	*Aristida holathera var. holathera*		C		0	4	12/11/2009
11517	Equisetopsida	Poaceae	*Aristida jerichoensis var. subspinulifera*		C		0	8	12/11/2009
9661	Equisetopsida	Poaceae	*Aristida ramosa*	purple wiregrass	C		0	11	12/11/2009
15604	Equisetopsida	Poaceae	*Bothriochloa bladhii subsp. bladhii*		C		0	6	12/11/2009
10316	Equisetopsida	Poaceae	*Bothriochloa decipiens var. decipiens*		C		0	7	12/11/2009
9929	Equisetopsida	Poaceae	*Bothriochloa erianthoides*	satintop grass	C		1	1	1/22/1996
15605	Equisetopsida	Poaceae	*Bothriochloa ewartiana*	desert bluegrass	C		0	1	12/11/2009
15606	Equisetopsida	Poaceae	*Bothriochloa pertusa*				0	20	12/11/2009
34710	Equisetopsida	Poaceae	*Calyptochloa gracillima subsp. gracillima*		C		0	4	12/11/2009
14774	Equisetopsida	Poaceae	*Capillipedium spicigerum*	spicytop	C		0	3	12/11/2009
15540	Equisetopsida	Poaceae	*Cenchrus ciliaris*				0	18	12/11/2009
15552	Equisetopsida	Poaceae	*Chloris inflata*	purpletop chloris			0	4	12/11/2009

15526	Equisetopsida	Poaceae	*Chloris ventricosa*	tall chloris	C		0	12	12/11/2009
15531	Equisetopsida	Poaceae	*Chrysopogon fallax*		C		0	19	12/11/2009
15483	Equisetopsida	Poaceae	*Cymbopogon bombycinus*	silky oilgrass	C		0	2	12/11/2009
15485	Equisetopsida	Poaceae	*Cymbopogon refractus*	barbed-wire grass	C		0	7	12/11/2009
15486	Equisetopsida	Poaceae	*Cynodon dactylon*				0	2	12/11/2009
15490	Equisetopsida	Poaceae	*Dactyloctenium radulans*	button grass	C		0	4	12/11/2009
15464	Equisetopsida	Poaceae	*Dichanthium aristatum*	angleton grass			1	1	5/31/2011
15465	Equisetopsida	Poaceae	*Dichanthium fecundum*	curly bluegrass	C		2	5	12/11/2009
9620	Equisetopsida	Poaceae	*Dichanthium sericeum*		C		0	4	12/11/2009
15467	Equisetopsida	Poaceae	*Dichanthium sericeum subsp. sericeum*		C		1	1	3/17/1998
15414	Equisetopsida	Poaceae	*Dichanthium tenue*	small bluegrass	C		0	2	12/11/2009
10410	Equisetopsida	Poaceae	*Digitaria ammophila*	silky umbrella grass	C		0	4	12/11/2009
15417	Equisetopsida	Poaceae	*Digitaria bicornis*		C		0	4	12/11/2009
15419	Equisetopsida	Poaceae	*Digitaria brownii*		C		0	13	12/11/2009
15424	Equisetopsida	Poaceae	*Digitaria divaricatissima*	spreading umbrella grass	C		0	5	12/11/2009
34495	Equisetopsida	Poaceae	*Dinebra decipiens var. asthenes*		C		0	1	12/11/2009
34493	Equisetopsida	Poaceae	*Dinebra decipiens var. decipiens*		C		0	6	12/11/2009
14567	Equisetopsida	Poaceae	*Echinochloa colona*	awnless barnyard grass			0	3	12/11/2009
15398	Equisetopsida	Poaceae	*Elytrophorus spicatus*		C		0	1	12/11/2009
10335	Equisetopsida	Poaceae	*Enneapogon nigricans*	niggerheads	C		0	1	12/11/2009
10331	Equisetopsida	Poaceae	*Enneapogon pallidus*	conetop nineawn	C		0	7	12/11/2009
15407	Equisetopsida	Poaceae	*Enneapogon truncatus*		C		0	14	12/11/2009
10340	Equisetopsida	Poaceae	*Enteropogon acicularis*	curly windmill grass	C		0	4	12/11/2009
15409	Equisetopsida	Poaceae	*Enteropogon unispiceus*		C		0	13	12/11/2009

15361	Equisetopsida	Poaceae	*Eragrostis elongata*		C		1	13	12/11/2009
15364	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass	C		0	12	12/11/2009
15366	Equisetopsida	Poaceae	*Eragrostis leptocarpa*	drooping lovegrass	C		0	5	12/11/2009
15367	Equisetopsida	Poaceae	*Eragrostis leptostachya*		C		0	11	12/11/2009
15373	Equisetopsida	Poaceae	*Eragrostis sororia*		C		0	4	12/11/2009
10729	Equisetopsida	Poaceae	*Eriachne mucronata*		C		0	1	12/11/2009
11081	Equisetopsida	Poaceae	*Eriachne rara*		C		0	4	12/11/2009
15330	Equisetopsida	Poaceae	*Eriochloa crebra*	spring grass	C		0	2	12/11/2009
15332	Equisetopsida	Poaceae	*Eriochloa pseudoacrotricha*		C		1	11	5/31/2011
15336	Equisetopsida	Poaceae	*Eulalia aurea*	silky browntop	C		0	11	12/11/2009
15320	Equisetopsida	Poaceae	*Heteropogon contortus*	black speargrass	C		0	15	12/11/2009
15321	Equisetopsida	Poaceae	*Heteropogon triticeus*	giant speargrass	C		0	4	12/11/2009
15290	Equisetopsida	Poaceae	*Imperata cylindrica*	blady grass	C		0	1	12/11/2009
10849	Equisetopsida	Poaceae	*Iseilema macratherum*		C		1	1	1/23/1996
10678	Equisetopsida	Poaceae	*Lolium perenne*	perennial ryegrass			1	1	8/31/2008
27900	Equisetopsida	Poaceae	*Megathyrsus maximus var. pubiglumis*				0	3	12/11/2009
9154	Equisetopsida	Poaceae	*Melinis repens*	red natal grass			0	12	12/11/2009
10640	Equisetopsida	Poaceae	*Panicum decompositum var. tenuius*		C		0	10	12/11/2009
13607	Equisetopsida	Poaceae	*Panicum effusum*		C		0	14	12/11/2009
15176	Equisetopsida	Poaceae	*Panicum larcomianum*		C		0	1	12/11/2009
15184	Equisetopsida	Poaceae	*Paspalidium caespitosum*	brigalow grass	C		1	11	12/11/2009
11417	Equisetopsida	Poaceae	*Paspalidium constrictum*		C		0	14	12/11/2009
13553	Equisetopsida	Poaceae	*Paspalidium criniforme*		C		1	1	1/22/1996
14345	Equisetopsida	Poaceae	*Paspalidium distans*	shotgrass	C		0	4	12/11/2009

15144	Equisetopsida	Poaceae	*Perotis rara*	comet grass	C		0	1	12/11/2009
15032	Equisetopsida	Poaceae	*Setaria surgens*		C		0	4	12/11/2009
11349	Equisetopsida	Poaceae	*Sporobolus actinocladus*	katoora grass	C		0	1	12/11/2009
15055	Equisetopsida	Poaceae	*Sporobolus caroli*	fairy grass	C		0	7	12/11/2009
14156	Equisetopsida	Poaceae	*Themeda avenacea*		C		0	1	12/11/2009
14974	Equisetopsida	Poaceae	*Themeda triandra*	kangaroo grass	C		0	11	12/11/2009
11356	Equisetopsida	Poaceae	*Tragus australianus*	small burr grass	C		0	4	12/11/2009
14995	Equisetopsida	Poaceae	*Tripogon loliiformis*	five minute grass	C		0	2	12/11/2009
29242	Equisetopsida	Poaceae	*Urochloa foliosa*		C		1	1	1/22/1996
29241	Equisetopsida	Poaceae	*Urochloa holosericea subsp. holosericea*		C		0	3	12/11/2009
14999	Equisetopsida	Poaceae	*Urochloa mosambicensis*	sabi grass			0	5	12/11/2009
2264	Equisetopsida	Poaceae	*Urochloa praetervisa*		C		0	2	12/11/2009
2250	Equisetopsida	Poaceae	*Urochloa pubigera*		C		0	8	12/11/2009
27672	Equisetopsida	Poaceae	*Walwhalleya subxerophila*		C		1	1	7/8/1998
10126	Equisetopsida	Poaceae	*Whiteochloa airoides*		C		0	2	12/11/2009
36334	Equisetopsida	Polygonaceae	*Rumex hypogaeus*				0	7	12/11/2009
17793	Equisetopsida	Portulacaceae	*Calandrinia pickeringii*		C		0	2	12/11/2009
16358	Equisetopsida	Portulacaceae	*Portulaca filifolia*		C		0	8	12/11/2009
16359	Equisetopsida	Portulacaceae	*Portulaca oleracea*	pigweed			0	1	12/11/2009
19434	Equisetopsida	Portulacaceae	*Portulaca pilosa*				0	1	12/11/2009
17039	Equisetopsida	Proteaceae	*Grevillea parallela*		C		0	1	12/11/2009
17045	Equisetopsida	Proteaceae	*Grevillea striata*	beefwood	C		0	1	12/11/2009
14538	Equisetopsida	Proteaceae	*Hakea lorea*		C		0	5	12/11/2009
17682	Equisetopsida	Pteridaceae	*Cheilanthes sieberi subsp. sieberi*		C		0	6	12/11/2009

9659	Equisetopsida	Rhamnaceae	*Alphitonia excelsa*	soap tree	C		0	11	12/11/2009
15950	Equisetopsida	Rhamnaceae	*Ventilago viminalis*	supplejack	C		0	10	12/11/2009
29824	Equisetopsida	Rubiaceae	*Psydrax attenuata*		C		0	4	12/11/2009
29826	Equisetopsida	Rubiaceae	*Psydrax odorata forma buxifolia*		C		0	7	12/11/2009
29823	Equisetopsida	Rubiaceae	*Psydrax oleifolia*		C		0	2	12/11/2009
16139	Equisetopsida	Rubiaceae	*Spermacoce multicaulis*		C		0	13	12/11/2009
18819	Equisetopsida	Rutaceae	*Citrus glauca*		C		1	1	9/30/1993
11300	Equisetopsida	Rutaceae	*Flindersia australis*	crow's ash	C		0	1	12/11/2009
17122	Equisetopsida	Rutaceae	*Flindersia dissosperma*		C		0	12	12/11/2009
11430	Equisetopsida	Rutaceae	*Geijera salicifolia*	brush wilga	C		1	13	5/31/2011
16237	Equisetopsida	Santalaceae	*Santalum lanceolatum*		SL		0	2	12/11/2009
18054	Equisetopsida	Sapindaceae	*Alectryon diversifolius*	scrub boonaree	C		0	4	12/11/2009
14839	Equisetopsida	Sapindaceae	*Alectryon oleifolius subsp. elongatus*		C		0	2	12/11/2009
17906	Equisetopsida	Sapindaceae	*Atalaya hemiglauca*		C		0	11	12/11/2009
8631	Equisetopsida	Scrophulariaceae	*Eremophila debilis*	winter apple	C		0	5	12/11/2009
3377	Equisetopsida	Scrophulariaceae	*Eremophila deserti*		C		0	1	12/11/2009
17278	Equisetopsida	Scrophulariaceae	*Eremophila mitchellii*		C		0	10	12/11/2009
16602	Equisetopsida	Scrophulariaceae	*Myoporum acuminatum*	coastal boobialla	C		0	4	12/11/2009
16165	Equisetopsida	Solanaceae	*Solanum ellipticum*	potato bush	C		0	3	12/11/2009
16166	Equisetopsida	Solanaceae	*Solanum esuriale*	quena	C		1	2	12/11/2009
29802	Equisetopsida	Solanaceae	*Solanum parvifolium subsp. parvifolium*		C		0	3	12/11/2009
17049	Equisetopsida	Sparrmanniaceae	*Grewia latifolia*	dysentery plant	C		0	19	12/11/2009
16438	Equisetopsida	Thymelaeaceae	*Pimelea linifolia subsp. linifolia*		C		0	3	12/11/2009
41612	Equisetopsida	Violaceae	*Pigea enneasperma*		C		0	9	12/11/2009

41630	Equisetopsida	Violaceae	*Pigea stellarioides*		C		0	2	12/11/2009
31727	Equisetopsida	Vitaceae	*Clematicissus opaca*		C		0	1	12/11/2009

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

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, 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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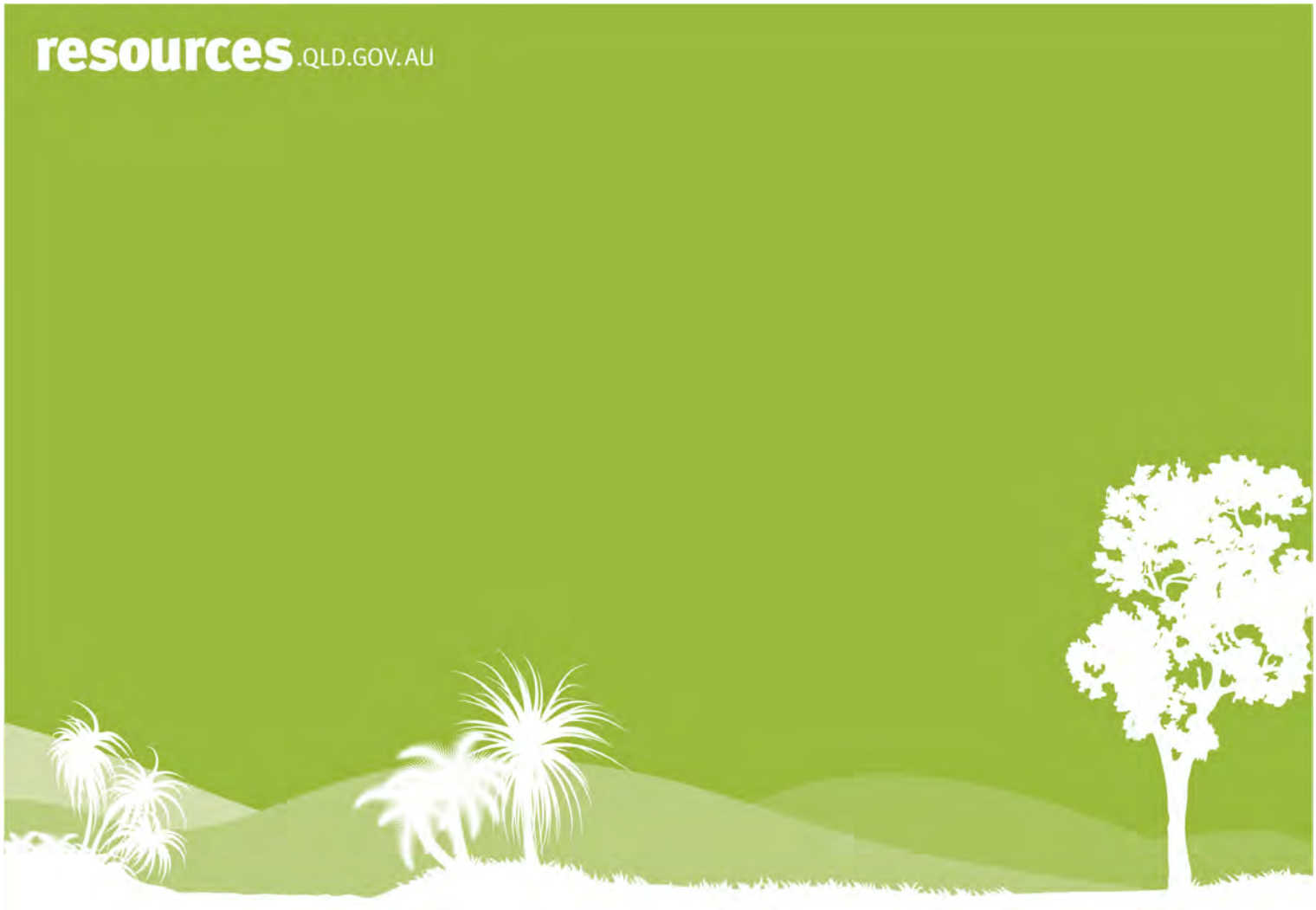

Vegetation management report

For Lot: 12 Plan: SP303309
12/05/2024

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of Environment, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

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1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 12 Plan: SP303309 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
12	SP303309	Lands Lease	278,000,000
J	SP303309	Easement	26,030
C	SP195754	Easement	86,330
A	WHS412	Easement	107,300
A	WHS417	Easement	403,500
B	SP195754	Easement	53,850
D	SP195754	Easement	180,600

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 12 Plan: SP303309 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 12 Plan: SP303309, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Isaac Regional

Catchment(s)
Fitzroy
Burdekin

Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 12 Plan: SP303309

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category A	60.92
Category B	23,549.53
Category C	129.52
Category R	1.27
Category X	3,871.45

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property.
Reference number:

2013/001437

2013/000563

2013/003275

2019/004917

2006/001802

2010/008592

2024/000544

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.10.12	Least concern	B	251.81	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.12	Least concern	C	1.19	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.12	Least concern	R	0.01	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.4	Least concern	B	895.13	Eucalyptus decorticans, Lysicarpus angustifolius +/- Eucalyptus spp., Corymbia spp., Acacia spp. woodland on coarse-grained sedimentary rocks	Sparse
11.10.7	Least concern	B	1,111.38	Eucalyptus crebra woodland on coarse-grained sedimentary rocks	Sparse
11.11.1	Least concern	A	17.20	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse
11.11.1	Least concern	B	1,277.00	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse
11.11.1	Least concern	C	37.70	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse

11.12.1	Least concern	A	4.30	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.1	Least concern	B	320.23	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.1	Least concern	C	9.42	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.2	Least concern	B	0.66	Eucalyptus melanophloia woodland on igneous rocks	Sparse
11.12.3	Least concern	B	540.16	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks especially granite	Sparse
11.12.3	Least concern	C	2.17	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks especially granite	Sparse
11.12.4	Least concern	B	146.28	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.4	Least concern	C	2.17	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.3.1	Endangered	B	83.92	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	B	834.81	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	757.84	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.27	Least concern	B	19.98	Freshwater wetlands	Sparse
11.3.4	Of concern	A	0.58	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	B	1,123.89	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	11.08	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	0.09	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.8.13	Endangered	B	22.69	Semi-evergreen vine thicket and microphyll vine forest on Cainozoic igneous rocks	Dense
11.9.10	Of concern	B	265.12	Eucalyptus populnea open forest with a secondary tree layer of Acacia harpophylla and sometimes Casuarina cristata on fine-grained sedimentary rocks	Mid-dense
11.9.2	Least concern	B	2,352.87	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.2	Least concern	C	13.23	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse

11.9.2	Least concern	R	0.66	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.4	Of concern	A	11.65	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.4	Of concern	B	124.46	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.4	Of concern	C	27.24	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.4	Of concern	R	0.01	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.5	Endangered	A	27.19	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	B	262.13	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	C	16.55	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.7	Of concern	B	7,219.23	Eucalyptus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Sparse
11.9.7	Of concern	R	0.05	Eucalyptus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	B	5,939.92	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	C	8.78	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	R	0.46	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
non-rem	None	X	3,871.45	None	None

Please note:
1. All area and area derived figures included in this table 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.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses
Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands
Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 4.2 of this report.

3.5 Essential habitat
Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.		Riparian areas, plains and hill/escarpment slopes.
7667	Macropteranthes leiocaulis		NT	deciduous vine thicket; semi-evergreen vine thicket; brigalow-semi-evergreen vine thicket; softwood scrub; Araucarian microphyll or simple microphyll vine forest; brigalow/belah scrub	0 to 400 m	duplex soil with sandy clay loam surface or loam to clay loam or heavy clay soil	gentle to steep hill slope, steep ridge line, plain, alluvial flat, watercourse

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 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7667	11.3.1, 11.3.11, 11.4.1, 11.5.15, 11.11.5, 11.11.14, 11.11.18, 11.12.4, 12.11.4, 12.11.12, 12.12.13

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A (with urban areas masked as per SPP): 1109.54 ha

Class B (with urban areas masked as per SPP): 6549.07 ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 12 Plan: SP303309.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

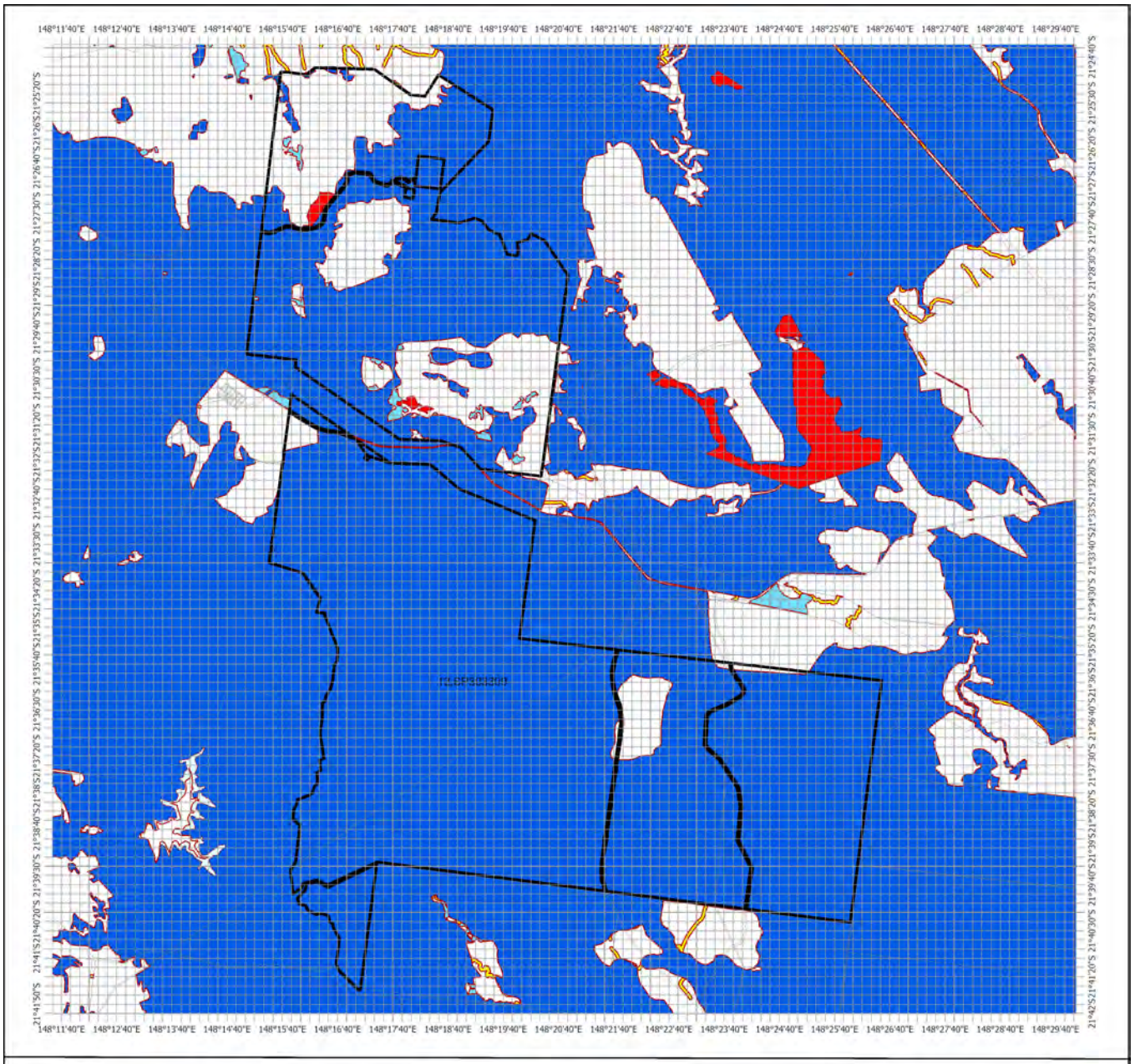
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

4.1 Regulated vegetation management map



Regulated Vegetation Management Map

- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Other land parcel boundaries
- Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

This product is displayed in:
GDA2020

Disclaimer:
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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

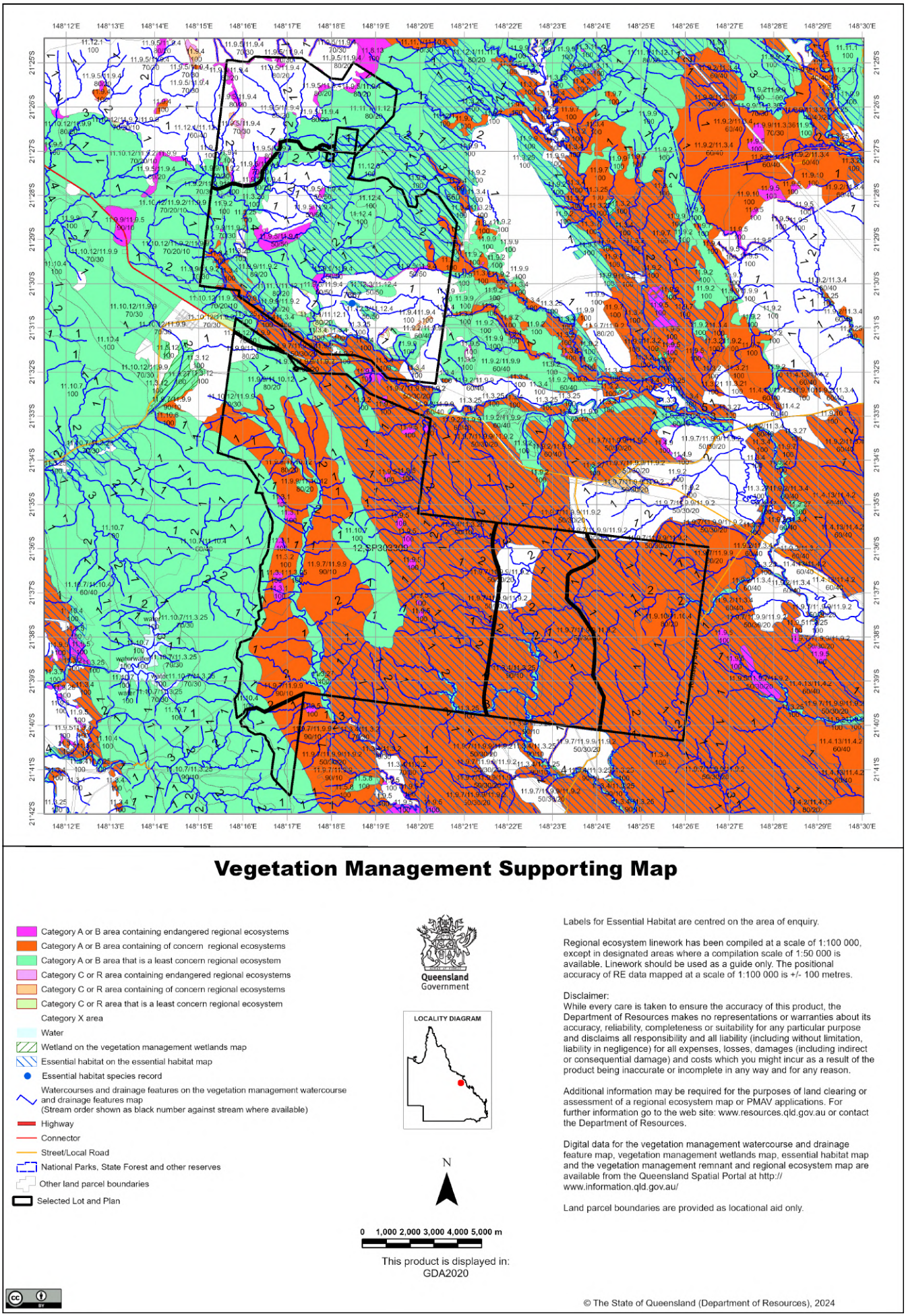
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

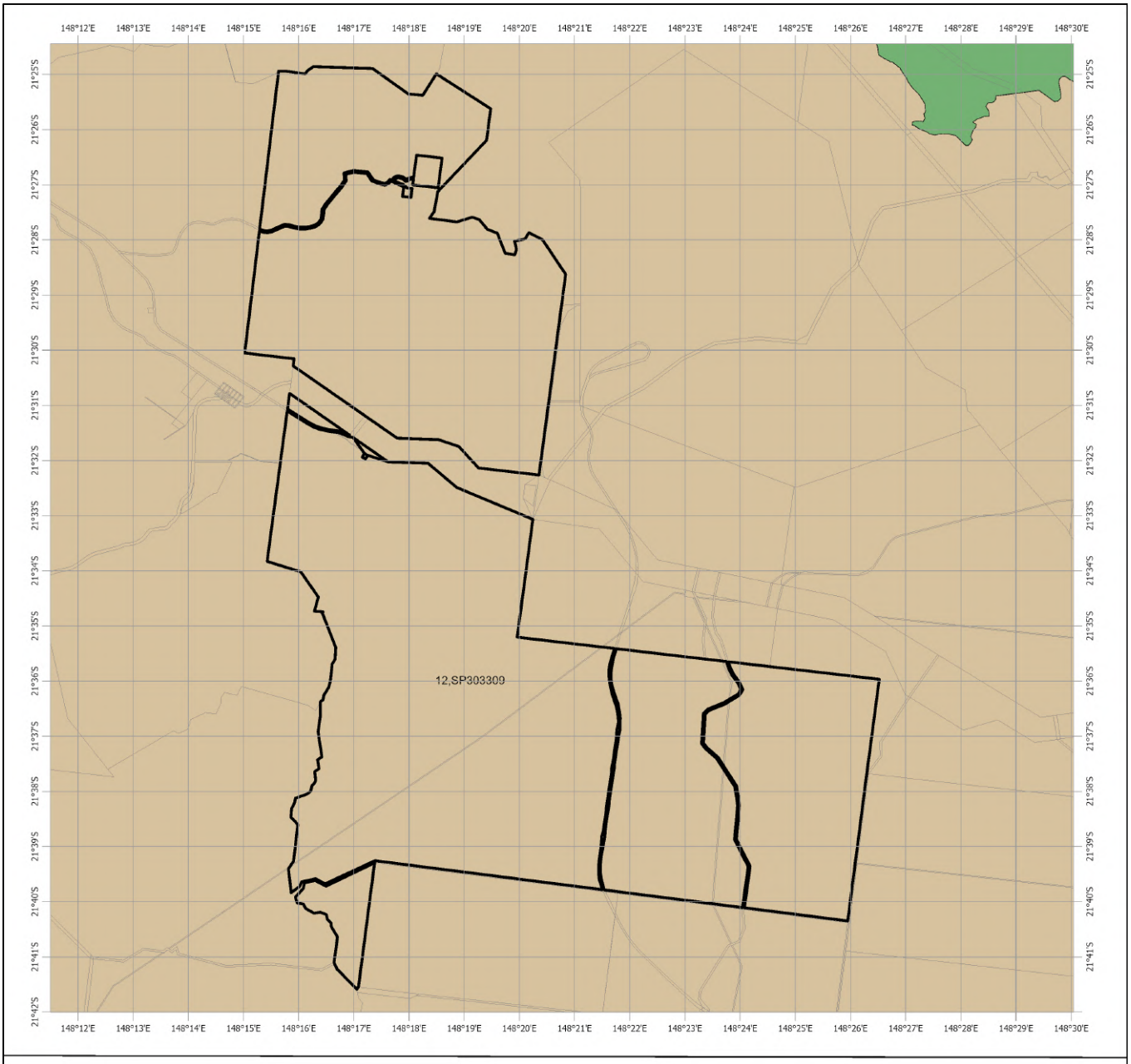
This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

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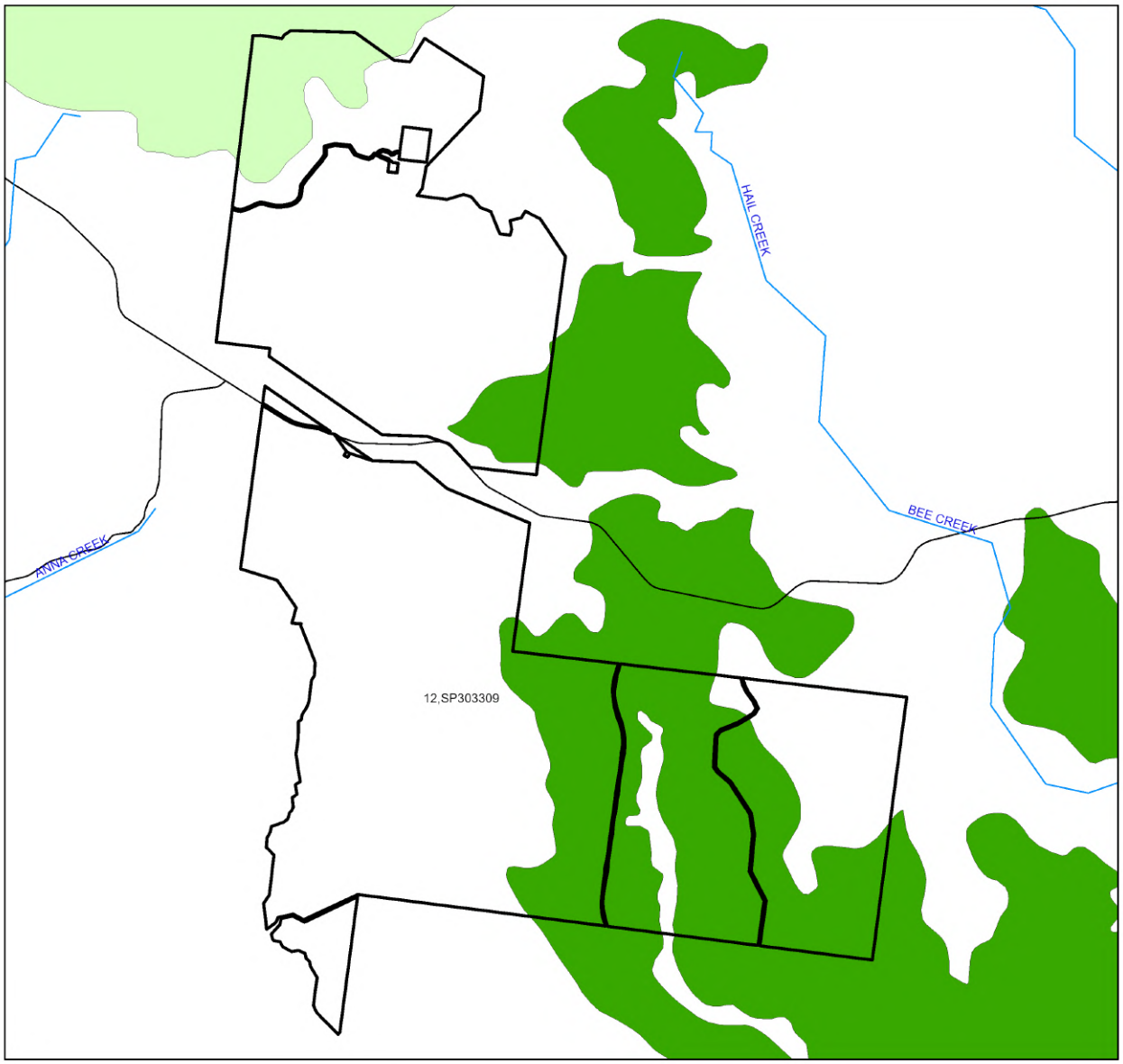
Land parcel boundaries shown are provided as a locational aid only.

4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



Agricultural Land Class A or B
as per State Planning Policy: State Interest for Agriculture

- Towns
- Rivers and creeks
- Freeways / motorways; Highways
- Secondary roads; Streets

Agricultural land class A or B

- A
- B
- Not class A or B
- Selected Lot and Plan

LOCALITY DIAGRAM

N

Disclaimer
Whilst every care is taken to ensure the accuracy of these details all data custodians and/or 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 to which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.

0 1000 2000 3000 4000 5000 m

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5. Protected plants framework (administered by the Department of Environment, Science and Innovation (DESI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DESI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment, Science and Innovation webpage on the clearing of protected plants for more information.

Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

This product is displayed in:
GDA2020

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment, Science and Innovation (DESI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DESI

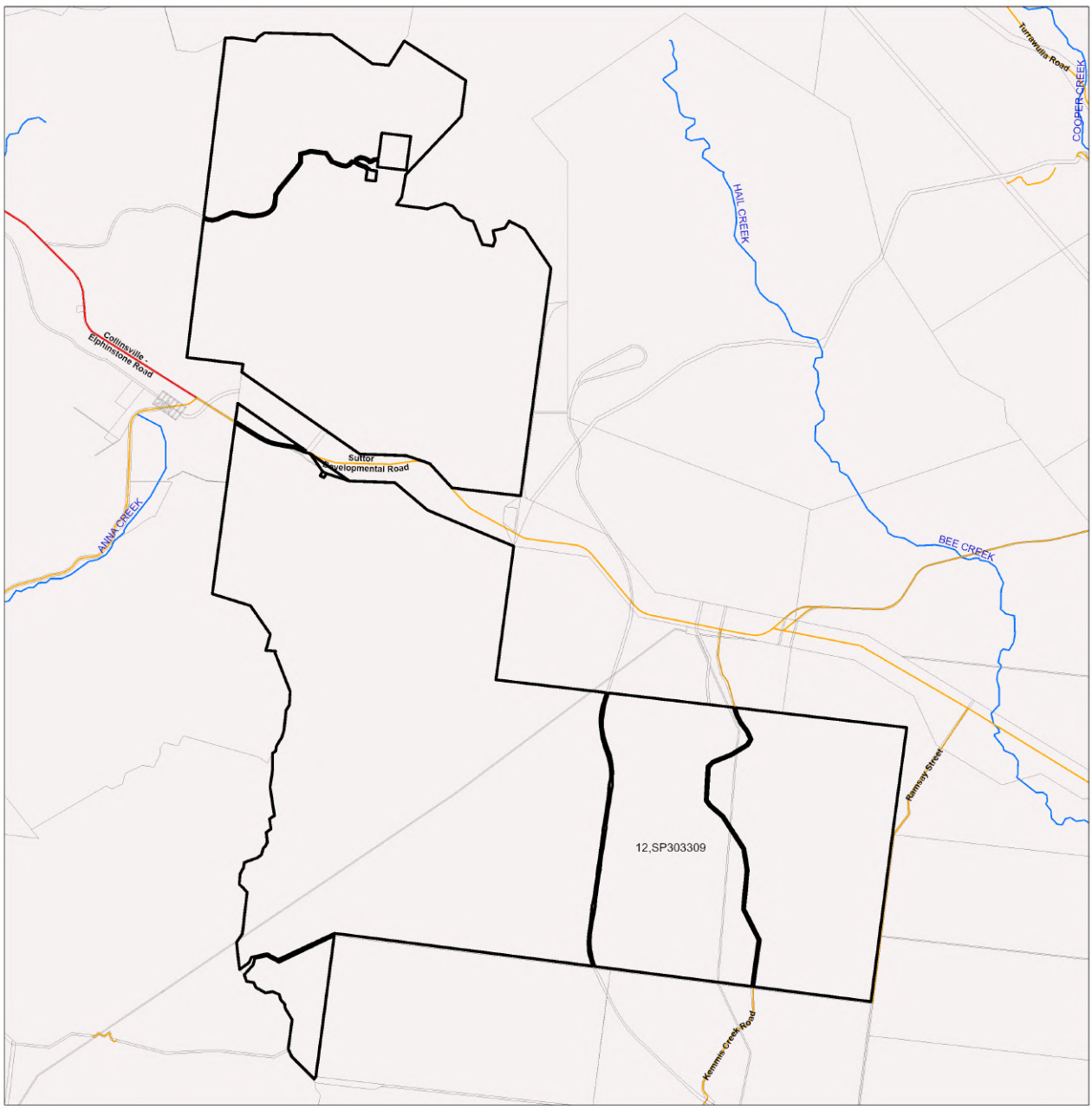
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 12 Plan: SP303309

7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



Koala priority area, koala habitat area and identified koala broad-hectare area map

- Koala habitat area (core)
- Koala habitat area (locally refined)
- Koala priority area
- Identified koala broad-hectare area
- Cadastral Boundaries
- Towns
- Major rivers/creeks
- Highway
- Connector
- Street/Local Road
- Queensland
- 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.

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

This product is displayed in GDA2020

Disclaimer:
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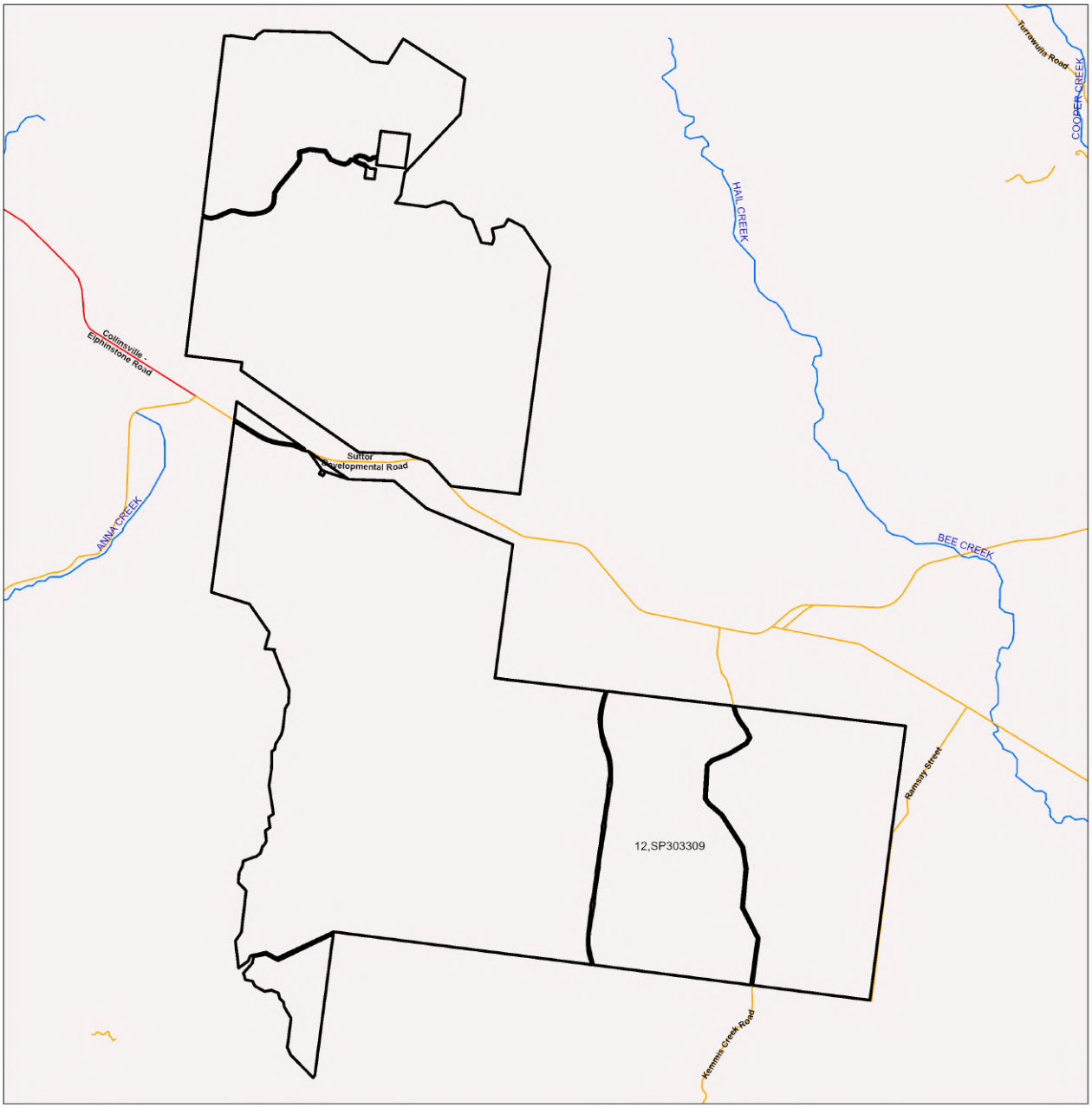
The koala conservation plan maps will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

In order to ensure that the most recent map for an area of interest can be accessed, prior to the annual update, a register of changes made to koala habitat areas as a result of the map amendment process will be available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/. The register will include lot on plan for the change, the date the decision was made and the map issued to the landholder which shows areas determined to be koala habitat areas.

7.3 Koala habitat regional ecosystems for core koala habitat areas



Koala habitat regional ecosystems for core koala habitat areas

Koala habitat area (core)
Towns
Highway
Connector
Street/Local Road
Major rivers/creeks
Queensland
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

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Due to varying sources of data, spatial locations may not coincide when overlaid.

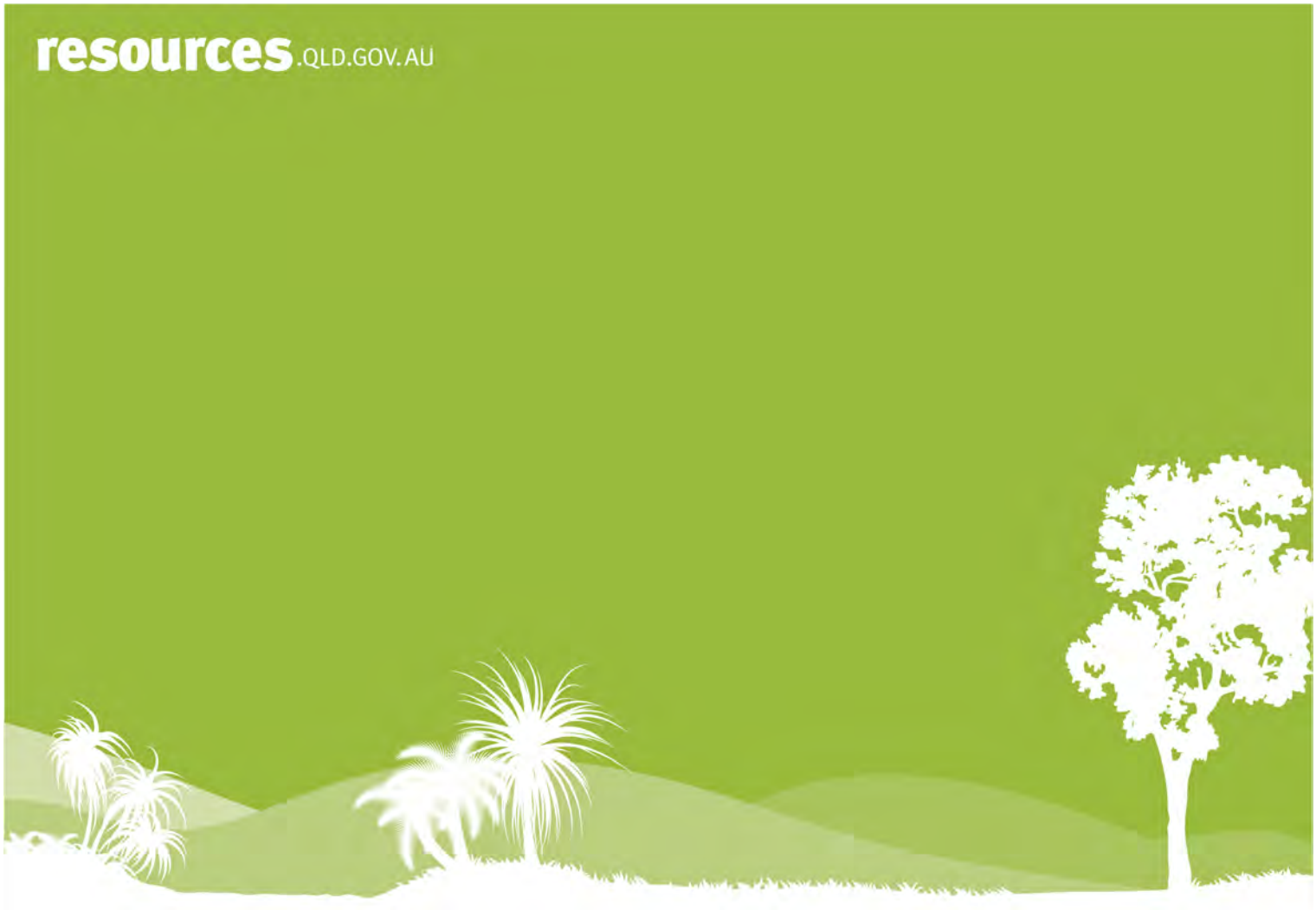
The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

This product is displayed in GDA2020

8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au/ www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 https://www.wettropics.gov.au/

resources.QLD.GOV.AU



Vegetation management report

For Lot: 7 Plan: SP155252
8/5/2024

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of Environment, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 7 Plan: SP155252 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
7	SP155252	Freehold	68,566,100
E	SP202911	Easement	149,200
F	SP202911	Easement	11,850
G	SP258644	Easement	5,182
J	SP266885	Easement	20,910

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 7 Plan: SP155252 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 7 Plan: SP155252, in relation to natural and administrative boundaries.

Table 2: Property location details

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

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 7 Plan: SP155252

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category B	4,056.45
Category C	546.09
Category R	30.27
Category X	2,216.82

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.3.2	Of concern	B	232.81	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	C	83.36	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	2.37	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	241.29	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	C	0.47	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	4.84	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.4	Of concern	B	698.43	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	205.39	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	9.86	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.4.13	Least concern	B	16.44	Eucalyptus orgadophila open woodland on Cainozoic clay plains	Very sparse
11.4.13	Least concern	C	10.43	Eucalyptus orgadophila open woodland on Cainozoic clay plains	Very sparse
11.4.2	Of concern	B	65.77	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.2	Of concern	C	41.70	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.9	Endangered	B	479.53	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.4.9	Endangered	C	151.71	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse

11.4.9	Endangered	R	1.90	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.5.3	Least concern	B	1,804.67	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	C	50.39	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	R	11.07	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.8	Least concern	B	232.73	Melaleuca spp., Eucalyptus crebra, Corymbia intermedia woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.7.2	Least concern	B	284.79	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
11.7.2	Least concern	C	2.64	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
11.7.2	Least concern	R	0.24	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
non-rem	None	X	2,216.82	None	None

Please note:
1. All area and area derived figures included in this table 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.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 4.2 of this report.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.
1785	Geophaps scripta scripta	squatter pigeon (southern subspecies)	V	Dry eucalypt woodland (including poplar box, spotted gum, yellow box, acacia and callitris), with sparse short grass, often on sandy areas near to permanent water; grassy eucalypt woodlands. Nest on ground near or under grass tussock, log or low bush.			Gravelly ridges, traprock and river flats.

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6
1785	8.2.1, 8.2.7, 8.2.8, 8.2.12, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.13, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.9.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.12.6, 8.12.7, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.9, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.18, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.23, 9.4.1, 9.4.2, 9.4.3, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.16, 9.7.1, 9.7.2, 9.7.3, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.4, 9.8.5, 9.8.6, 9.8.9, 9.8.10, 9.8.11, 9.10.1, 9.10.3, 9.10.6, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.11, 9.11.12, 9.11.13, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.23, 9.11.26, 9.11.28, 9.11.29, 9.11.31, 9.11.32, 9.12.1, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.26, 9.12.28, 9.12.30, 9.12.31, 9.12.33, 9.12.35, 9.12.37, 9.12.39, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.8, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.19, 10.3.20, 10.3.22, 10.3.27, 10.3.28, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.5, 10.4.8, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.7, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.7.13, 10.9.1, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.7, 11.3.8, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.23, 11.3.25, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.5, 11.4.8, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.4, 11.7.6, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.2, 11.9.3, 11.9.7, 11.9.9, 11.9.14, 11.10.1, 11.10.4, 11.10.6, 11.10.7, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.15, 11.11.16, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.17, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.10, 12.2.11, 12.3.3, 12.3.6, 12.3.10, 12.3.12, 12.3.14, 12.3.18, 12.3.19, 12.5.1, 12.5.2, 12.5.4, 12.5.5, 12.5.7, 12.5.8, 12.5.11, 12.5.12, 12.7.1, 12.7.2, 12.8.14, 12.8.16, 12.8.17, 12.8.19, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.12, 12.9-10.13, 12.9-10.25, 12.9-10.26, 12.9-10.28, 12.11.5, 12.11.7, 12.11.8, 12.11.14, 12.11.15, 12.11.20, 12.11.21, 12.11.22, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.7, 12.12.8, 12.12.9, 12.12.12, 12.12.14, 12.12.21, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.27, 13.3.1, 13.3.4, 13.3.7, 13.11.1, 13.11.3, 13.11.4, 13.11.8, 13.12.2, 13.12.3, 13.12.5, 13.12.8, 13.12.9, 13.12.10.

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A (with urban areas masked as per SPP): 8.62 ha

Class B (with urban areas masked as per SPP): 1070.87 ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 7 Plan: SP155252.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

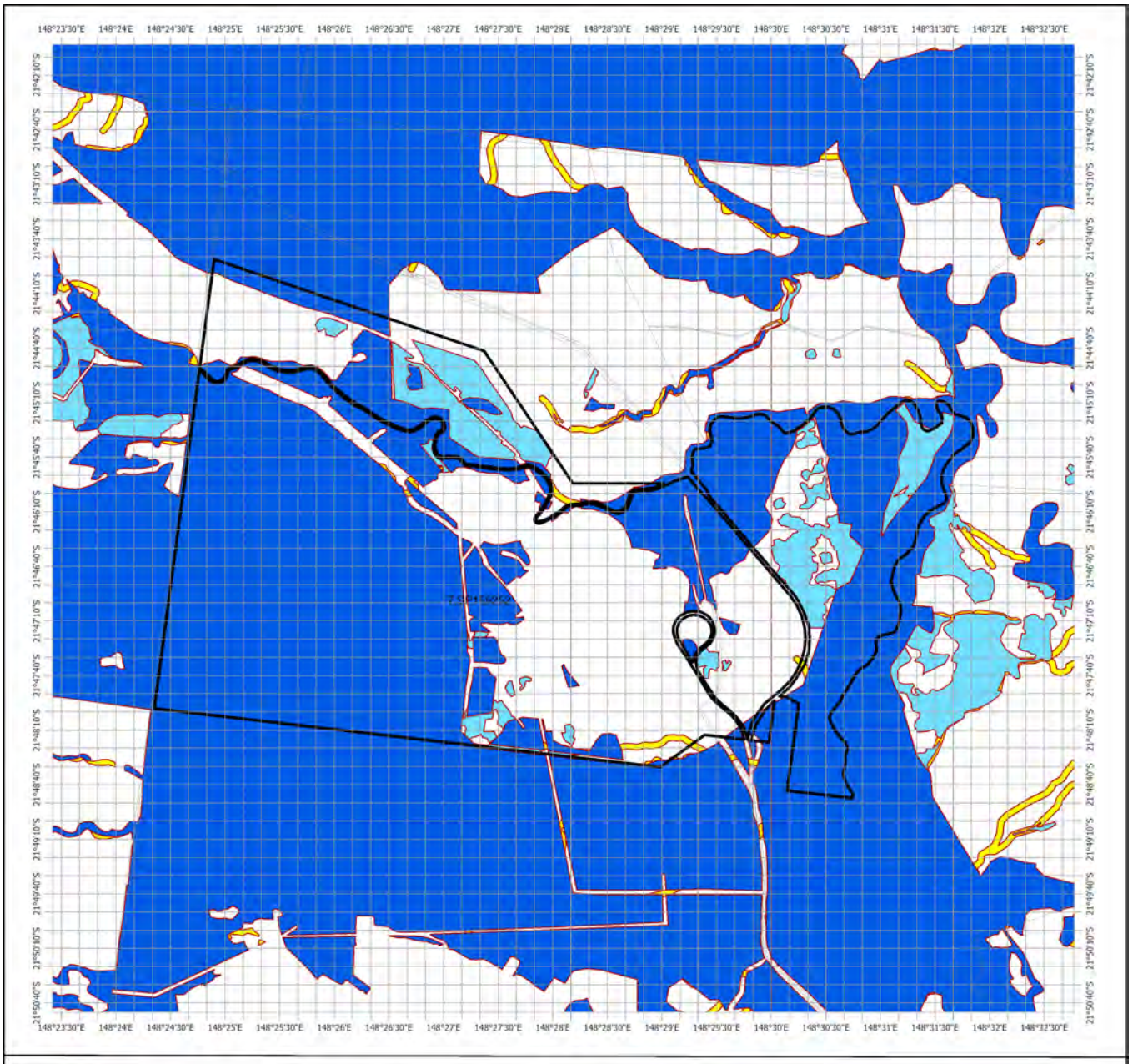
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

4.1 Regulated vegetation management map



Regulated Vegetation Management Map

Category A area (Vegetation offsets/compliance notices/VDecs)
Category B area (Remnant vegetation)
Category C area (High-value regrowth vegetation)
Category R area (Reef regrowth watercourse vegetation)
Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
Water
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 940 1,880 2,820 3,760 4,700 m

This product is displayed in:
GDA2020

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Resources makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

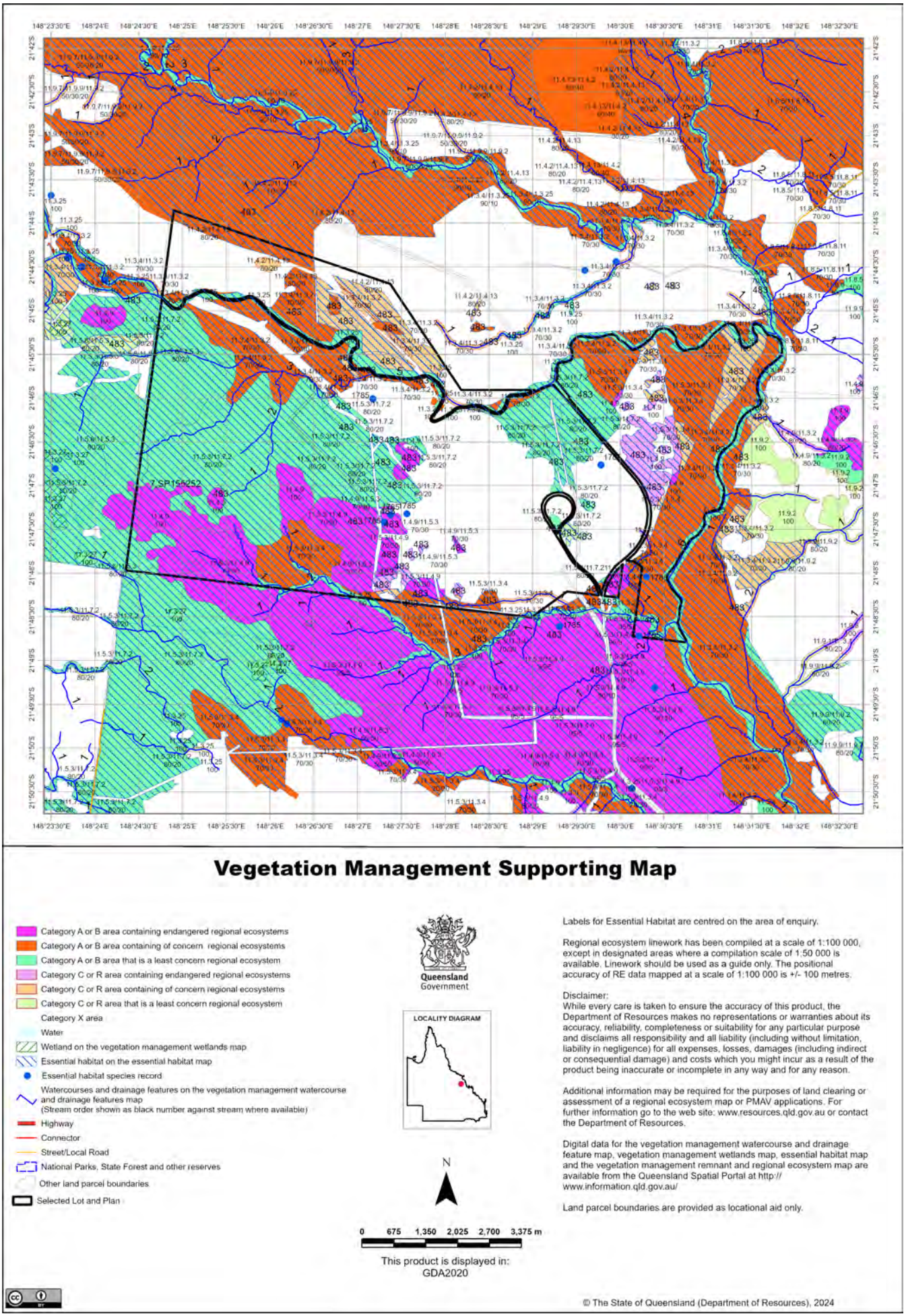
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

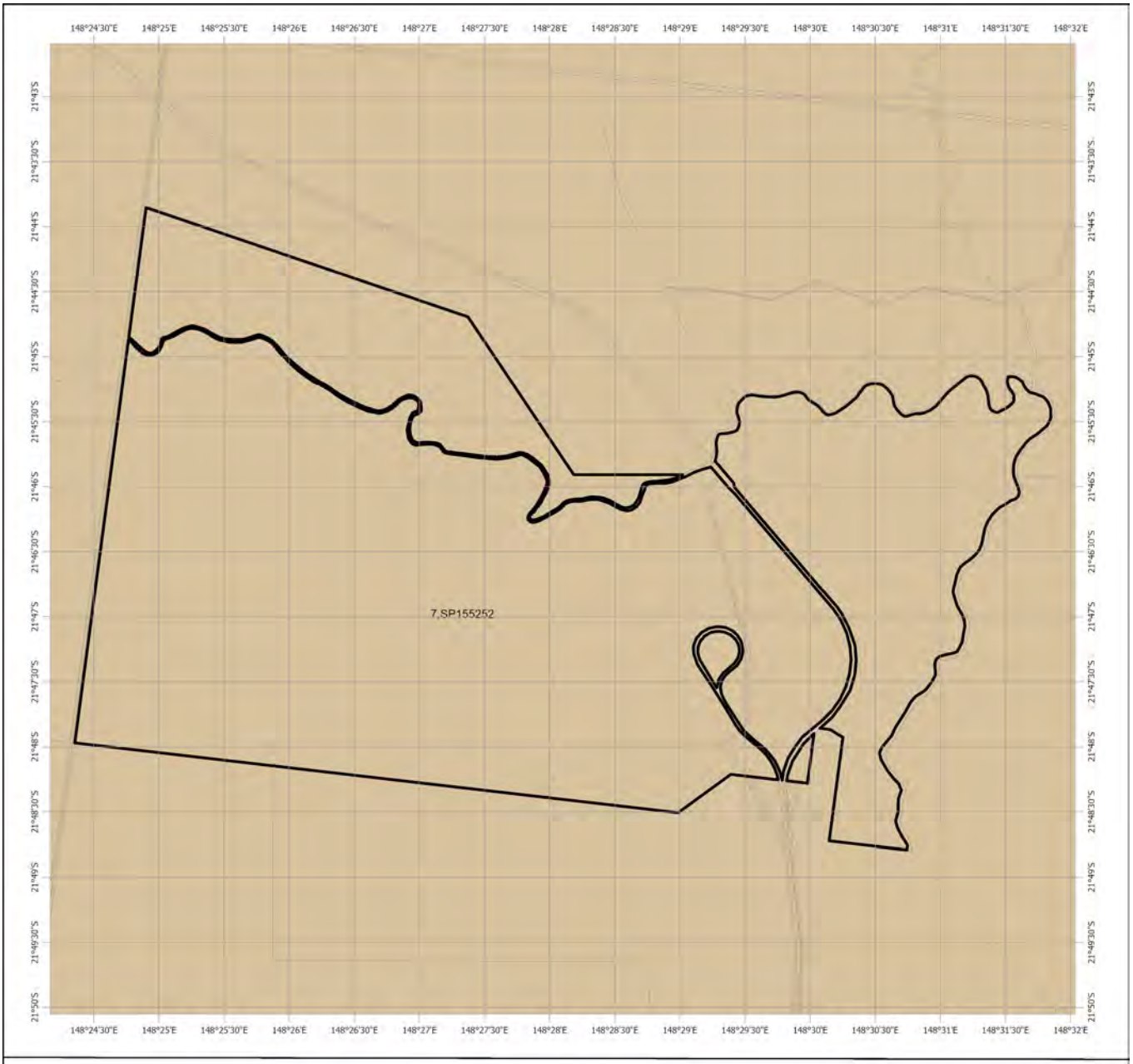
This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

4.2 Vegetation management supporting map



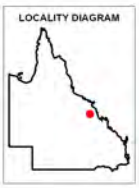
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Resources makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

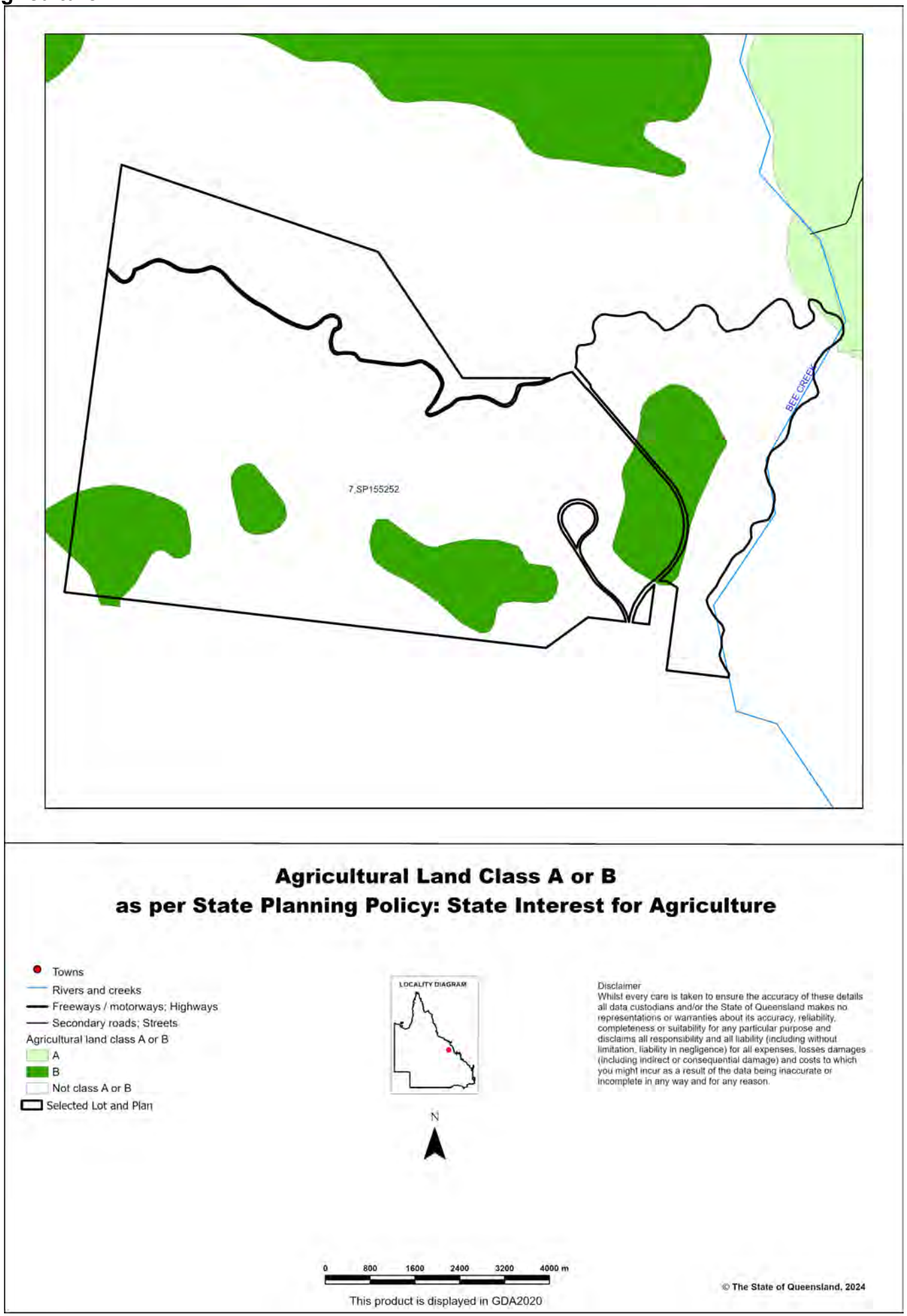
Land parcel boundaries shown are provided as a locational aid only.

N

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

This product is displayed in:
GDA2020

4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



5. Protected plants framework (administered by the Department of Environment, Science and Innovation (DESI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DESI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

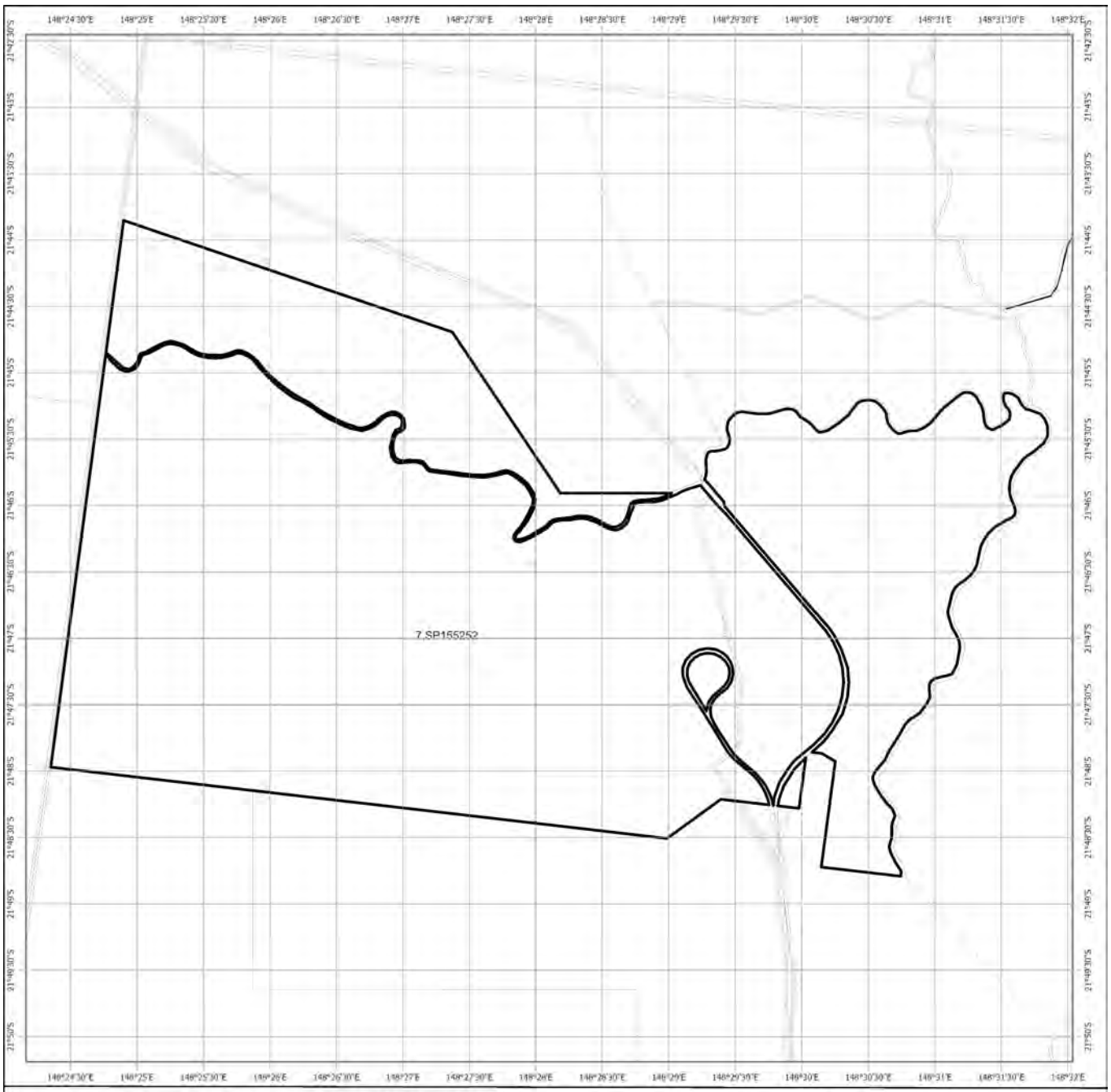
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment, Science and Innovation webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 540 1,080 1,620 2,160 2,700 m

This product is displayed in:
GDA2020

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment, Science and Innovation (DESI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DESI

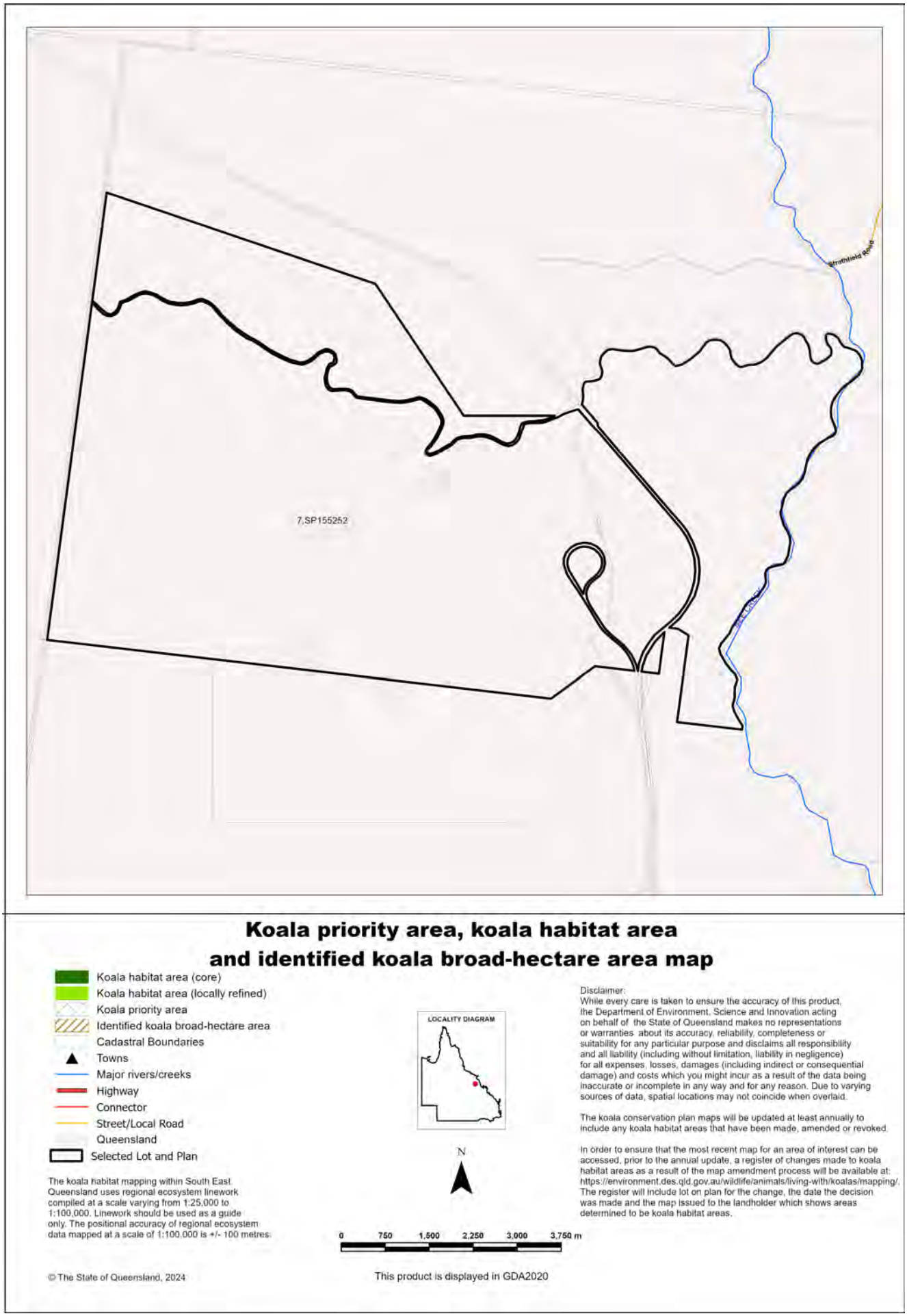
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 7 Plan: SP155252

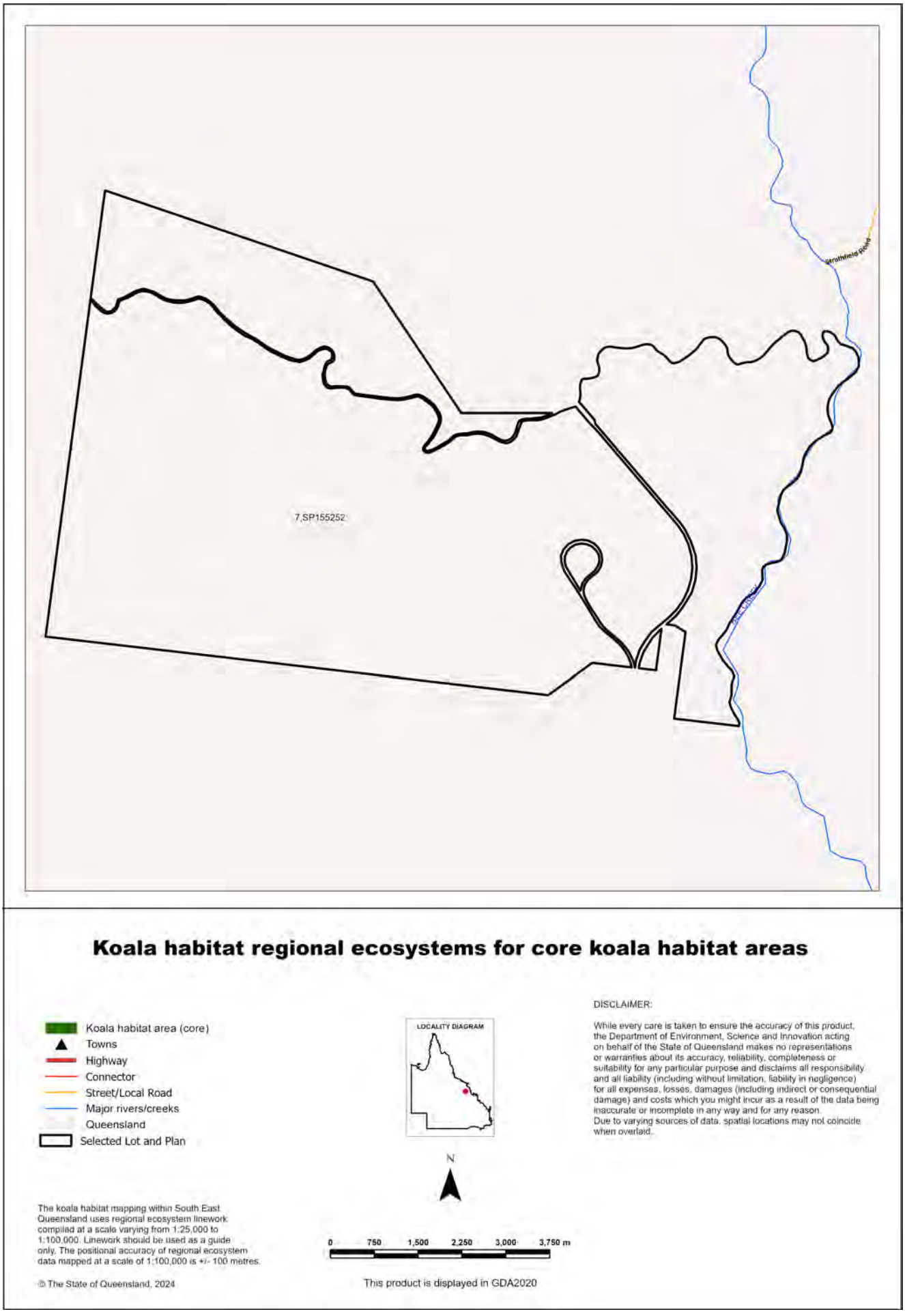
7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au/ www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 https://www.wettropics.gov.au/

resources.QLD.GOV.AU

Vegetation management report

For Lot: 8 Plan: SP155252
8/5/2024

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of Environment, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 8 Plan: SP155252 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
8	SP155252	Freehold	111,087,645
B	SP132683	Easement	207,900
C	SP145152	Easement	42,180
D	SP155252	Easement	38,290
A	SP132683	Easement	35,400
K	SP266885	Easement	240,000

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 8 Plan: SP155252 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 8 Plan: SP155252, in relation to natural and administrative boundaries.

Table 2: Property location details

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

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 8 Plan: SP155252

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category B	5,676.33
Category C	579.50
Category R	489.24
Category X	4,306.94

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property.
Reference number:
2019/004011

2006/001772

2012/004643

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.10.1	Least concern	B	319.60	Corymbia citriodora woodland on coarse-grained sedimentary rocks	Sparse
11.10.1	Least concern	C	5.53	Corymbia citriodora woodland on coarse-grained sedimentary rocks	Sparse
11.10.1	Least concern	R	11.66	Corymbia citriodora woodland on coarse-grained sedimentary rocks	Sparse
11.12.2	Least concern	B	7.94	Eucalyptus melanophloia woodland on igneous rocks	Sparse
11.12.4	Least concern	B	10.64	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.4	Least concern	C	0.67	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.4	Least concern	R	2.07	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.3.1	Endangered	B	25.53	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.1	Endangered	C	7.74	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.1	Endangered	R	32.93	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	B	403.11	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	C	61.43	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	5.22	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	422.31	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	C	4.46	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	8.96	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse

11.3.27	Least concern	B	12.42	Freshwater wetlands	Sparse
11.3.4	Of concern	B	707.48	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	98.38	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	5.89	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.4.2	Of concern	B	70.34	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.2	Of concern	C	17.80	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.9	Endangered	B	389.78	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.4.9	Endangered	C	32.67	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.4.9	Endangered	R	50.90	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.5.3	Least concern	B	2,402.41	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	C	22.62	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	R	29.10	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.7.2	Least concern	B	29.17	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
11.8.11	Of concern	B	91.93	Dichanthium sericeum grassland on Cainozoic igneous rocks	Woody grassland
11.8.11	Of concern	C	19.26	Dichanthium sericeum grassland on Cainozoic igneous rocks	Woody grassland
11.8.11	Of concern	R	23.83	Dichanthium sericeum grassland on Cainozoic igneous rocks	Woody grassland
11.8.5	Least concern	B	214.25	Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Very sparse
11.8.5	Least concern	C	53.37	Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Very sparse
11.8.5	Least concern	R	61.34	Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Very sparse

11.9.1	Endangered	B	71.04	Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks	Mid-dense
11.9.1	Endangered	C	22.01	Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks	Mid-dense
11.9.1	Endangered	R	137.87	Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks	Mid-dense
11.9.2	Least concern	B	163.54	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.2	Least concern	C	214.54	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.2	Least concern	R	39.82	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.5	Endangered	B	31.20	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	C	0.25	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	R	9.20	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.9	Least concern	B	303.64	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	C	18.77	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	R	70.44	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
non-rem	None	X	4,306.94	None	None

Please note:
1. All area and area derived figures included in this table 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.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 4.2 of this report.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.		Riparian areas, plains and hill/escarpment slopes.
1785	Geophaps scripta scripta	squatter pigeon (southern subspecies)	V	Dry eucalypt woodland (including poplar box, spotted gum, yellow box, acacia and callitris), with sparse short grass, often on sandy areas near to permanent water; grassy eucalypt woodlands. Nest on ground near or under grass tussock, log or low bush.			Gravelly ridges, traprock and river flats.
2455	Petauroides armillatus	central greater glider	E	Tall mature open wet and dry eucalypt forest (Eucalyptus &/or Corymbia spp.) to low open eucalypt woodland; presence of hollow-bearing trees.	Sea level to 1300m.	Usually on soils of relatively high fertility.	

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.8, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.17, 10.3.20, 10.3.22, 10.3.27, 10.3.28, 10.4.2, 10.4.3, 10.4.5, 10.4.8, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.7, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.7.13, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.17, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.
1785	8.2.1, 8.2.7, 8.2.8, 8.2.12, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.13, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.9.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.12.6, 8.12.7, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.9, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.18, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.23, 9.4.1, 9.4.2, 9.4.3, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.16, 9.7.1, 9.7.2, 9.7.3, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.4, 9.8.5, 9.8.6, 9.8.9, 9.8.10, 9.8.11, 9.10.1, 9.10.3, 9.10.6, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.11, 9.11.12, 9.11.13, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.23, 9.11.26, 9.11.28, 9.11.29, 9.11.31, 9.11.32, 9.12.1, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.26, 9.12.28, 9.12.30, 9.12.31, 9.12.33, 9.12.35, 9.12.37, 9.12.39, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.8, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.19, 10.3.20, 10.3.22, 10.3.27, 10.3.28, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.5, 10.4.8, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.7, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.7.13, 10.9.1, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.7, 11.3.8, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.23, 11.3.25, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.5, 11.4.8, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.4, 11.7.6, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.2, 11.9.3, 11.9.7, 11.9.9, 11.9.14, 11.10.1, 11.10.4, 11.10.6, 11.10.7, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.15, 11.11.16, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.17, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.10, 12.2.11, 12.3.3, 12.3.6, 12.3.10, 12.3.12, 12.3.14, 12.3.18, 12.3.19, 12.5.1, 12.5.2, 12.5.4, 12.5.5, 12.5.7, 12.5.8, 12.5.11, 12.5.12, 12.7.1, 12.7.2, 12.8.14, 12.8.16, 12.8.17, 12.8.19, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.12, 12.9-10.13, 12.9-10.25, 12.9-10.26, 12.9-10.28, 12.11.5, 12.11.7, 12.11.8, 12.11.14, 12.11.15, 12.11.20, 12.11.21, 12.11.22, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.7, 12.12.8, 12.12.9, 12.12.12, 12.12.14, 12.12.21, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.27, 13.3.1, 13.3.4, 13.3.7, 13.11.1, 13.11.3, 13.11.4, 13.11.8, 13.12.2, 13.12.3, 13.12.5, 13.12.8, 13.12.9, 13.12.10.
2455	2.10.2, 2.10.3, 2.5.24, 7.3.19, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.5.2, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.35, 7.12.21, 7.12.22, 7.12.24, 7.12.27, 7.12.29, 7.12.30, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.61, 7.12.63, 8.3.2, 8.3.5, 8.3.6, 8.3.8, 8.11.3, 8.11.8, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.20, 8.12.23, 8.12.31, 8.12.32, 9.3.1, 9.3.3, 9.3.8, 9.3.15, 9.3.16, 9.5.5, 9.7.3, 9.8.1, 9.8.4, 9.8.9, 9.11.2, 9.11.4, 9.11.10, 9.11.14, 9.11.16, 9.12.1, 9.12.2, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.22, 9.12.23, 9.12.26, 10.3.13, 11.3.3, 11.3.4, 11.3.7, 11.3.9, 11.3.14, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.29, 11.3.35, 11.3.36, 11.3.38, 11.3.39, 11.4.8, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.8, 11.5.9, 11.5.12, 11.5.20, 11.5.21, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.2, 11.9.9, 11.9.13, 11.10.1, 11.10.2, 11.10.4, 11.10.5, 11.10.7, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.7, 11.11.10, 11.11.15, 11.12.1, 11.12.2, 11.12.3, 11.12.6, 11.12.13, 12.3.2, 12.3.3, 12.3.6, 12.3.7, 12.3.9, 12.3.11, 12.3.14 ,12.3.15 ,12.5.1 ,12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.11, 12.5.12, 12.8.1, 12.8.8, 12.8.10, 12.8.11, 12.8.14, 12.8.16, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.20, 12.9-10.21, 12.9-10.23, 12.9-10.24, 12.9-10.26, 12.9-10.27, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.19, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.20, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.27, 12.12.28, 13.11.3, 13.11.5, 13.11.6, 13.11.8, 13.12.1, 13.12.2

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A (with urban areas masked as per SPP): 1199.67 ha

Class B (with urban areas masked as per SPP): 1.35 ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 8 Plan: SP155252.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

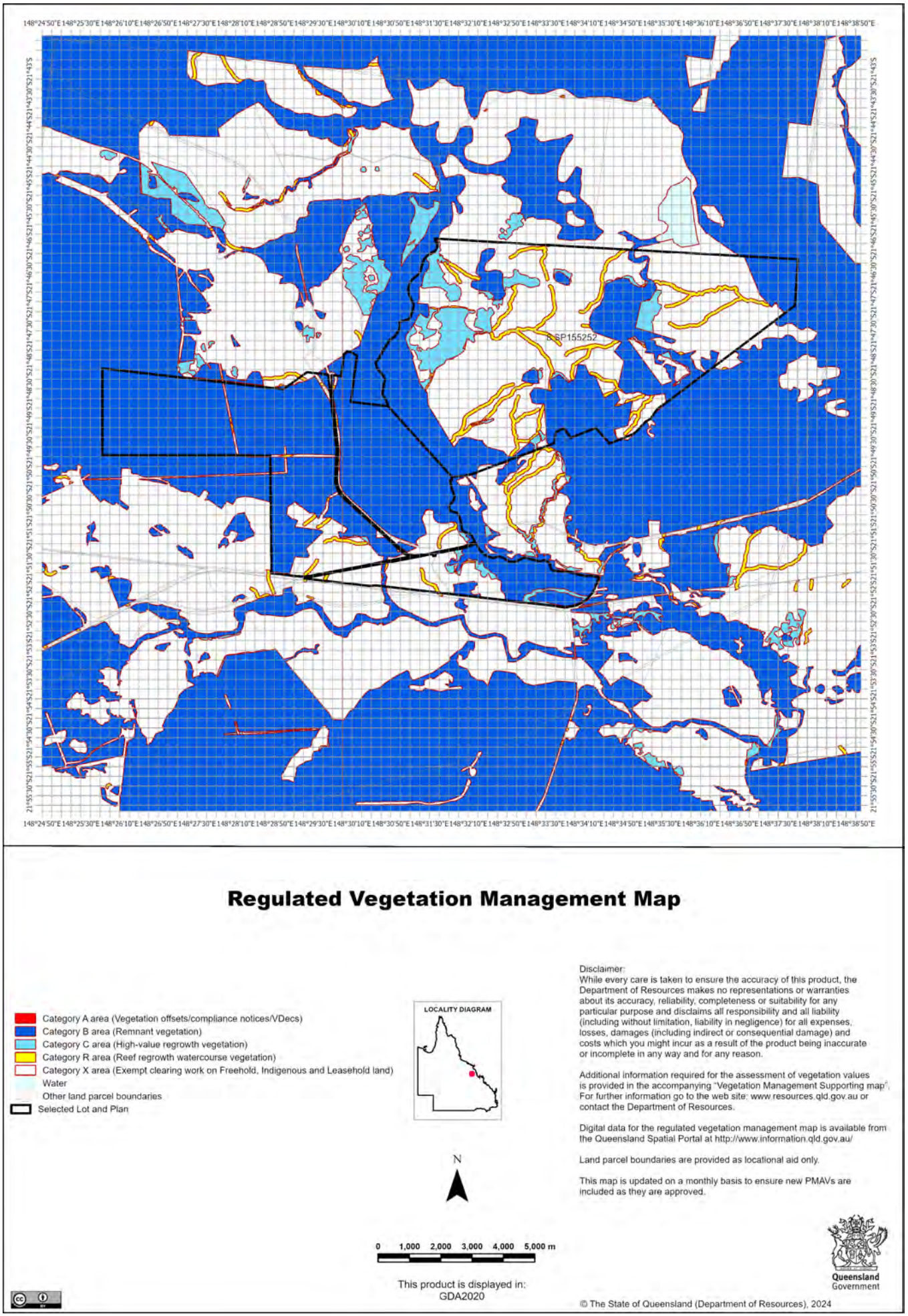
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

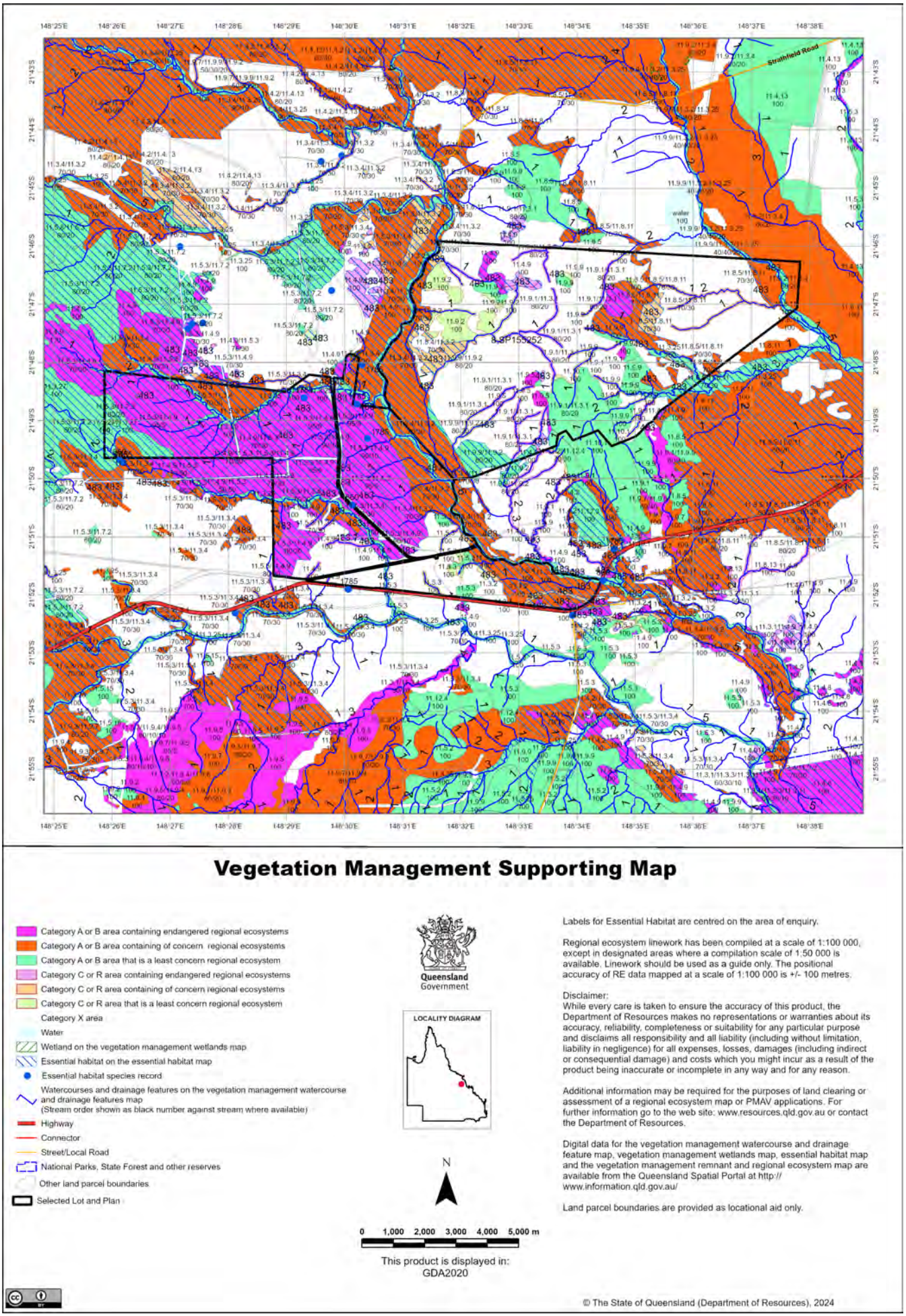
Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

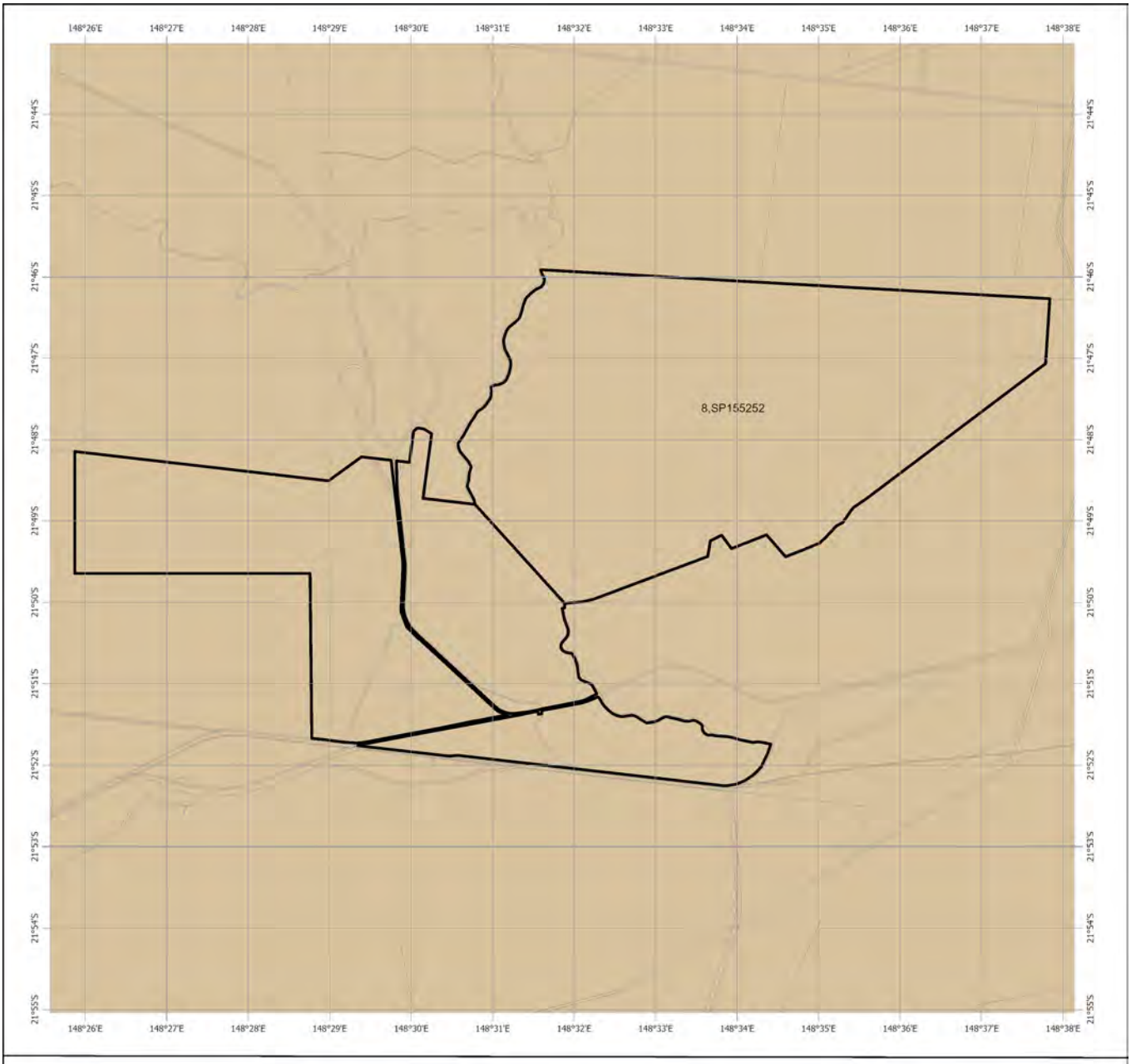
4.1 Regulated vegetation management map



4.2 Vegetation management supporting map



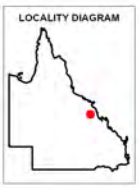
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



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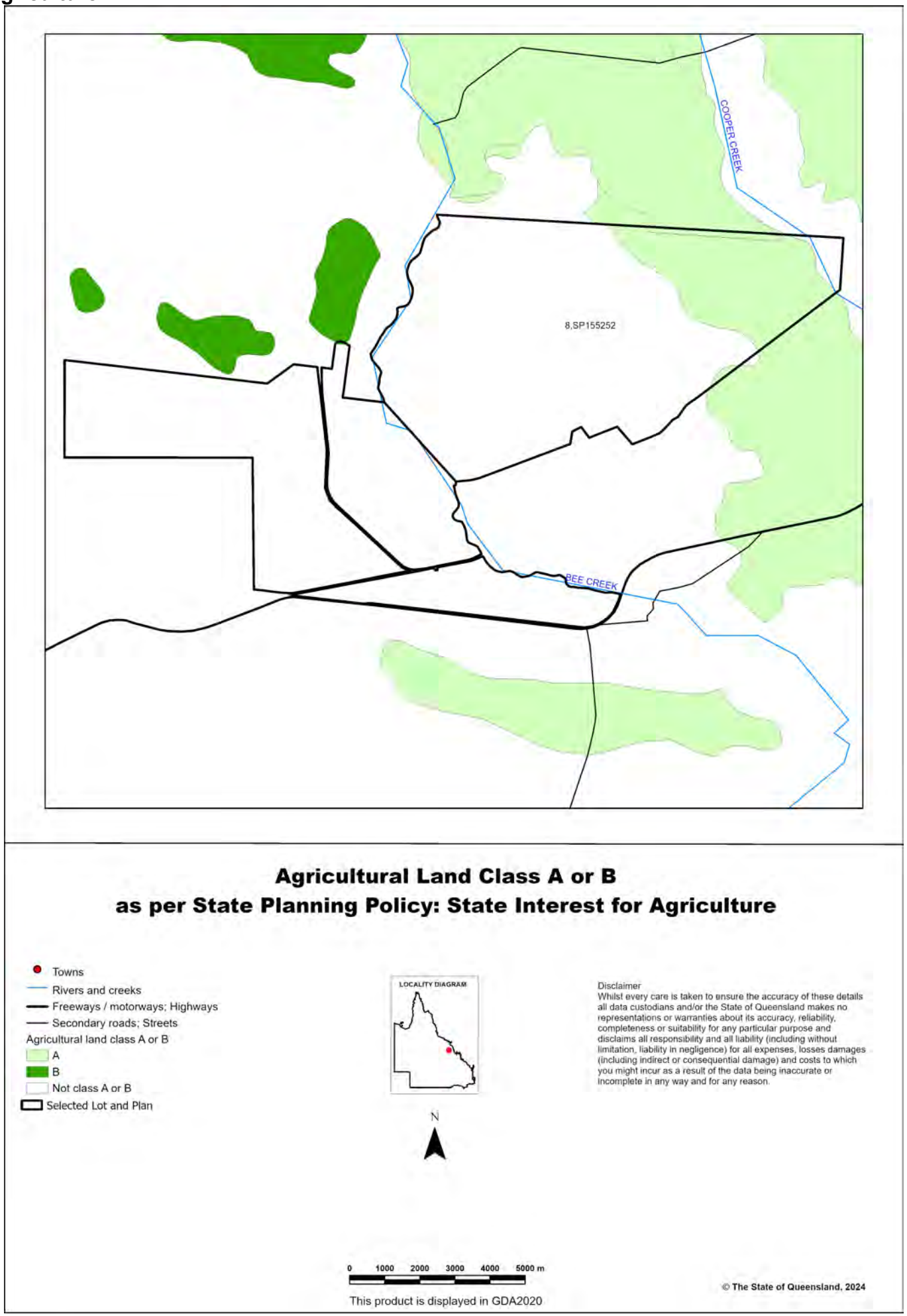
Land parcel boundaries shown are provided as a locational aid only.

4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



5. Protected plants framework (administered by the Department of Environment, Science and Innovation (DESI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DESI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

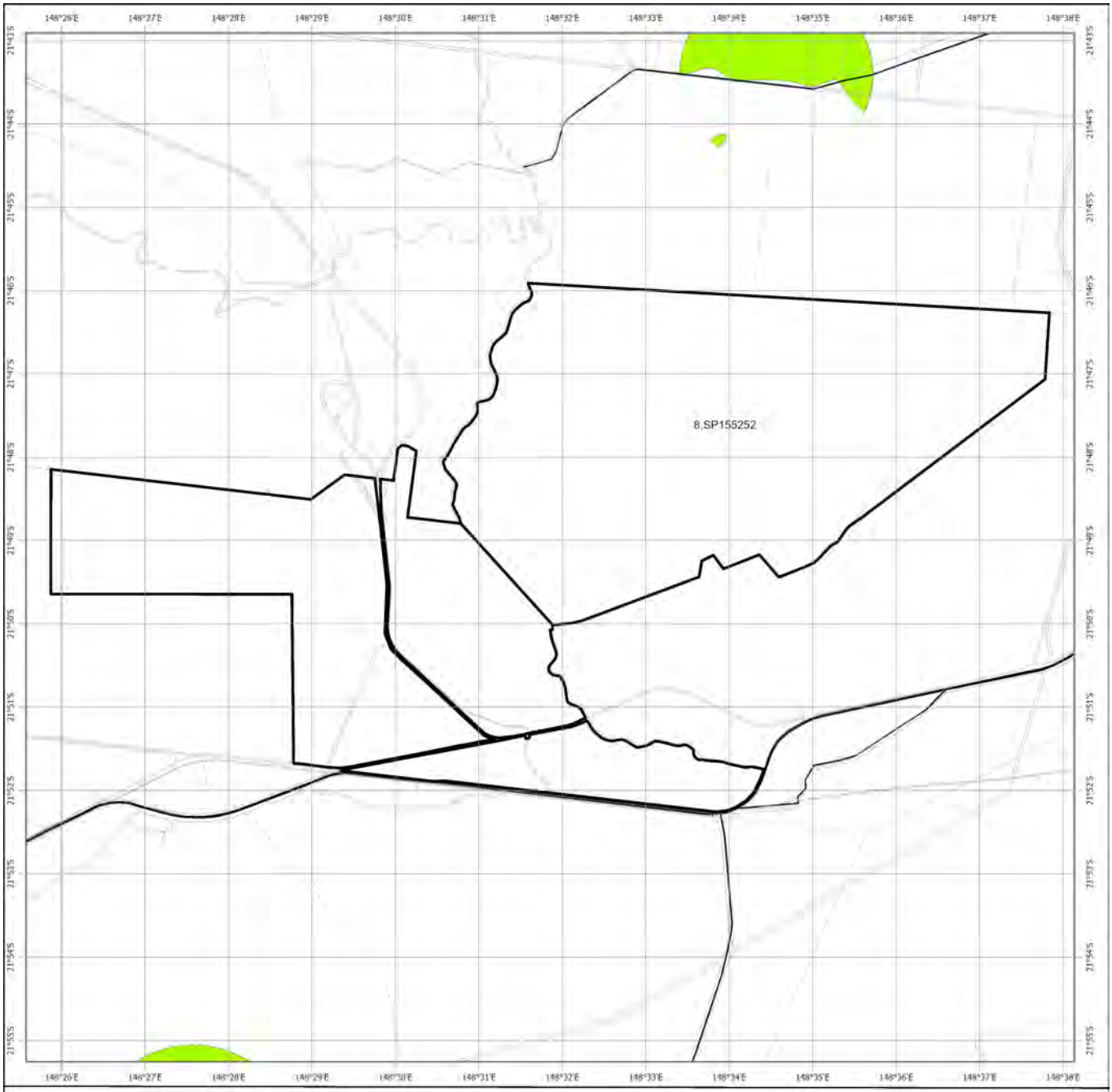
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

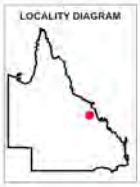
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment, Science and Innovation webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



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This product is displayed in:
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This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment, Science and Innovation (DESI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DESI

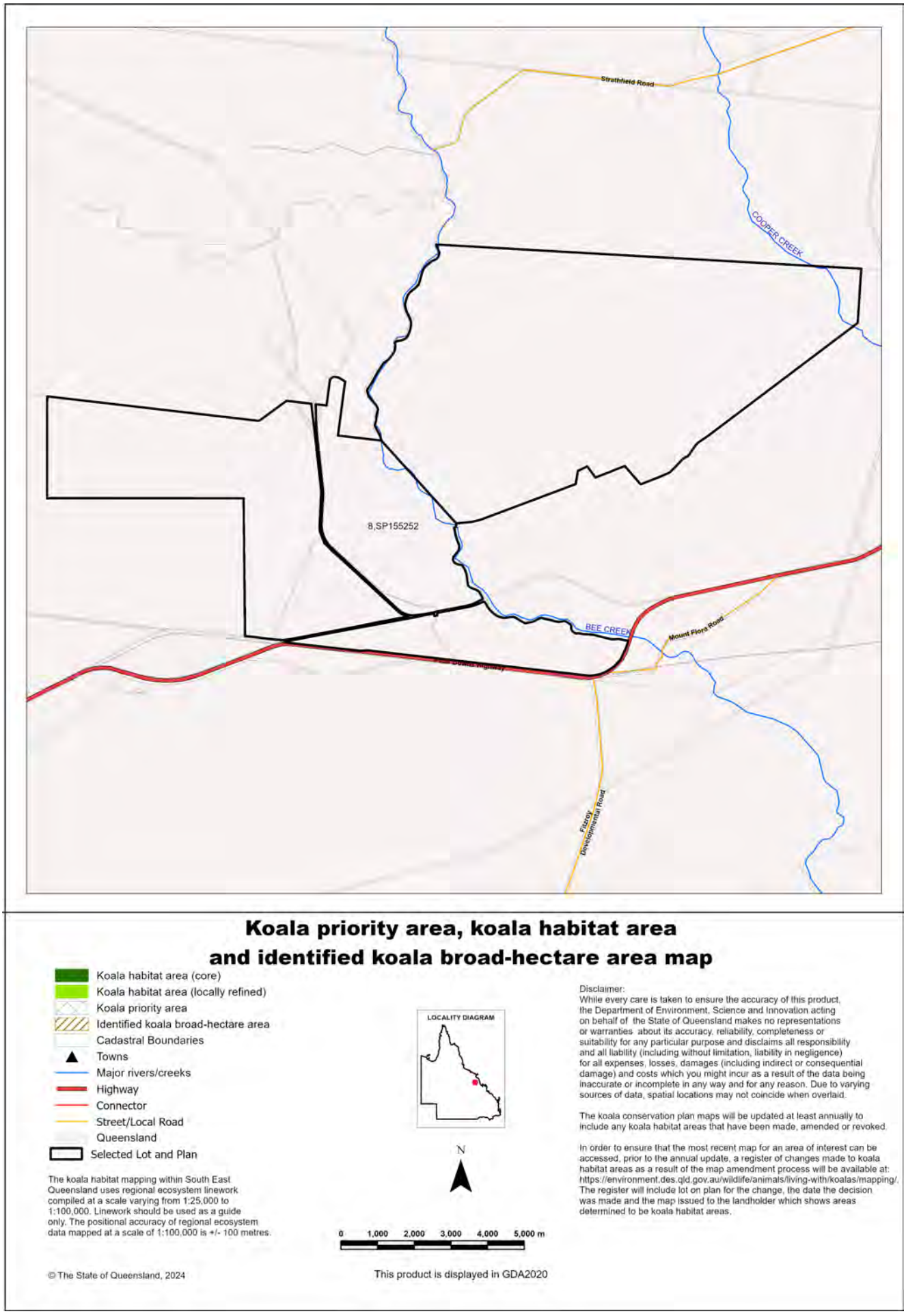
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 8 Plan: SP155252

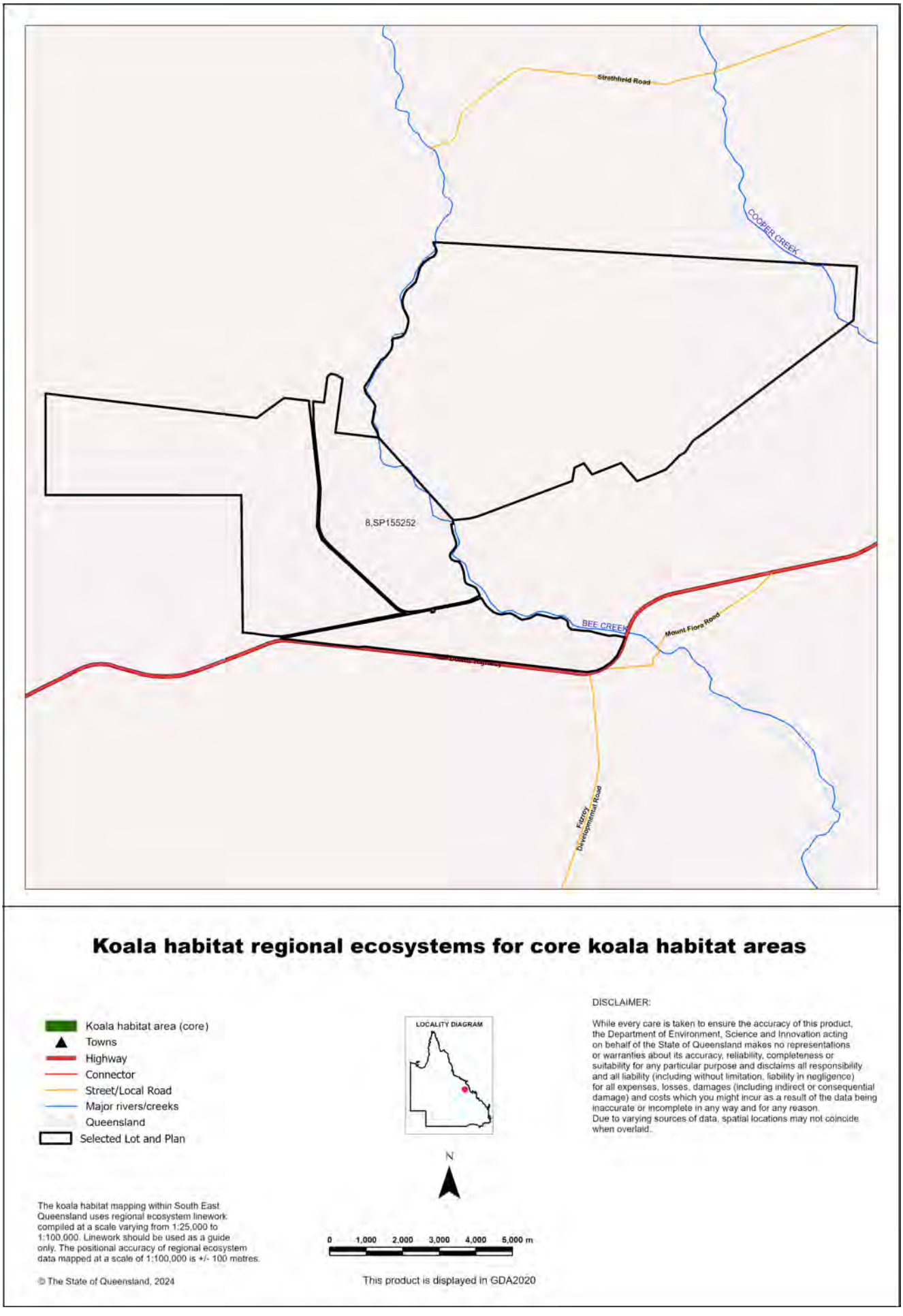
7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



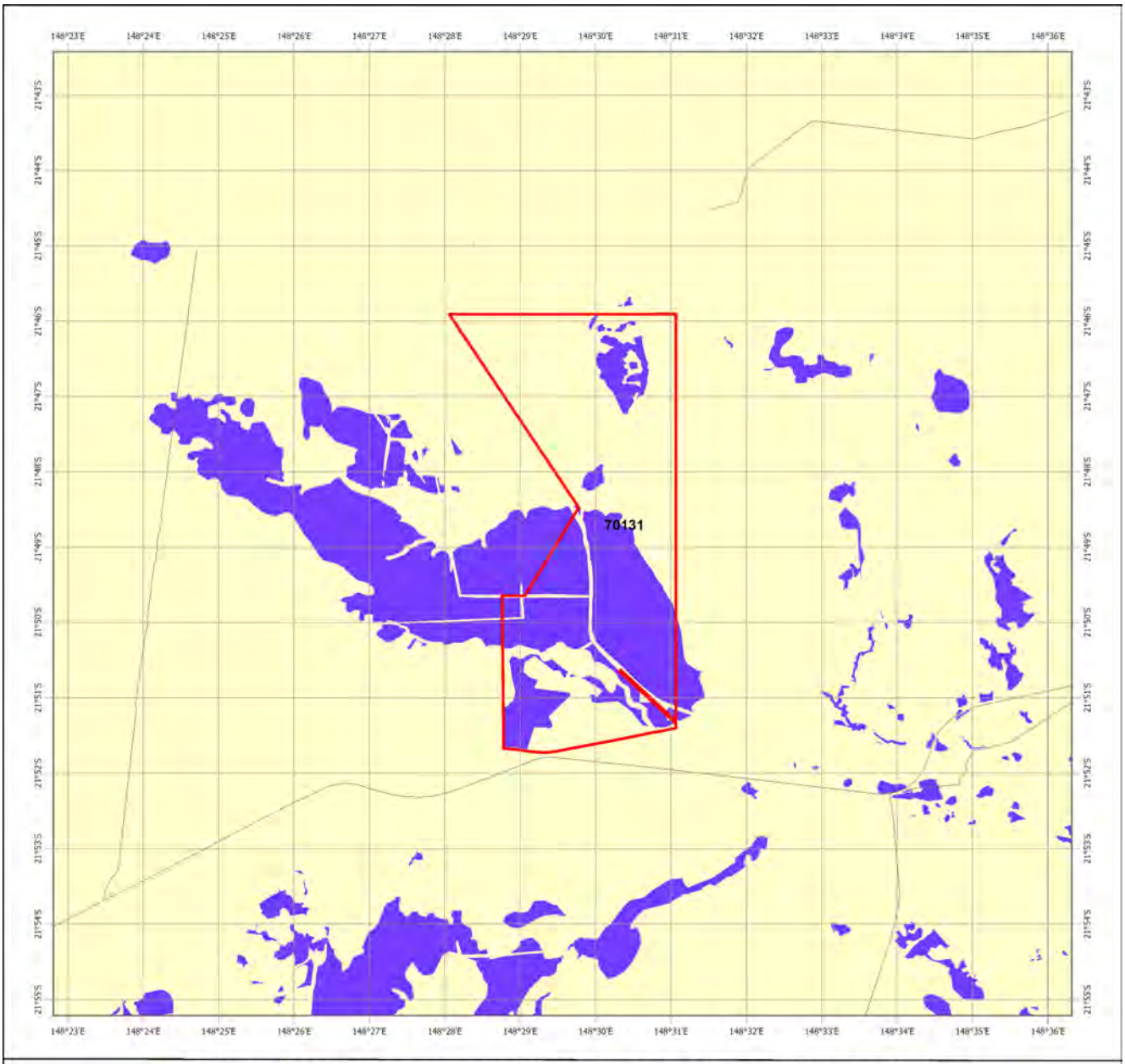
7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au/ www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 https://www.wettropics.gov.au/

Centred on tenure: ML: 70131 Map requested: 05/08/2024 10:06:52



ENVIRONMENTALLY SENSITIVE AREAS - Mining Activities

CATEGORY A
- National Parks
- Conservation Parks
- Forest Reserves
- Special Wildlife Reserve
- Wet Tropics World Heritage Area
- Great Barrier Reef Region
- Marine Parks other than General Use Zones

CATEGORY B
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Seaward Side of Highest Astronomical Tide
- Fish Habitat Areas
- Coordinated Conservation Areas
- Endangered Regional Ecosystems - regrowth and remnant (Biodiversity Status)
- General Use Zones of Marine Parks
- Marine Plants
- Selected Mining Lease (ML)

CATEGORY C
- Nature Refuges
- Resources Reserve
- State Forests
- Timber Reserves
- River Improvement Areas
- Stanbroke DLA
- Coastal Management District
- Dams and Weirs

OTHERS
- Towns
- Roads
- Repealed Wild River Nominated Waterways
- Repealed Wild River Preservation Areas
- Repealed Wild River High Preservation Areas
- Mahogany Glider Habitat
- Directory of Important Wetlands
- Queensland

LOCALITY DIAGRAM

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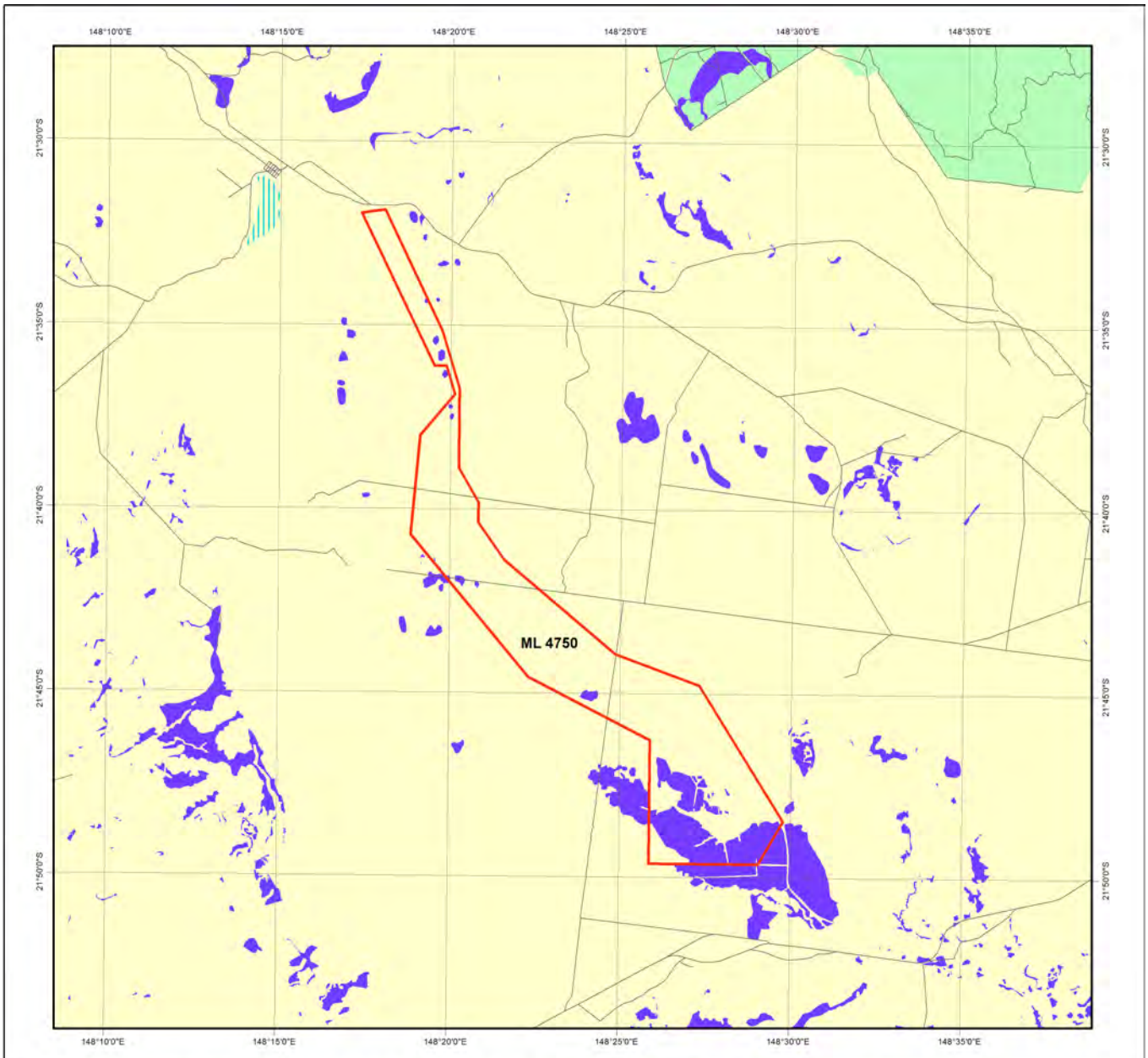
NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

The user should note that some boundaries and indicated values are ambient and may change over time (e.g. regional ecosystem boundaries and conservation status, watercourse mapping etc.).

The user should be aware that due to multiple overlapping themes/ layers present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes/layers are displayed.



ENVIRONMENTALLY SENSITIVE AREAS - Mining Activities

- Selected Mining Lease (ML)

CATEGORY A
- National Parks
- Conservation Parks
- Forest Reserves
- Special Wildlife Reserve
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Area
- Marine Parks other than General Use Zones

CATEGORY B
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Seaward Side of Highest Astronomical Tide
- Fish Habitat Areas
- Coordinated Conservation Areas
- Endangered Regional Ecosystems - regrowth and remnant (Biodiversity Status)
- General Use Zones of Marine Parks
- Marine Plants

CATEGORY C
- Nature Refuges
- Resources Reserve
- State Forests
- Timber Reserves
- River Improvement Areas
- Stanbroke DLA
- Coastal Management District
- Dams and Weirs

OTHERS
- Towns
- Roads
- Repealed Wild River Nominated Waterways
- Repealed Wild River Preservation Areas
- Repealed Wild River High Preservation Areas
- Mahogany Glider Habitat
- Directory of Important Wetlands
- Queensland

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This product is projected into GDA 1994 MGA Zone 55

NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

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Appendix B Likelihood of occurrence assessment

FIELD VERIFIED LIKELIHOOD OF OCCURRENCE ASSESSMENT FOR STUDY AREA

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Mammals						
Dasyurus hallucatus	Northern quoll	E	LC	Habitat features include high relief areas that have shallower soils, boulders and rocky areas for denning, low fire impact and close to permanent water. The species occupies a diversity of habitats across its range including eucalypt forest and woodlands, rainforests, sandy lowlands, and beaches, shrubland, grasslands and desert. 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 high relief, often rugged and dissected but can also include tor fields or caves in low lying areas. Eucalypt forest or woodland habitats usually have a high structural diversity containing large diameter trees, termite mounds or hollow logs for denning purposes.	Potential	Marginal habitat for Northern quoll is identified within land zone 10 areas in the study area (northern). No suitable rocky habitat for denning was recorded Habitat connects to suitable high relief rocky habitat to the northwest and west of the study area. Historical record within 20km and recent record within 50km.
Macroderma gigas	Ghost bat	V	E	The species' current range is discontinuous. Colonies are found in the Pilbara, Kimberley (including several islands), Northern Territory (including Groote Eylandt), the Gulf of Carpentaria, coastal and near coastal eastern Queensland (TSSC 2016). Roost sites include caves, rock crevices and disused mines. This species moves seasonally between several caves and requires a range of cave sites with most breeding sites appearing to have multiple entranced caves. It disperses widely when not breeding but concentrate in a relatively few roost sites when breeding.	Unlikely	Closest species occurrences are approximately 31km north-east of the western and eastern study areas, and no records within 20km of northern study area (DESI 2024). Habitat in the study area not suitable for roosting and outside the species average foraging range from day roosts. (TSSC 2016).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Nyctophilus corbeni	Corben's long-eared bat	V	V	This species can occur in a range of inland woodland vegetation types, including box, ironbark, and cypress pine woodlands. Brigalow woodland and River red gum forests lining watercourses and lakes also provide habitat for the species. Throughout inland Queensland, the species' habitat is dominated by various eucalypt and bloodwood species and is most abundant in vegetation with a distinct canopy and a dense cluttered shrub layer. The species is nearing its north-westerly mapped 'may occur' distribution range as per SPRAT (DoE 2024). The confidence level surrounding the species potential to occur in the project area region is low, however, the precautionary principle has been applied and given the abundance of suitable habitat, as described, the species has the potential to occur.	Unlikely	Closest record 229km south-east of central coordinate in western study area. Marginal suitable habitat present in northern study area, but it is outside of the species known range, with no records within 20km or 50km.
Petauroides minor	Greater glider (northern)	V	V	The species is restricted to northern eastern Australia. Its area of occupancy has extensively decreased mostly due to land clearing. This area is probably continuing to decline due to further clearing, fragmentation impacts, fire, and specific forestry activities. It occurs in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The distribution may be patchy even in suitable habitat.	Unlikely	Identified in PMST. The study area is not located within the known distribution of this species as it is located at least 20 km south of the mapped species or species habitat may occur distribution for the species (DCCEEW, 2024). Greater gliders within the study area are considered to be *Petauroides volans*.
Petauroides volans	Greater glider (central and southern)	E	E	The species is restricted to eastern Australia occurring from the Windsor Tableland in north Queensland through to Central Victoria. Its distribution is often patchy even in suitable habitat. The species is largely restricted to eucalypt forest and woodlands, though appears to prefer forests with a diversity of eucalypt species for forage due to seasonal variation among food trees. Species persistence in an area is often limited by a lack of suitable tree hollows. Species requires an abundance of large hollows in large mature growth trees and more than two live den trees per two hectares of suitable woodland habitat.	Known	Species recorded adjacent to the eastern boundary of the study area during spotlighting surveys undertaken in 2019 and during surveys in 2024.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Petaurus australis australis	Yellow-bellied glider (south-eastern)	V	V	This subspecies occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. Abundance is highly dependent on habitat suitability, which is in turn determined by forest age and floristics. The subspecies shows a preference for large patches of mature old growth forest that provide suitable trees for foraging and shelter	Unlikely	Closest occurrence more than 57km north of central coordinate in western study area (DESI 2024). Survey recorded limited abundance of large eucalyptus trees with large hollows. Marginal suitable habitat.
Phascolarctos cinereus (combined populations of Qld, NSW, and the ACT)	Koala	E	E	This species inhabits a range of temperate, sub-tropical and tropical forests dominated by Eucalyptus spp. Koala habitat is defined as woodlands containing known koala food trees, or shrublands with emergent food trees. Preferred food and shelter trees often occur on fertile clay soils.	Known	Koalas has been recorded on the boundary of the study area (western) during recent field surveys (ELA, 2019). The study area contains suitable habitat for the species in the form of remnant, eucalypt dominated woodlands.
Pteropus poliocephalus	Grey-headed flying-fox	V	LC	This species occurs along the south-east coast of Australia inhabiting a range of different habitats containing flowering and fruiting trees including closed forest, open forest, and woodlands. Demonstrated preference for nectar and pollen from eucalypts, melaleucas, and banksias.	Unlikely	Reported 75km north of central coordinate in western study area. Marginal suitable habitat in western study area. Suitable habitat is present in northern study area but no camps known nearby.
Tachyglossus aculeatus	Short-beaked echidna	–	SL	The short-beaked echidna occurs in all states of Australia where it inhabits a diverse range of habitats such as forests, woodlands, heath, grasslands, and arid environments (ALA 2023). The species thrives provided it has access to an adequate food supply such as termites and ants (e.g. in forested areas with abundant fallen logs filled with termites).	Likely	Recorded approximately 12.5km north of central coordinate in western study area (DESI 2024) and it has been previously recorded within the broader SWC site. Suitable habitat is present within the study site.
Birds						
Actitis hypoleucos	Common sandpiper	Mi	SL	The species is found along coastlines and several areas inland, utilising a wide range of wetland habitats of varying salinity.	Unlikely	No records exist for species within 25 km of study area. Very limited suitable habitat (no saline wetlands) available for species.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Apus pacificus	Fork-tailed swift	Mi	SL	This species is almost exclusively aerial, flying up to 300 m above ground and probably much higher. They are more widespread west of the Great Divide and are commonly found west of the line joining Chinchilla and Hughenden. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland, or saltmarsh. However, they can also be found in grassland and sandplains covered with spinifex, open farmland, inland/coastal sand-dunes, above rainforests, wet sclerophyll forest, open forest, or plantations of exotic pines.	Potential	This species is exclusively aerial when within Australia and may forage or fly above a range of habitats, including habitat within the study area. There are species records within 50 km of the study area.
Calidris acuminata	Sharp-tailed sandpiper	V, Mi	SL	In Queensland the species has been recorded in most regions, being widespread along much of the coast and sparsely scattered inland, particularly in central and south-western regions. It 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. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries, or seashores, also in swamps and creeks lined with mangroves. Sometimes occur on rocky shores and rarely on exposed reefs.	Unlikely	Recorded approximately 99km north-east of the study area. The species is generally associated with the coast, but it can be found in terrestrial inland wetlands and dams. Marginal habitat of this kind is present in the project area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Calidris ferruginea	Curlew sandpiper	CE, Mi	CE	The species mainly occurs on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	Unlikely	There is a number of records approximately 100km north-east (coastal) of the study area. Habitat where the species mostly occurs is not present within the study area.
Calidris melanotos	Pectoral sandpiper	Mi	SL	The species is generally associated with the coast, but it can be found in terrestrial inland wetlands and dams. It prefers shallow fresh to saline wetlands such as coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains, and artificial wetlands.	Unlikely	Most records occur around Cairns with scattered records elsewhere. The closest record is approximately 81km northeast of the study area.
Calyptorhynchus lathami erebus	Glossy black-cockatoo (Northern)	V	LC	This species feeds almost exclusively on seeds of she-oaks. It nests in hollows of living and dead eucalypts.	Unlikely	Recorded approximately 80km north-east of the study area. The species is known to forage on *Casuarina* spp., which are present in some of the vegetation communities identified within the study area. However, the study area is outside the species' current known range.
Cuculus optatus	Oriental cuckoo	Mi	SL	The species is found from the Gulf of Carpentaria and Cape York Peninsula to the Queensland/New South Wales border, including inland areas of eastern Queensland. It inhabits monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, and islands.	Unlikely	Records exist for the species approximately 20 km north-east of the study area central coordinate, dating back to 1991. No suitable habitat in the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Erythrotriorchis radiatus	Red goshawk	E	E	The species' historical distribution has significantly retracted since European settlement and the species now occurs sparsely across approximately 15% of its coastal and near coastal habitat from the Kimberly in Western Australia to northeastern New South Wales. The species prefers a mix of vegetation types, inhabiting tall open forest, woodland, lightly treed savannah, and rainforest fringes in partly cleared parts of eastern Queensland. It is associated with gorge and escarpment country.	Unlikely	A historical record (1992) of the species exists approximately 35km south-east of the study area central coordinate (DESI 2024). However, no suitable breeding or foraging habitat (as defined in the Conservation Advice for the species) is present within the study area.
Falco hypoleucos	Grey falcon	V	V	The species is associated with shrublands, grasslands and wooded watercourses, though occasionally recorded in open coastal woodlands. May also occupy vegetation proximate to wetlands where an abundance of prey, almost exclusively birds, occurs (BirdLife International 2024a).	Unlikely	The species is mostly confined to arid inland (ALA 2023). It is mostly found in arid sparse woodland intersected by tree-lined watercourses and *Triodia* spp. grassland, a habitat that it is limited in the study area. Closest species occurrence is more than 25km west of the study area (ALA 2023).
Gallinago hardwickii	Latham's snipe	V, M	SL	The species occurs in monsoon forests, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands. The species inhabits wetlands with low, dense vegetation and grasslands or riparian corridors.	Unlikely	No ALA records of species within proximity to the study area. No suitable habitat (wetlands) occurs within study area.
Geophaps scripta scripta	Squatter pigeon (southern)	V	V	The species favours open forest habitat to sparse open woodlands and scrub that are remnant, regrowth or partly modified, dominated by Eucalyptus, Corymbia, Acacia or *Callitris* spp and within 3km of water bodies. They prefer well-draining, sandy, or loamy soils on gently sloping flat to undulating plains and foothills.	Known	The species was recorded within the study area during field surveys. Suitable breeding, foraging, and dispersal habitat is present within the study area (DoE 2024a).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Grantiella picta	Painted honeyeater	V	V	The species' diet consists of mainly mistletoe fruits (TSSC 2015a). It favours woodlands that contain a high number of mature trees which support an abundance of mistletoe.	Unlikely	The required abundance of mature trees and high density of mistletoe was not observed in the study area. Closest species record is approximately 155 km west of the study area (DESI 2024).
Hirundapus caudacutus	White-throated needletail	V, Mi	V	The species is widespread in eastern and south-eastern Australia and occurs in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. It is almost exclusively aerial, from heights of less than 1m up to more than 1,000m above the ground, and are mostly recorded flying above wooded areas, including open forest and rainforest. It may also be found flying between trees or in clearings, below the canopy, but less commonly recorded flying above woodland and heathland (DCCEEW 2023).	Potential	Closest species occurrence is approximately 47km northwest of the study area (DESI 2024). Suitable open habitats for the species and records within 50km of the study area.
Monarcha melanopsis	Black-faced monarch	Mi	SL	The species is widespread in Queensland from the Torres Strait and Cape York Peninsula, south along the coasts and the eastern slopes of the Great Divide, to the New South Wales border. It favours rainforest habitat, but it is occasionally found in Eucalypt woodlands or scrub dominated by Brigalow when migrating.	Unlikely	Closest species record is approximately 41km north-west of the study area (DESI 2024). Species favours rainforest habitat that is not present in the study area.
Motacilla flava	Yellow wagtail	Mi	SL	The species occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, to sewage farms.	Unlikely	Closest species record is approximately 240km south-east of the study area (DESI 2024). Limited suitable habitat occurs within study area.
Myiagra cyanoleuca	Satin flycatcher	Mi	SL	The species is widespread yet scattered in eastern Australia. It mainly inhabits eucalypt forests, often near wetlands or watercourses.	Unlikely	Closest species record is approximately 27km south-east of the study area (DESI 2024). Limited suitable habitat occurs within study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Neochmia ruficauda ruficauda	Star finch (eastern)	E	E	The species is only found in central Queensland. Based on the small number of accepted records, the distribution of the Star Finch (eastern) is believed to extend north to Bowen, west to beyond Winton and, based on recent records, south to near Wowan. It is possible that the distribution extends farther north to Mount Surprise and the Cloncurry-Mount Isa region (DESI 2024). It occurs mostly in grasslands and grassy woodlands that are located close to waterways, but also in cleared or suburban areas such as along roadsides and in towns (DCCEEW 2023).	Unlikely	Closest species record is approximately 70km south-east of the study area (DESI 2024). Habitat in the study area not suitable (DCCEEW 2023).
Pandion haliaetus cristatus	Eastern osprey	Mi	–	The species is found and breeds along all coastal areas of Queensland. Occasionally it travels inland along major rivers, particularly in northern Australia. Can occur in central Australia between May and December during years of average or above-average rainfall when fish are abundant in inland waterways.	Unlikely	Closest species record is approximately 80km north-east of the study area (DESI 2024). No currently suitable habitat observed.
Poephila cincta cincta	Southern black-throated finch	E	E	This species is locally common at two general locations: in the Townsville region, at a few sites around Townsville and Charters Towers, and at scattered sites in central-eastern Queensland (DCCEEW 2023). The species is believed to exhibit sedentary behaviour (TSSC 2005). It is found mostly in grassy, open woodlands and forests, typically dominated by Eucalyptus, Corymbia and Melaleuca, and occasionally in tussock grasslands or other habitats, namely along or near watercourses, or in the vicinity of water. Most recent records of the species from south of the tropics have been in riparian habitat. It is thought to require a mosaic of different habitats in which seed can be found during the wet season (DCCEEW 2023).	Unlikely	There is an undated ALA record to the north of SWC, however, species records are generally concentrated further north. Quality riparian grassland habitat with access to seeds and water preferred by the species (DCCEEW 2023) was not identified within the study area.
Rhipidura rufifrons	Rufous fantail	Mi	SL	The species is found in coastal and near coastal districts of northern and eastern Australia. In east Australia, it usually inhabits wet sclerophyll forests usually with a dense shrubby understorey often including ferns. It can also be found in subtropical/temperate rainforests and occasionally in drier sclerophyll forests during	Unlikely	Closest species record is approximately 27km south-east of the study area (DESI 2024). No suitable habitat in the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
				migration. In the north it occurs in tropical and monsoon rainforests, including semi-evergreen mesophyll vine forests, semi-deciduous vine thickets or thickets of Melaleuca. The species is occasionally found in secondary regrowth, following logging or disturbance in forests or rainforests.		
Rostratula australis	Australian painted snipe	E	E	The species generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.	Unlikely	The closest species record is approximately 73km south-west of the study area (DESI 2024). Habitat in the study area not suitable (DCCEEW 2023).
Stagonopleura guttata	Diamond firetail	V	V	This species is endemic to south-eastern Australia, extending from central Queensland to the Eyre Peninsula in South Australia. It is predominantly found in grassy eucalypt woodlands, including Box gum woodlands and snow gum woodlands (ALA 2023).	Unlikely	No records of species present within 50km of study area (ALA, 2024). The nearest occurrence is estimated to be approximately 308 km to the west. The study area is outside the species known distribution (BirdLife International 2024b).
Symposiachrus trivirgatus	Spectacled monarch	Mi	SL	This species occurs in regions such as Australia, Indonesia, and Papua New Guinea. It thrives in various environments including moist lowland forests in subtropical or tropical areas, mangrove forests of similar climates, and moist montane forests in subtropical or tropical zones (ALA 2023).	Unlikely	The closest record for this species is approximately 30km south-east of the study area (DESI 2024). The study area provides no suitable habitat (tropical rainforests, mangroves) for the species.
Tringa nebularia	Greenshank	E, Mi	SL	The species occurs in the gulf country, but it is also found inland in Queensland near Dalby as well as South-east Queensland. It is found in all types of wetlands (permanent and ephemeral), including swamps, lakes, dams, rivers, creeks, waterholes, inundated floodplains, and claypans.	Unlikely	The closest record for this species approximately 80km north-east of the study area (DESI 2024). Very limited suitable habitat recorded in the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Tyto novaehollandiae kimberli	Masked owl (northern)	V	V	The species occurs in coastal and upland areas which support sclerophyll forest and woodland. Habitat often occurs near ecotones with open areas, such as grassland, heath, or cane fields and typically grassy or with a mosaic of sparse and dense groundcover (TSSC 2015b).	Unlikely	Closest species occurrence is approximately 200km north of the study area (DESI 2024) and study area is outside species known range (coastal and upland areas).
Reptiles						
Acanthophis antarcticus	Common death adder	–	V	The species is found from central Queensland through New South Wales to the southern parts of South Australia and Western Australia (DESI 2024). This mostly nocturnal species (although it may be active during the day) occurs in a wide variety of well-drained habitats, including rainforests and wet sclerophyll forests, woodland, shrublands, grasslands and coastal heathlands, preferring sites where it burrows into sand or leaf litter, or hide under overhanging foliage. The importance of these habitats to this species is not known.	Unlikely	Two closest species occurrences are approximately 40km south and northwest of the study area. The study area provides no suitable habitat for the species.
Crocodylus porosus	Estuarine crocodile	Mi	V	The species is found in coastal brackish mangrove swamps, river deltas, and freshwater rivers from Broome, Western Australia through the entire Northern Territory coast to Rockhampton, Queensland (ALA 2023).	Unlikely	The closest record for this species approximately 70km northeast of the study area (DESI 2024). No suitable habitat recorded in the study area.
Denisonia maculata	Ornamental snake	V	V	This species only occurs in Brigalow Belt North and parts of the Brigalow Belt South, namely within the drainage system of the Fitzroy and Dawson rivers (DCCEEW 2023). It favours habitats is favoured by its main prey - frogs. The species is known to prefer woodlands and open forests associated with moist areas, particularly gilgais mounds and depressions. This species is likely to occur in brigalow (Acacia harpophylla), gidgee (Acacia cambagei), blackwood (Acacia argyrodendron) or coolibah (Eucalyptus coolabah) dominated vegetation communities, or pure grassland associated with gilgais (Brigalow Belt Reptiles Workshop 2010).	Likely	Species has been recorded at SWC south of the study area (northern) during recent field surveys (ELA, 2019). It was not recorded during the current field survey. However, suitable habitat within the study area is identified as Brigalow dominated woodlands with suitable microhabitat features (gilgais, soil cracks, abundant litter).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Egernia rugosa	Yakka skink	V	V	The species is endemic to Queensland where it is scattered with isolated populations occurring throughout subhumid areas in the interior of Queensland from St George to Cape York. 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 Bioregions (TSSN 2008). It favours rocky outcrops, sand plain areas and dense ground vegetation, in association with open dry sclerophyll forest (ironbark) or woodland, brigalow forest and open shrub land. The species has also been found in lancewood forest on coarse gritty soils in the vicinity of low ranges, foothills, and undulating terrain with good drainage (Cogger 2000; DCCWWE 2023).	Unlikely	No suitable habitat (rocky outcrops, sand plain areas and dense ground vegetation) for the species is present within the study area. Closest species record is approximately 177 km south-east of the study area (ALA 2024).
Elseya albagula	White-throated snapping turtle	CE	CE	The species occurs in the Fitzroy, Mary and Burnett Rivers and associated smaller drainages in Southeast Queensland (TSSC 2014).	Unlikely	Closest species record is approximately 72km south-east of the study area, at Connors River (DESI 2024). Habitat in the study area not suitable (DoE 2024b).
Furina dunmalli	Dunmall's snake	V	V	This species occurs in open forest, particularly A. harpophylla (brigalow) forest and woodland growing on floodplains of deep-cracking black clay and clay loam soils. It is found in rocky outcrops, sandy plane areas and dense ground vegetation, in association with open dry sclerophyll forest (ironbark) or woodland, brigalow forest and open shrub land.	Unlikely	Closest species record is approximately 134km south-west of the study area (DESI 2024). Limited suitable habitat in the study area.
Hemiaspis damelii	Grey snake	E	E	The species occurs from rom southern New South Wales (NSW) to South-east Queensland where it has a wider and more dispersed distribution, with most records along the Macintyre and Condamine Rivers and associated floodplains of the southern Brigalow Belt from Goondiwindi and Dalby west to Glenmorgan, on the Darling Downs and western Lockyer Valley, near Rockhampton on the central Queensland coast, and on the Darling Riverine Plains	Unlikely	Closest species record is approximately 128km south-east of the study area (DESI 2024). Limited suitable habitat in the study area (DCCEEW 2023).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
				near Currawinya in South-western Queensland. It occurs in the brigalow (Acacia harpophylla) and belah (Casuarina cristata) woodlands on heavy, dark brown to black cracking clay soils, particularly in association with water bodies, areas with small gullies and ditches, and floodplain environments where this species shelters beneath logs, rocks, and soil cracks.		
Lerista allanae	Retro slider	E	E	The species is found in the undulating, black soil downs of the central Brigalow Belt bioregion, in the root systems of grass tussocks on black soils, rich brown surface soils and associated leaf litter. The soils in which the species is found are quite loose, which probably plays an important role in the species' habitat preference.	Unlikely	There are no ALA records of the species within proximity to study area. Habitat suitability is limited to areas of friable basalt soils which were not identified within the study area.
Rheodytes leukops	Fitzroy River turtle	V	E	This species is scattered within the drainage system of the Fitzroy and Dawson Rivers in Queensland (DESI 2024). It occurs on floodplains, undulating clay pans and along the margins of swamps, lakes, and watercourses. It is also found 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 (DCCEEW 2023).	Unlikely	No ALA records of the species within proximity to study area. Habitat in the study area not suitable (DCCEEW 2023).
Amphibians						
Taudactylus eungellensis	Eungella dayfrog	E	E	The species is endemic to the ranges west of Mackay, mid-eastern Queensland, from Clarke Range in the north to Finch Hatton Gorge and Credition in the south at altitudes between 200 and 1000 m. It is found along small creeks in rainforest as well as wet sclerophyll forest (DCCEEW 2023).	Unlikely	Closest species record is 70km north of the study area (ALA 2023). Habitat in the study is not suitable.
Adelotus brevis	Tusked frog	–	V	The species is found from Eungella National Park in Queensland to Ourimbah in New South Wales (Hines et al 1999). This ground-dwelling species is associated with dams, flooded grassland and creeks in rainforest, sclerophyll forest and woodland (Cogger 2000).	Unlikely	The study site is outside of the species northern distribution. There are no records within 20km and recent records exist within 50km, from Eungella National Park.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Flora						
Arthraxon hispidus	Hairy-joint grass	V	V	This species is scattered locations throughout Queensland and on the northern tablelands and north coast of New South Wales. It occurs in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps, and in woodland. Found growing around freshwater springs on coastal foreshore dunes, in shaded small gullies, on creek banks, and on sandy alluvium in creek beds in open forest, and with bog mosses in mound springs in South-east Queensland (DESI 2024).	Unlikely	Closest species record is approximately 48.2 km south of the study area (DESI 2024). The study area may provide marginally suitable habitat for the species, but it falls outside its main range in the species distribution map (DESI 2024).
Bertya opponens	–	V	LC	This species is sparsely distributed, and it is found as far north as near Charters Towers, in north-east Queensland, southwards to Cobar and Coffs Harbour, New South Wales. It occurs in a variety of community types including mixed shrubland, lancewood woodland, mallee woodland, eucalypt/Acacia open forest with shrubby understorey, eucalypt/callitris open woodland and semi-evergreen vine-thicket. The soils are recorded as generally shallow sandy loams or red earths associated mostly with sandstone, but also with rhyolite, shale, and metasediments.	Unlikely	Closest species record is approximately 300km south of the study area (DESI 2024). The study area habitat is not suitable.
Bertya pedicellata	–	–	NT	The species is endemic to central and south-east Queensland. It occurs on rocky hillsides in eucalypt forest or woodland, Acacia woodland or shrubland and open heathland or vine thicket communities. Soils are recorded mostly as skeletal to shallow sandy, sandy clay or clay loams overlaying rhyolite, trachyte or sandstone substrates.	Unlikely	This species has four records within 20km of the study area in WO. The closest record is approximately 10 km south-west of the Project area (DESI 2024). However, the species has only been documented in areas south of the study area, and the specific habitat requirements (rocky hillsides with skeletal soils) have not been identified within the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Capparis humistrata	–	–	E	This species is endemic to central-eastern Queensland, between Marlborough and Bouldercombe. It is also recorded further north near Dingo in central Queensland. It grows in eucalypt woodland with a shrubby understorey, on stony hard ridges and serpentinite soil. It also occurs on the margins of brigalow forest on sandy soil.	Unlikely	The closest species record is a 1998 isolated record 13.5km away from the study area.
Coleus eungellaensis	–	–	V	The species is endemic to Queensland and occurs on granite outcrops above 700m altitude in the Eungella region, and it favours the borders of notophyll vineforests.	Unlikely	Closest species occurrence is 48km northeast of the study area. There is no suitable habitat in the study area, namely granite outcrops and preferred vegetation community.
Cycas ophiolitica	Marlborough blue	E	E	The species inhabits eucalypt open forest and woodland communities with a grassy understorey. They occur on hill tops or steep slopes, at altitudes of 80-620m above sea level. It grows on shallow, stony, red clay loams or sandy soils. (Halford 1995).	Unlikely	Closest species record is 127km south-east of the study area. The northern distribution limit of the species is situated at a considerable distance to the study area, which also does not contain suitable habitat for the species.
Denhamia megacarpa	Large-fruited denhamia	E	E	The species is known from three subpopulations in eastern central Queensland, the Junee Tableland near Middlemount, and an outlying subpopulation at Newlands west of Mackay.	Unlikely	Closest species record is approximately 113km south-east of the study area (DESI 2024). Restricted occurrence and no suitable habitat within the study area.
Dichanthium queenslandicum	King bluegrass	E	V	This species is found from near Dalby north to about 90km north of Hughenden and west as far as Clermont. The main concentration of populations in central Queensland in the Emerald region. It is mostly confined to natural grass land on heavy black clay soils. It has been recorded in tussock grasslands mainly in association with other species of bluegrasses (*Dichanthium* spp. and *Bothriochloa* spp.) as well as with other grasses restricted to this soil type.	Potential	Suitable natural grassland habitat for this species was identified in the northern study area. Closest species record is 16km north-east of the study area (DESI 2024).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Dichanthium setosum	Bluegrass	V	LC	In Queensland, this species occurs from Toowoomba in the south to the Lynd Junction in the north, with isolated collections from the Palmer River on the Cape and Lawn Hill NP near the Northern Territory border. It is found in heavy soils (predominantly cracking clays or alluvium, often in gilgais) in woodland or open woodland usually dominated by Acacia (brigalow) and/or Eucalyptus species (DESI 2024).	Potential	Potential habitat for the species is identified as natural grasslands on cracking clays (RE11.3.21). Closest record is approximately 46km north of the study area (DESI 2024).
Digitaria porrecta	Finger panic grass	–	NT	The species is found in Queensland's Nebo district, the Central Highlands between Springsure and Rolleston, and from Jandowae south to Warwick. It occurs in grasslands on extensive basaltic plains, and in undulating woodlands and open forests with basaltic geology (Leigh et al 1984).	Potential	There is potential suitable habitat for the species identified as natural grasslands on cracking clays (RE 11.3.21).
Eucalyptus raveretiana	Black ironbox	V	LC	Species has a wide distribution in coastal and sub-coastal areas of Queensland. Usually grows along watercourses, namely permanent ones, and sometimes river flats or open woodland. Known population south of the study area along Walker Creek.	Potential	There are records of the species along Walker Creek (approximately 6km north-east of the study area [western]). However, Walker Creek is a large, regionally significant watercourse and the watercourses that intersect the study area are much smaller tributaries which do not support riparian habitat suitable for Black ironbox.
Macropteranthes leiocaulis	–	–	NT	The species is a tree endemic to eastern Queensland from Mingela Bluff near Townsville to the Binjour Plateau near Mundubbera (CSIRO 2020), where it has been recorded in deciduous vine thickets, semi-evergreen vine thickets and Araucarian microphyll vine forests on red euchrozems or sandstones talus (Wang 1996).	Unlikely	There is no suitable vine thicket habitat present within the survey area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Omphalea celata	–	V	V	The species is known from three sites in Queensland, near Eungella, Bowen, and north-west of Nebo. It is known to occur within dry rainforest and vine thicket communities.	Unlikely	Closest record is approximately 39km north of the study area (DESI 2024). Restricted occurrence and no suitable habitat within the study area.
Ozothamnus eriocephalus	–	V	V	The species is endemic to Queensland and is known from the Bowen and Mackay area of central Queensland. It is known from a range of habitat types, including the margins of notophyll vine forest, margins of gallery forest, microphyll vine forest, tall open *Eucalyptus andrewsii*, *E. resinifera* forest with an understorey of *Allocasuarina littoralis*; tall open forest with *E. drepanophylla*, *E. acmenoides*, *C. intermedia* and *C. citriodora*; in open eucalypt forest and on rocky ridges within Eucalyptus spp. and *Acacia* spp. scrub. *O. eriocephalus* grows from moderate to high elevations ranging from 380 to 950m. It occurs on skeletal sandy or gravelly soils or occasionally deeper red-brown clay loams derived from granites and sandstones.	Unlikely	There are occurrences of the species 34km northwest of the study area, however, no suitable habitat (rainforest) is present in the study area.
Phlegmariurus tetrastichoides	–	V	V	Queensland (north-east) endemic epiphyte which is found from Mount Finnigan to the Clarke Range, west of Mackay. The species occurs in upland notophyll vine forest (Field et al 2008)	Unlikely	There is no suitable vine forest habitat present within the study area.
Polianthion minutiflorum	–	V	V	This species occurs in Queensland from Redcliffe Vale, about 110km west of Mackay to Kingaroy, covering approximately 800km. It has been recorded in forest and woodland on sandstone.	Unlikely	Closest record is approximately 72km north of the study area (DESI 2024). There is no suitable habitat within the study area.
Samadera bidwillii	Quassia	V	V	Found from Scawfell Island, east of Mackay, to as far south as Bauple and west to Biloela. The species is distributed within Byfield National Park, Goomboorian National Park, Mount Bauple National Park, Mount Walsh National Park, South Cumberland National Park, Byfield State Forest, Cordalba State Forest Tiaro State Forest, Tuan State Forest, Young State Forest 3, and Callide Timber Reserve.	Unlikely	Closest record is approximately 181km south-east of the study area (DESI 2024). No suitable habitat within the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Solanum elachophyllum	–	–	E	The species is endemic to the central subcoastal part of Queensland, from Middlemount to Theodore (Bean, 2004). It grows on fertile cracking-clay soils in open forest of *Eucalyptus thozetiana*, *Acacia harpophylla*, with understorey of *Geijera parviflora*, *Casuarina cristata*, *Macropteranthes leichhardtii*, *Eucalyptus cambageana*, or woodland of *E. crebra* and *Eucalyptus tenuipes* (Bean 2004).	Potential	There is potential suitable Brigalow woodland habitat (RE 11.3.1, 11.4.8, 11.4.9 and 11.9.5) within the study area.
Solanum graniticum	Granite nightshade	E	E	This species is endemic to Queensland and occurs in Gloucester Island (near Bowen), and adjacent parts of the mainland, as well as at Eungella Dam. It is found in open eucalypt woodland on hillsides with shallow soil derived from granite or granodiorite. The species is associated with *Eucalyptus drepanophylla* and *Corymbia erythrophloia*.	Unlikely	Closest record is approximately 76 km north of the study area (DESI 2024). There is no suitable habitat within the study area.

1CE – Critically Endangered, E – Endangered, V – Vulnerable, NT – Near Threatened, SL – Special Least Concern, LC – Least Concern, Mi – Migratory

FIELD VERIFIED LIKELIHOOD OF OCCURRENCE ASSESSMENT (TEC) FOR STUDY AREA

TEC	EPBC status	Description	Likelihood of occurrence
Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered	In Queensland, the Brigalow TEC is found predominantly within the Brigalow Belt North, Brigalow Belt South, Darling Riverine Plains and Southeast Queensland bioregions, with smaller amounts in the Mitchell Grass Downs, Mulga Lands and Einasleigh Uplands bioregions (SPRAT, 2013). The soils associated with this TEC are usually deep gilgaied clays, sedentary clays, alluvial clays, miscellaneous deep clays, and loamy red soils. In Queensland, the soils are predominantly cracking clays where Brigalow is dominant, but texture contrast soils are common where Eucalyptus species are co-dominant. The vegetation composition and structure vary. In the tree layer, the vegetation is usually dominated by *Acacia harpophylla* (Brigalow) with or without *Casuarina cristata* (Belah), and with or without Eucalyptus trees which may be scattered or form an emergent layer that is taller than the Brigalow canopy. All 16 of the regional ecosystems (REs) that comprise the listed Brigalow TEC in Queensland are listed as Endangered under the Vegetation Management Act 1999 (Qld): 6.4.2, 11.3.1, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.5.16, 11.9.1, 11.9.5, 11.9.6, 11.11.14, 11.12.21, 12.8.23, 12.9-10.6, 12.12.26.	Known
Broad-leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland	Endangered	The Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland ecological community represents occurrences of woodland where *M. viridiflora* is dominant in the canopy and a diversity of grasses, sedges and forbs occupy the ground layer. This TEC occurs in the Wet Tropics and Central Mackay Coast bioregions, and corresponds with RE 7.3.8a, 7.3.8b, 7.3.8c, 7.3.8d, 7.5.4g, 8.3.2, 8.5.2a, 8.5.2c and 8.5.6.	Unlikely
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	This TEC occurs from just north-west of Townsville in Queensland to central northern NSW, mostly within the Brigalow Belt North and South bioregions ((Interim Biogeographic Regionalisation for Australia (IBRA) Version 7). In Queensland, this TEC is most common on undulating plains on fine grained sedimentary rocks (frequently shale) and on basalt hills and plains, though also occurring less frequently on coastal dunes, Quaternary alluvium, Tertiary clay plains, old loamy and sandy plains, or hills and lowlands on metamorphic rocks. In Queensland, it may have a shrub understorey, with common species such as *Acalypha eremorum* (soft acalypha), *Alectryon diversifolius* (scrub boonaree), *Carissa spinarum* (currant bush), or *Exocarpos latifolius.* Common vines include *Clematicissus opaca*, *Cissus oblonga*, *Parsonsia lanceolata* and *Tylophora* spp. This TEC is matched by REs: 11.2.3, 11.3.11, 11.4.1, 11.8.13, 11.9.4, and 11.11.18.	Unlikely

TEC	EPBC status	Description	Likelihood of occurrence
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	This TEC is widely distributed and mostly found west of the Great Dividing Range, between north of Cowra in NSW and south of Charters Towers in Queensland, where it also occurs west of Ipswich and east of Longreach. This woodland is frequently found close to ephemeral watercourses and depressions in gently undulating to flat terrain and occasionally in more hilly country. It is commonly associated with alluvial back plains, higher terraces, and levees along rivers (Queensland). This TEC is usually associated with clay, clay-loam, loam, and sandy-loam soils. The vegetation ranges from a grassy woodland to grassy open woodland structure with occasional open forest structure with an overstorey dominated by *Eucalyptus populnea* (Poplar box). This TEC is frequently present in a landscape that has not been highly modified. This TEC is best matched by REs: 11.3.2, 11.3.17, 11.4.7, 11.4.12, and 12.3.10.	Known
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin	Endangered	This TEC is endemic to Queensland and occurs within the Brigalow Belt North and Brigalow Belt South. The ecological community mostly occurs within the Fitzroy River Basin, but its distribution does extend part way into adjoining catchments. It is recorded on flat ground or gently undulating rises. Soils have formed either *in situ* on the fresh basalt or on fine-grained sedimentary rocks or where this material has been transported to form extensive alluvial plains. The ecological community contains a variety of wildflowers such as daisies, lilies, and orchids, occupying the spaces between tussocks. Shrubs are typically a very minor component of the grassland but in some small areas shrubs like *Acacia farnesiana* (mimosa), can be quite thick. The tree canopy layer is typically absent but may comprise scattered trees (e.g. paddock trees) to less than 10% projective crown cover. This TEC is best matched by REs: 11.3.21, 11.3.24, 11.4.4, 11.4.11, 11.8.11, 11.9.3, 11.9.12, and 11.11.17.	Known

Appendix C Flora and fauna species lists

FLORA SPECIES

Scientific name	Common name
Acacia flavescens	Toother wattle
Acacia harpophylla	Brigalow
Acacia leiocalyx	Black wattle
Acacia salicina	Sally wattle / Doolan
Alectryon diversifolius	Holly bush
Allocasuarina luehmannii	Bulloak
Alyxia ruscifolia	Chain fruit
Alphitonia excelsa	Soap tree
Alphitonia petriei	Pink ash
Apophyllum anomalum	Broom bush
Archidendropsis basaltica	Dead finish
Aristida calycina	Dark wiregrass
Aristida latifolia	Feathertop speargrass
Aristida leptopoda	White speargrass
Aristida personata	Purple wiregrass
Aristida sp.	–
Atalaya hemiglauca	Whitewood
Bothriochloa bladhii ssp. bladhii	Forest bluegrass
Bothriochloa decipiens	Pitted bluegrass
Bothriochloa erianthoides	Satin-top grass
*Bothriochloa pertusa**	Indian bluegrass
Bothriochloa sp.	–
Brachychiton australis	Broad-leaved bottle tree
Breynia oblongifolia	Coffee bush
Bursaria incana	Mock orange
Callitris glaucophylla	White cypress pine
Capparis lasiantha	Nepine
Capparis loranthifolia	Narrowleaf bumble
Carissa ovata	Currant bush, conkerberry
Cassia lanceolata	–
Casuarina cristata	Belah
Casuarina cunninghamiana	River she-oak
*Cenchrus ciliaris**	Buffel grass

Scientific name	Common name
Chloris divaricata	Slender chloris
Chloris sp.	–
Citrus glauca	Desert lime
*Clitoria ternatea**	Blue pea
Commelina lanceolata	Queensland wandering sailor
Corymbia clarksoniana	Clarkson's bloodwood
Corymbia dallachiana	Dallachy's gum
Corymbia erythrophloia	Red bloodwood
Corymbia tessellaris	Moreton Bay ash
*Crotalaria pallida**	Streaked rattlepod
Cymbidium canaliculatum	Black orchid
Cymbopogon refractus	Barbed-wire grass
Cyanthillium cinereum	Woolly vernonia
Cyperus sp.	Sedge
Dactyloctenium radulans	Button grass
Denhamia oleaster	Stiff denhamia
*Dichanthium aristatum**	Angleton grass
Dichanthium sericeum	Queensland bluegrass
Digitaria brownie	Cotton panic grass
Dinebra decipiens	Slender canegrass
Diospyros geminata	Scaly ebony
Diospyros humilis	Queensland ebony
Einadia nutans	Climbing saltbush
Enchylaena tomentosa	Ruby saltbush
Enneapogon lindleyanus	Canetop nineawn
Eremophila mitchellii	False sandalwood, budda
Eriachne ciliata	Slender wanderrie grass
Eriachne mucronata	Mountain wanderrie grass
Eriachne obtuse	Northern wanderrie grass
Eragrostis sororia	Woodland lovegrass
Erythroxylum australe	Cocaine tree
Erythrina vespertilio	Batwing coral tree
Eucalyptus brownii	Reid river box
Eucalyptus camaldulensis	River red gum
Eucalyptus crebra	Narrow-leaved ironbark
Eucalyptus orgadophila	Mountain coolibah

Scientific name	Common name
Eucalyptus platyphylla	Poplar gum
Eucalyptus populnea	Poplar box
Eucalyptus tereticornis	Forest red gum / Queensland bluegum
Eulalia aurea	Water grass
Eustrephus latifolius	Wombat berry
Evolvulus alsinoides	Slender dwarf morning-glory / Baby blue eyes
Exocarpos latifolius	Sandalwood
Flindersia dissosperma	Scrub leopardwood
Geijera parviflora	Wilga
Geijera salicifolia	Brush wilga
*Gomphocarpus physocarpus**	Balloon cotton bush
Grevillea sp.	Grevillea
Grevillea striata	Beefwood
Grewia latifolia	Dog's balls, dysentery plant
*Harrisia martini**	Harrisia cactus
Heteropogon contortus	Black spear grass
Heteropogon triticeus	Giant spear grass
Hibiscus heterophyllus	Native hibiscus
Hibiscus sturtii	Sturt's hibiscus
Ipomea plebeia	Bell vine
Lagunaria queenslandica	Pyramid tree
*Lantana camara**	Lantana
Lomandra multiflora	Mat-rush
Lysiphyllum carronii	Queensland ebony, ebony tree
Malvastrum americanum	Spiked mallow
Melaleuca nervosa	Yellow-barked paperbark
*Melinis repens**	Red natal grass
Neptunia gracilis	Native sensitive plant
Notelaea microcarpa	Native olive
Ocimum caryophyllinum	Bush tea-leaf
*Opuntia stricta**	Prickly pear
Owenia acidula	Emu apple
Panicum decompositum	Native millet
Parsonsia lanceolata	Northern silkpod
*Parthenium hysterophorus**	Parthenium
Paspalidium caespitosum	Brigalow grass

Scientific name	Common name
Petalostigma pubescens	Quinine bush
Phebalium glandulosum	Desert phebalium
Phyllanthus maderaspatensis	Spurge
Pittosporum angustifolium	Weeping pittosporum
Pittosporum spinescens	Wallaby apple
Pleiogynium timoriense	Burdekin plum
Polymeria ambigua	Creeping polymeria
Polymeria calycina	Pink bindweed
Portulaca oleracea	Purslane
Pseuderanthemum variabile	Pastel flower
Psydrax odorata	Lamboto
Senna occidentalis	Coffee senna
Sesbania cannabina	Sesbania pea
*Sida cordifolia**	Flannel weed
Sida hackettiana	Spiked sida
Sida sp.	Flannel weed
Spermacoce brachystema	–
Sporobolus caroli	Fairy grass
Sporobolus scabridus	–
*Stylosanthes hamata**	Caribbean stylo
*Stylosanthes guianensis**	Stylo
*Stylosanthes scabra**	Shrubby stylo
Tephrosia virginiana	Goat's rue
Terminalia oblongata	Yellow-wood
Thellungia advena	Coolibah grass
Themeda triandra	Kangaroo grass
*Urochloa mosambicensis**	Sabi grass
Vachellia nilotica	Prickly acacia
Vigna vexillata	Wild cow pea
Wahlenbergia gracilis	Australian bluebell

* exotic species

FAUNA OPPORTUNISTIC OBSERVATIONS

Scientific name	Common name
Aprosmictus erythropterus	Red-winged parrot
Aquila audax	Wedge-tailed eagle
Ardeotis australis	Australian bustard
Aythya australis	Hardhead duck
*Canis familiaris**	Dog
*Bos taurus**	Cattle
Centropus phasianinus	Pheasant coucal
Corvus orru	Torresian crow
Dacelo novaeguineae	Laughing kookaburra
Diporiphora sp	Nobbi dragon
Dromaius novaehollandiae	Emu
*Felis catus**	Cat (feral)
Geophaps scripta scripta	Squatter pigeon (southern)
Gehyra dubia	Dubious dtella
Grallina cyanoleuca	Magpie-lark
Haliastur sphenurus	Whistling kite
Malurus melanocephalus	Red-backed fairy-wren
Microcarbo melanoleucos	Little pied cormorant
Petauroides volans	Greater glider
Phalacrocorax carbo	Great cormorant
Phaps chalcoptera	Common bronzewing
Platycercus adscitus	Pale-headed rosella
Platyplectrum ornatum	Ornate burrowing frog
Pomatostomus temporalis	Grey-crowned babbler
Struthidea cinerea	Apostlebird
*Sus scrofa**	Wild boar
Trichoglossus moluccanus	Rainbow lorikeet
Wallabia bicolor	Swamp wallaby

*non-native species

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South Walker Creek Mine Gas and Exploration Project - Matters of National Environmental Significance Impact Assessment

Stanmore

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Template 2.8.1

Contents

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Abbreviations

Abbreviation	Description
The Appendix	The Significant Impact Guidelines, Appendix – Information for industry sectors guidance for mineral exploration activity.
AOO	Area of occurrence
CSG	Coal seam gas
ELA	Eco Logical Australia
EA	Environmental Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESA	*Environmentally Sensitive Area*
LGA	Local Government Area
ML	Mining Lease
MNES	Matters of National Environmental Significance are prescribed under the *Environment Protection and Biodiversity Conservation Act 1999*
MSES	Matters of State Environmental Significance are defined by Schedule 2 of the *Environmental Offsets Regulation 2014* and include multiple prescribed environmental matters under Queensland legislation (and associated subordinate legislation and policies) including: *Nature Conservation Act 1992*, *Vegetation Management Act 1999*, *Environmental Protection Act 1994*, *Regional Planning Interests Act 2014*, *Marine Parks Act 2004*, and *Fisheries Act 1994*.
NC Act	*Nature Conservation Act 1992*
PMST	Protected Matters Search Tool
RE	A Regional Ecosystem is a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform, and soil. Regional Ecosystems are described in the Regional Ecosystem Description Database, produced by the Queensland Herbarium.
Significant Impact Guidelines	Commonwealth Matters of National Environmental Significance, Significant impact guidelines 1.1 (Department of the Environment, 2013a).
SMC	Stanmore SMC Pty Ltd
SMP	Species Management Program
SPRAT	Species Profile and Threats Database
Stanmore	Stanmore Resources Ltd
SWC	The South Walker Creek Mine is an existing and operational open cut coal mine located on ML4750 and ML70131.
TEC	Threatened Ecological Communities listed under the *Environment Protection and Biodiversity Conservation Act 1999.*
The Project	The South Walker Creek gas power project, including the construction and use of a 20MW gas fired power station and exploration campaign.
WoNS	Weeds of National Significance

1. Introduction

1.1. Project background

South Walker Creek Mine (SWC) is owned by Stanmore SMC Pty Ltd (SMC), a subsidiary of Stanmore Resources Ltd (Stanmore). SWC is situated in the Bowen Basin, approximately 135 km south-west of Mackay in Queensland. Mining activities at SWC are undertaken in accordance with Environmental Authority (EA) EMPL00712313 on Mining Lease (ML) 4750 and ML70131.

Eco Logical Australia (ELA) has been engaged to undertake an ecological assessment and significant impact assessment on Matters of National Environmental Significance (MNES) to support the SWC gas power project and a multi-year exploration campaign (the Project).

1.2. Project overview

The Project involves the construction and use of a 20MW gas fired power station and a multi-year exploration campaign at the Stanmore Resources Ltd owned and operated SWC Mine which is located approximately 27 kilometres southwest of Nebo in Queensland's Bowen Basin, within Issac Regional Council Local Government Area (LGA).

The aim of the power station project is to supply the SWC Mine's electrical demand on a continual basis with excess power directed to the Ergon Energy transmission network. The generation capacity will be delivered using multiple gas fuelled reciprocating engines. The power station project will utilise pre-drainage natural gas extracted ahead of open cut mining operations for its fuel source. In this way, the coal seam gas is used at the mine rather than contributing to a waste stream of emissions. The expected fuel reserves and consumption rates will be able to support a 20MW capacity station for greater than 100 years. The Project will utilise proven technology in a configuration that is already established at other mine sites in the wider region and across Australia where gas fired power stations support off grid mines and communities.

The construction phase of the power station project is scheduled to take between nine and twelve months. During this period, the following tasks will be completed:

- Site preparation and earthworks
- Foundations (including construction of new access road)
- Equipment installation and construction
- Plant commissioning.

Once construction is complete, the power station project will enter its operational phase. Project-related activities that extend beyond the scope of SWC Mine existing operations will involve an additional two to three full-time employees accessing the site and an increase in light and heavy vehicle movements.

The multi-year exploration campaign is expected to be delivered in stages with exploration activities to span an approximately five-year period. Exploration activities will involve the construction of drill pads and access tracks and are expected to be temporary in nature.

1.3. Objectives and scope of works

The objective of this assessment is to identify and determine the significance of impacts to MNES as a result of the Project. This assessment is based on data from several detailed ecological studies undertaken within ML4750 and ML70131. These assessments included both desktop level assessments and field surveys.

1.4. Impact area description

The impact area includes all parts of the coal-seam gas field, proposed power station and exploration drill pads and tracks that will require new disturbance for their construction outside of areas previously approved for disturbance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The impact area for the gas power project and exploration project encompasses a total area of 203 ha and is detailed on Figure 1.

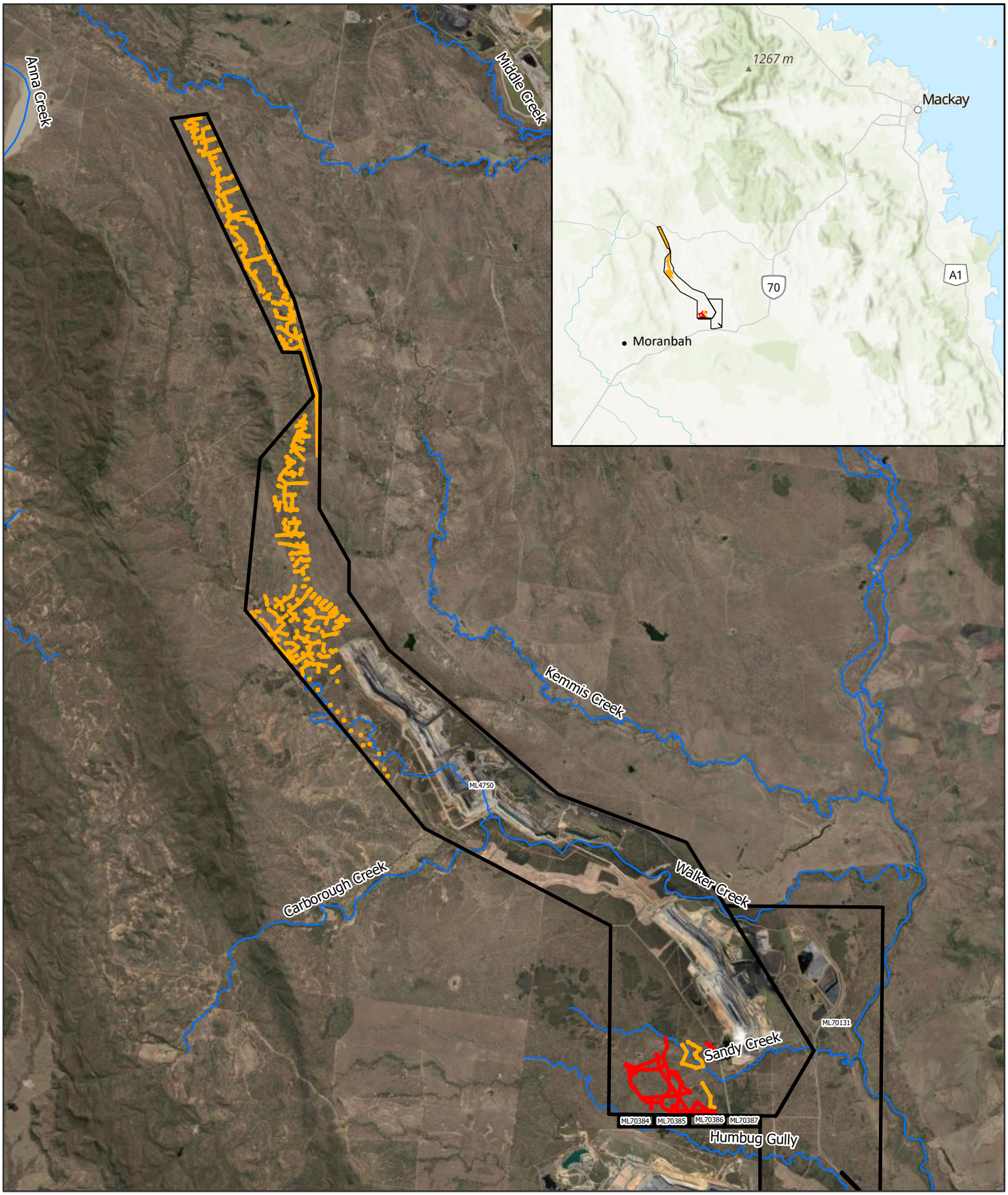

Figure 1 Project location and impact area

- Named watercourses
- Mining lease
- Exploration impact area
- Gas power project impact area

0 1.5 3 6
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7566-DH Date: 10/28/2024

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2. Methodology

2.1. Terrestrial ecological values assessment

A staged approach was implemented to identify MNES values within the impact area. This included a review of previous ecological studies relevant to the impact area. Ecological data collected from relevant ecological assessments undertaken between 2019 and 2024 was collated and analysed in GIS software to provide spatial representation of MNES across the impact area.

The following sections briefly summarise each stage of the ecological assessment.

2.1.1. Database assessment and literature review

A review of previous ecology reports, environmental databases, maps and other relevant literature was conducted to identify MNES values across the impact area.

The following resources were reviewed during the desktop assessment:

- Protected Matters Search Tool (PMST) Report, including a 50km buffer
- WildNet database, including a 50km buffer
- Regional ecosystem (RE) mapping
- Regulated vegetation mapping
- Queensland geological digital data
- Essential Habitat mapping
- Atlas of Living Australia records
- Queensland Wetland mapping
- VM Act watercourse data
- VM Act wetland data
- Referrable Wetland mapping
- Protected Plant High Risk Trigger mapping
- Environmentally Sensitive Area (ESA) mapping
- Commonwealth Species Profile and Threats (SPRAT) Database
- South Walker Creek Mine Ecological Assessment report (ELA, 2024)
- Other previous ecological survey data and reporting for SWC Mine
- Aerial imagery.

The likelihood of occurrence assessment for each threatened species identified in the desktop assessment was undertaken based upon the species known distribution, habitat quality within the impact area, occurrence within the region and occurrence within the study area. Species were classified as known, likely, potential, or unlikely to occur based on these attributes.

2.1.2. Field surveys

Ground-truthed ecological data from three ecological assessments has been incorporated into this assessment, the South Walker Creek Kemmis Pit Extension Project (ELA, 2019), the South Walker Creek Mine Tailings Solution Project (ELA, 2021) and the South Walker Creek Mine Ecological Assessment Report (ELA, 2024). The majority of the impact area was ground-truthed during the most recent field

surveys undertaken by ELA and Trend Environmental in 2024 (Appendix A) and supplemented with previous field surveys where required. The field survey methods included:

- Quaternary and tertiary survey sites in accordance with the Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland Version 6.0 (Neldner et al., 2022) to validate vegetation community / regional ecosystem and condition.
- Collection of data to support assessment against Threatened Ecological Community (TEC) composition, extent and condition thresholds.
- Collection of general vegetation condition data (e.g. evidence of recent or historical disturbance / grazing regime etc.).
- Opportunistic threatened flora and fauna species observations listed under the *Nature Conservation Act 1992* (NC Act) and EPBC Act.
- Collection of generic and targeted (species specific) threatened species habitat assessments focused on delineating habitat for species identified in the desktop assessment as likely to occur.
- Collection of presence and estimated occurrence data for species (weeds) listed as restricted matter under the *Biosecurity Act 2014* or listed as Weeds of National Significance (WoNS).

A full description of the field survey methods and ecological values identified can be viewed in the reports associated with each of the referenced ecological assessments.

3. Project description and impacts, avoidance, and mitigation measures

3.1. Project description

The extent of the overall impact area for the Project (including the gas power project and exploration project) encompasses a total area of 203 ha (Figure 1). The components of the gas power project and exploration project impact areas are detailed in the following sections.

3.1.1. Gas power project components

The impact area required to facilitate the necessary infrastructure for proposed gas power project will be present for the life of project to supply coal seam gas (CSG) to the power station and transmit power to the grid encompasses 32.6 ha, including:

- The power station site and access track
- Installation of CSG well pads
- Associated access tracks
- Installation of pipework and single/dual layout lines across the gas field (some of which will be drilled underground limiting the extent of surface impacts).

3.1.2. Exploration project components

The impact area required for the multi-year exploration campaign encompasses 170.2 ha, including:

- Exploration drill pads (generally 35 m x 35 m)
- Associated access tracks.

The impacts related to the exploration areas will be constructed in stages over approximately five years and will mostly be temporary as areas will be rehabilitated after drilling.

3.2. Summary of direct impacts to MNES

The impact area is situated within the north and south-west of the existing SWC mine (Figure 1). These locations predominantly comprise of remnant vegetation. *Eucalyptus populnea* (Poplar box) and C*orymbia clarksoniana* (Clarkson's bloodwood) dominate the remnant woodlands, identified as RE 11.5.3, and are the dominant vegetation communities in the western and eastern study areas. Remnant *Acacia harpophylla* (Brigalow) woodlands, identified as REs 11.3.1, 11.4.8, 11.4.9 and 11.9.5, are dispersed throughout the impact area in small to medium-sized patches (refer to Appendix A).

MNES identified within the impact area include one TEC listed as endangered under the EPBC Act and habitat for four threatened fauna species listed under the EPBC Act, as follows:

- Brigalow (*Acacia harpophylla* dominant and co-dominant) (Brigalow TEC) - endangered
- Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box TEC) - endangered
- *Phascolarctos cinereus* (Koala) – endangered
- *Petauroides volans* (Greater glider) – endangered
- *Geophaps scripta scripta* (Squatter pigeon southern) – vulnerable
- *Denisonia maculata* (Ornamental snake) – vulnerable.

Habitat for two migratory fauna species listed under the EPBC Act have also been recorded across the impact area including:

- *Apus pacificus* (Fork-tailed swift) – migratory
- *Hirundapus caudacutus* (White-throated needletail) – migratory.

Fork-tailed swift and White-throated needletail, two predominantly aerial species with broad habitat preferences have the potential to occur over most habitat types within and surrounding the impact area. The extremely widespread distribution of these two species, their aerial behaviours and broad habitat preferences mean that these species are unlikely to be affected by the proposed additional operational activities at SWC. While considered to have the potential to fly over habitat within the impact area, these species are considered unlikely to be impacted by the proposed works and have not been assessed further.

3.3. Potential project impacts

Potential direct and indirect impacts associated with the proposed activities include:

- Loss of habitat through vegetation clearing
- Injury or fatality through vehicle or machinery interaction (including during vegetation clearing)
- Habitat fragmentation and connectivity loss
- Degradation of habitat through increased noise, light, dust, vibration, weed and pest incursion, erosion and sedimentation or water quality changes
- Increased risk of bushfire / change to fire regimes.

The potential impacts related to the multi-year exploration campaign are expected to be temporary in nature and would be subject to rehabilitation / restoration of drill pads and access tracks upon completion of drilling.

3.4. Avoidance and mitigation measures

The environmental mitigation hierarchy of avoid, minimise, and mitigate impacts will be implemented during the design phase of the Project and will continue to be implemented throughout the life of the Project.

The Project has been designed in accordance with the principle of avoiding environmental harm. The impact area for the Project was developed with the intent of avoiding areas of higher environmental value. In particular, the impact areas have been refined to avoid the riparian zone of Sandy Creek and minimise impacts to Greater glider habitat. Avoidance and mitigation measures to be implemented for the Project include:

- Avoid / minimise clearing drainage lines, riparian zones and patches that may constitute climate refugia and may prove to be of strategic importance for movement opportunities for the Koala and the Greater glider, as well as the Squatter pigeon.
- Avoid / minimise clearing in areas identified as preferred habitat for Koala, where practicable.
- Avoid / minimise clearing along the watercourses identified as preferred and suitable habitat for the Greater glider, particularly Sandy Creek and Walker Creek where previous records exist.

- Avoid / minimise clearing of gilgai and associated suitable habitat for the Ornamental snake, where practicable.
- Pre-clearance surveys to identify animal breeding places and threatened flora.
- Areas of clearing will be demarcated to ensure only areas intended to be cleared are cleared and areas / habitat trees not required to be cleared within the impact area will be retained.
- Comply with the approved SWC Mine Species Management Program (SMP) (SWC SMP 2021), including:
  - Utilisation of spotter catcher(s) during the vegetation clearing
  - Retaining fauna animal breeding places.
- Implementing speed limits across the Project to reduce the likelihood of vehicle strike fauna injuries and fatalities.
- Remnant areas will be managed during the Project, where possible, to ensure threatened species persist in the impact area through the implementation of management plans.
- Move habitat features, such as logs into retained habitat.

The exploration program will be undertaken in an environmentally sensitive manner to minimise impacts as far as practical. Additional mitigation measures to be implemented may include:

- Sequential clearing, particularly for the exploration campaign which will be constructed over multiple stages
- Avoiding mature / habitat trees for drill pads and access tracks, where possible
- Clearing to occur outside of breeding season, where possible
- Implementation of buffer zones
- Management of habitat degrading processes such as dust and erosion through speed limits, implementation of erosion and sedimentation controls
- Management of noise and light pollution.

3.5. Management of impacts

Implementation of several existing SWC management plans and procedures will assist with the management of impacts to MNES, including the following:

- SWC SMP – outlines strategies for the management, monitoring and reporting of impacts to threatened fauna species.
- Minimise impacts to vegetation during the construction phase, and preliminary guidance on rehabilitation measures if needed.
- Aim to limit the risk of spread of invasive plants and pests caused by construction and post-construction operational maintenance.

4. Significance of impacts assessment

A significant impact assessment has been undertaken in accordance with the Commonwealth Matters of National Environmental Significance, Significant impact guidelines 1.1 (Significant Impact Guidelines) (Department of the Environment, 2013a).

The Significant Impact Guidelines also includes the Appendix – Information for industry sectors with information specific to several industry sectors (the Appendix), including mineral exploration activity. The guidance provided for exploratory drilling as part of a terrestrial exploration program indicates the following:

> "All exploratory drilling (including new field, wildcat, and appraisal drilling, auger, rotary air blast (RAB), open hole percussion, reverse circulation (RC), diamond drilling and wide diameter drilling), including the construction of drill pads, would not be expected to have a significant impact on a matter of national environmental significance where the discharges, emissions and waste from the drilling are contained and managed in an environmentally sensitive manner. However, an action involving exploratory drilling may have a significant impact on an endangered or critically endangered species if, for example, it is likely to damage habitat critical to the survival of the species or disrupt the breeding cycle of a population of the species. Such an action may also have a significant impact on listed threatened ecological communities where, for example, it adversely impacts on habitat."

Based on the excerpt above, potential impacts to habitat for the two vulnerable species, Squatter pigeon and Ornamental snake, as a result of the proposed exploration project is considered unlikely to result in significant impacts as they will be managed in an environmentally sensitive manner.

However, potential impacts to the endangered Brigalow TEC and habitat for two endangered species, Koala and Greater glider, as a result of the proposed exploration project will require an assessment against the relevant significant impact criteria to address the potential for significant impacts to occur. The relevant criterion for the Brigalow TEC is limited to the likelihood of adverse impacts on habitat for the TEC and the relevant criteria for the Koala and Greater glider is limited to the likelihood of damage habitat critical to the survival of the species or disruption of the breeding cycle of a population of the species.

The impacts of the gas power project are expected to comprise localised and longer-term impacts compared to the exploration program, which are expected to comprise scattered and stage impacts over a five-year program with rehabilitation of areas after drilling.

In consideration of the above guidance and due to the variation in the nature and extent of impacts for the two components of the Project, the impact assessment has addressed each criterion individually and then each MNES assessed for an overall likelihood to result in a significant impact.

5. Brigalow (Acacia harpophylla dominant and co-dominant) TEC

5.1.1. Occurrence within the impact area

Field surveys identified Brigalow TEC within the impact area across numerous distinct patches across the impact area, totalling an area of 1.5 ha. These patches of Brigalow TEC were analogous to RE 11.4.9 in remnant condition, meeting the key diagnostic and condition thresholds to obtain TEC status (DoE 2013b) as detailed further in the SWC Mine Ecological Assessment Report (ELA, 2024).

The proposed impacts for the project addressed in the significant impact assessment include:

- 0.75 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts
- 0.75 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.1.2. Significant impact assessment

The significant impact assessment addresses the criteria for an endangered TEC in accordance with the Significant Impact Guidelines for the gas power project impact area. Additionally, in line with the guidance provided in the Appendix, the assessment specifically addresses the potential for the exploration program to adversely impact on habitat for an endangered TEC.

Table 1 Significant impact assessment – Brigalow TEC

Criteria	Gas power project	Exploration project
Reduce the extent of an ecological community	A total of 0.75ha of Brigalow TEC occurs within the impact area. The current extent of Brigalow TEC in Queensland is estimated as 660,000 ha (TSSC 2001). The clearing of Brigalow TEC amounts to less than 0.3% recorded within the broader study area mapped for the EAR (ELA, 2024). The disturbance of these areas as a result of the Project will not reduce the extent of the TEC within the Bowen Basin such that impacts would be considered significant. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.	The Brigalow TEC within the impact area occurs south-west of the current mining operations and impacts on four patches of mapped Brigalow TEC, totalling an area of 0.75ha. These patches are already subject to fragmentation across the broader area and the Project has utilised existing clearings and tracks as far as practical to minimise impacts and minimise further fragmentation of existing Brigalow TEC habitat. Additional areas of Brigalow TEC will remain further south, west and north of the impact area. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Adversely affect habitat critical to the survival of an ecological community	A total of 0.75ha of Brigalow TEC will be directly impacted by the Project. The extent of habitat that is expected to be impacted is not considered necessary for the long-term maintenance of the ecological community and therefore is not considered critical for the survival of the TEC. Unlikely to result in a significant impact.	A total of 0.75ha of Brigalow TEC will be directly impacted by the Project. The impacts related to the exploration activities will be constructed in stages over approximately five years and will mostly be temporary as areas will be rehabilitated after drilling. Additionally, mitigation measures will be implemented to minimise impacts during construction, such as sequential clearing and avoiding mature / canopy trees for drill pads and access tracks as far as practical. The extent of habitat that is expected to be impacted is not considered necessary for the long-term maintenance of the ecological community and therefore is not considered critical for the survival of the TEC. Unlikely to result in a significant impact.

Criteria	Gas power project	Exploration project
Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	The Brigalow TEC occurring within the impact area is currently persisting adjacent to a previously cleared landscape and an active mine. Additional areas of Brigalow TEC that occur south and west of the impact area will not be disturbed and, thus the Project is unlikely to be impact abiotic factors necessary for its survival. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	The proposed activity is unlikely to result in a change in composition as management measures will be implemented, such as weed and pest management (vehicle hygiene practices) and management of dust. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: - assisting invasive species, that are harmful to the listed ecological community, to become established, or - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community	Erosion and sediment control and weed management strategies (including vehicle wash-downs) will be implemented during construction and operations, to ensure that sediments or additional weeds will not encroach into the remaining patches of TEC as well as to prevent spread of existing weeds. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of an ecological community	There is no adopted or made Recovery Plan for this community. Current known threats to the ecological community include clearing, fire, invasive species, inappropriate grazing regimes and climate changes (DoE 2013b). In accordance with the priority recovery and threat abatement actions where further clearance is unavoidable (DoE, 2013b), severity of impacts are mitigated by: • The impact area has been designed to reduce impact to the TEC as far as practicable.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Brigalow TEC. Exploratory drilling is not expected to have a significant impact on Brigalow TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Gas power project	Exploration project
	• Avoid spread of weeds. Management measures will be implemented to minimise impacts of weeds occurring within remaining Brigalow TEC patches to the south and west of the impact area. • The Project will directly impact 0.75ha of Brigalow TEC within the Project area. Clearing of this magnitude is not likely to interfere with the recovery of the TEC. Unlikely to result in a significant impact.	
Overall Significance outcome:	**Unlikely** - The Project is considered unlikely to result in a significant impact to Brigalow TEC, based on avoiding impacts to Brigalow TEC across the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to mature trees for drill pads and tracks as far as practical.	

5.2. Poplar box TEC

5.2.1. Occurrence within the impact area

Field surveys identified Poplar Box TEC associated with RE 11.3.2 and RE 11.3.4 in remnant condition within the exploration area impact area to north north-west of the existing mine. No vegetation communities within the gas power project impact area met the key diagnostic and condition thresholds for the Poplar Box TEC (DoEE 2019).

The proposed impacts for the project addressed in the significant impact assessment includes 1.14 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.2.2. Significant impact assessment

No impacts to Poplar Box TEC will occur as a result of the gas power project. However, in line with the guidance provided in the Appendix, the significant impact assessment specifically addresses the potential for the exploration project to adversely impact on habitat for an endangered TEC.

Table 2: Significant impact assessment - Poplar Box TEC

Criteria	Exploration project
Reduce the extent of an ecological community	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Adversely affect habitat critical to the survival of an ecological community	A total of 1.14ha of Poplar Box TEC will be directly impacted by the Project. The impacts related to the exploration activities will be constructed in stages over approximately five years and will mostly be temporary as areas will be rehabilitated after drilling. Additionally, mitigation measures will be implemented to minimise impacts during construction, such as sequential clearing and avoiding mature / canopy trees for drill pads and access tracks as far as practical. The extent of habitat that is expected to be impacted is not considered necessary for the long-term maintenance of the ecological community and therefore is not considered critical for the survival of the TEC. Unlikely to result in a significant impact.
Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Exploration project
Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: - assisting invasive species, that are harmful to the listed ecological community, to become established, or - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of an ecological community	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on Poplar Box TEC. Exploratory drilling is not expected to have a significant impact on Poplar Box TEC as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to Poplar Box TEC, based on avoiding impacts to Poplar Box TEC across the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to mature trees for drill pads and tracks as far as practical.

5.3. *Phascolarctos cinereus* (koala)

5.3.1. Occurrence within the impact area

Koala habitat was ground-truthed across large portions of the impact area and surrounding land (ELA, 2024). Koala habitat can be broadly defined as any forest or woodland containing canopy species that are known koala food trees, or shrubland with emergent food trees. In semi-arid environments in the western parts of the species' range, koala inhabit eucalypt dominated forests and woodlands, particularly near riparian environments.

Based on the ground-truthed data, preferred habitat within the broader area has been mapped as fringing riparian woodlands (RE 11.3.25) and eucalypt woodlands to open forest on alluvial plains (REs 11.3.2, 11.3.27f, 11.3.4, 11.3.9) with suitable habitat mapped across all areas of dry eucalypt woodland habitat.

The proposed impacts for the project addressed in the significant impact assessment include:

- 25.3 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.

- 79 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.3.2. Significant impact assessment

The significant impact assessment addresses the criteria for an endangered species in accordance with the Significant Impact Guidelines for the gas power project impact area. Additionally, in line with the guidance provided in the Appendix, the assessment specifically addresses the potential for the exploration project to impact on habitat critical to the survival of the species or disrupt the breeding cycle of a species.

In the broader area and surrounds, areas mapped as preferred habitat, particularly along riparian zones, are considered to provide habitat critical for the survival of Koala as these areas:

- Are known to known to provide refugia habitat for Koala during times of drought, particularly within the riparian zone and associated alluvial floodplains.
- May be used, at least periodically, for foraging, breeding or dispersal by Koala and therefore are likely to be essential to meeting the lifecycle requirements of Koala.
- May be used by an important population, at least periodically given the multiple records from the broader area.

Table 3 Significant impact assessment – Koala

Significant impact criteria	Gas power project	Exploration project
Lead to a long-term decrease in the size of population	A total of 25.3ha of Koala habitat will be cleared within the impact area. While some impacts are expected to be temporary for the construction phase, well and powerline infrastructure will be in place for the life of the gas project. The removal of 25.3ha of habitat for the species and increased disturbance across the area will decrease habitat availability and movement opportunities within the local area, however the local population is likely to rely on areas of higher value habitat to the west of the impact area. It is considered unlikely that the local impacts to habitat for this species will lead to a long-term decrease in the size of a local population. To ensure the least possible impact on individuals present, a pre-clearance survey will be carried out. Qualified spotter catchers will be present during clearing activities to detect the presence of the species and implement necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Reduce the area of occupancy of a population	A total of 25.3ha of habitat for Koala will be removed as a result of the Project. The species distribution extends throughout much of central and southern Queensland. The Project is not located near the edge of the species' distribution and is therefore not considered likely to reduce the area of occupancy (AOO) of the species. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment an existing population into two or more populations	The extent and location of clearing (i.e. 25.3ha adjacent to an operational mine) is unlikely to lead to fragmentation of an existing Koala population. The impact area is comprised of localised clearing for the power station, well pads and linear infrastructure (pipelines and access tracks) that are unlikely to prohibit movement across the broader area. Further, the impact area is not expected to divide or isolate habitat areas that would fragment an existing Koala population. Suitably qualified fauna spotter catchers will be present during clearing	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Significant impact criteria	Gas power project	Exploration project
	activities to detect the presence of Koala and implement necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.	
Adversely affect habitat critical to the survival of a species	A total of 25.3ha of habitat for Koala will be removed as a result of the Project. This is considered unlikely to affect habitat critical to the survival of the Koala as the local population is likely to be very sparse (no individuals recorded during multiple surveys of the area), and the local population is likely to rely on areas of higher value habitat to the west of the impact area. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To mitigate risks to Koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.	A total of 79ha of habitat for Koala will be removed as a result of the Project. Clearing for the exploration program will comprise localised scattered small-scale impact areas, staged over a five-year program. All activities will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling. This is considered unlikely to affect habitat critical to the survival of the Koala as the local population is likely to be very sparse (no individuals recorded during multiple surveys of the area), and the local population is likely to rely on areas of higher value habitat to the west of the impact area. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitats have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To mitigate risks to koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.
Disrupt the breeding cycle of a population	In central Queensland, Koalas are more active during the Spring breeding season in which males jostle for territory and mates. The size of home ranges varies depending on habitat availability and quality (food tree abundance). For example, in Clermont in central Queensland male Koalas were recorded to occupy a home range of 135ha (Ellis et al., 2002), whereas males on the New South Wales north coast occupied smaller home ranges of 20ha (Lassau et al., 2008). Males travel large distances during the breeding season, and the relatively small size of the impact area, it is unlikely the removal of habitat would significantly impact the breeding cycle of a population of Koala that may	In central Queensland, Koalas are more active during the Spring breeding season in which males jostle for territory and mates. The size of home ranges varies depending on habitat availability and quality (food tree abundance). For example, in Clermont in central Queensland male Koalas were recorded to occupy a home range of 135ha (Ellis et al., 2002), whereas males on the New South Wales north coast occupied smaller home ranges of 20ha (Lassau et al., 2008). Males travel large distances during the breeding season, and the relatively small size of the impact area, it is unlikely the removal of habitat would significantly impact the breeding cycle of a population of Koala that may occur in the local area as connecting

Significant impact criteria	Gas power project	Exploration project
	occur in the local area as connecting habitat surrounding the Project in which the species can move throughout will be retained. To mitigate risks to Koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.	habitat surrounding the Project in which the species can move throughout will be retained. To mitigate risks to Koala individuals, pre-clearance surveys will be conducted prior to clearing and a fauna spotter catcher will be present during all clearing activities. Should a Koala be observed, an exclusion zone will be implemented (as per fauna spotter catcher approved permit) and the Koala will be left to self-disperse. Unlikely to result in a significant impact.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The species occurs throughout the eastern states and territories of Australia. Clearing of such a small proportion of available habitat within the broader area is not expected to decrease the availability or quality of habitat within the local area or region to the extent that it would result in a decline in the species. Nor is it likely to isolate the species from surrounding habitat given the presence of habitat that to be retained surrounding the impact area. As the clearing is proposed to occur adjacent to existing mine operations, it will not isolate remaining habitat or impede the species ability to survive in the surrounding area. Large tracts of habitat will remain in the south, east and west. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	A range of invasive weed and pest species are known to occur within the impact area. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. The SWC Weed and Feral Animal Management Procedure will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Introduce disease that may cause the species to decline	It is unlikely that the Project will facilitate the introduction or spread of diseases specific to the species (such as chlamydia or Koala retrovirus) or diseases that can significantly degrade critical habitat such as root rot (*Phytophthora cinnamomi*).	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala.

Significant impact criteria	Gas power project	Exploration project
	Unlikely to result in a significant impact.	Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of the species	The National Recovery Plan for the Koala *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) (DAWE 2022) establishes land use change which causes the loss, modification, and fragmentation of native vegetation cover, including dispersal habitat, as a direct threat to Koala populations. Another direct threat comprises predicted increase in the frequency and severity of droughts, periods of extremely high temperatures and the increased frequency of fire which relate to lack of access to refuges from climatic extremes. The document identifies other threats such as mortality due to vehicle strikes and dog attack. The Project will not increase mortality due to dog attack, introduce / facilitate the spread of pathogens or create a barrier to movement. Vehicle movements are considered a threat to Koala and the construction phase of the Project will result in increased vehicle movements in the area. However, the area is adjacent to an existing active mine site, so the increase in activity will be minimal. It is unlikely that increased traffic as a result of the Project will result in Koala mortalities to the extent that it will interfere substantially with the recovery of the species. Areas of preferred and suitable habitat surrounding the impact area will not be impacted and the clearing of a small area of habitat relative to the species AOO is unlikely to interfere with the recovery of Koala. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Koala. Exploratory drilling is not expected to have a significant impact on Koala as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Koala, based on avoiding impacts to preferred habitat and connectivity through the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to Koalas and their habitat.	

5.4. *Petauroides volans* (greater glider (southern and central))

5.4.1. Occurrence within the impact area

Greater glider habitat was ground-truthed within the impact area and surrounding land (ELA, 2024) predominantly associated with riparian and alluvial floodplain vegetation. Four individuals of the species were recorded during field surveys within the Ecological Assessment Report study area in March and April 2024.

Greater glider is known to forage on eucalypt leaves and occasionally flowers and requires good habitat connectivity and an abundance of large hollows for breeding and sheltering. Preferred habitat for the species within the broader area includes fringing riparian woodlands (RE11.3.25) and suitable habitat includes all floodplain eucalypt woodlands and adjacent areas of dry eucalypt woodlands (dominated by Poplar Box or *Eucalyptus platyphylla*).

The proposed impacts for the project addressed in the significant impact assessment include:

- 0.2 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.
- 1.8 ha of proposed impacts for the exploration program will comprise scattered and staged impacts over a five-year program which will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling.

5.4.2. Significant impact assessment

The significant impact assessment addresses the criteria for an endangered species in accordance with the Significant Impact Guidelines for the gas power project impact area and specifically addresses the potential for the exploration project to impact on habitat critical to the survival of the species or disrupt the breeding cycle of a species may occur as noted in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Table 4 Potential impact and significant assessment – *Petauroides volans* (Greater glider (southern and central))

Criteria	Gas project	Exploration project
Lead to a long-term decrease in the size of population	The species has been recorded during surveys in habitat contiguous with the impact area in 2021 (ELA 2021) and was recorded during surveys undertaken in 2024. There is 0.2ha of habitat for the species present within the impact area. Suitable habitat within the impact area is mainly recorded within narrow riparian corridors associated with Sandy Creek and suitable habitat for the species will remain to the west and south of the impact area. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To minimise the impact on any individuals that may be present, a pre-clearance survey will be carried out, and suitably qualified fauna spotter-catchers will be present during the clearing activities. This will enable the detection of the species and the implementation of any necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Reduce the area of occupancy of a population	The species occurs throughout eastern Australia, occupying areas of vegetation with the presence of large-hollow bearing trees. The impact area does not occur at the outer extent of the species AOO. Areas of habitat which the species would occupy will still exist in remnant vegetation surrounding the impact area and throughout the species' AOO. As such, the project is unlikely to the reduce the AOO of Greater glider. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Fragment an existing population into two or more populations	Preferred habitat for the Greater glider associated with fringing riparian woodlands (RE 11.3.25) and marginal habitat was identified as Poplar box dominated woodlands adjacent to preferred habitat. Preferred habitat for the species will remain in the region, however, the species is suggested to be sensitive to habitat fragmentation due to small home ranges (DCCEE, 2022). The proposed clearing is not expected to prohibit	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines

Criteria	Gas project	Exploration project
	movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. To minimise potential impacts on the species, the following will be conducted: • Pre-inspection of denning habitat will be conducted prior to clearing. Hollows with Greater glider present will not be cleared, without the opportunity for the species to self-relocate (i.e., clearing occurs surrounding the occupied hollow-bearing tree, allowing that occupying individual to self-relocate at night). • Clearing will be conducted under the supervision of a fauna spotter catcher. Areas which are not required to be cleared will be retained. Areas of clearing will be demarcated to ensure only areas intended to be cleared are cleared. With the implementation of mitigation measures, the Project is considered unlikely to result in a significant impact through the fragmentation of an existing population of the species. Unlikely to result in a significant impact.	Appendix – Information for industry sectors guidance for mineral exploration activity.
Adversely affect habitat critical to the survival of a species	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. Although it contains essential habitat features to support foraging of the species, the abundance and size of hollow-bearing trees used for denning within the impact area is not significant. The proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. Although this habitat will be disturbed due to clearing activities (limited to 0.2ha), preferred habitat containing essential habitat features will still exist along Sandy Creek and directly to the west of the impact area. Clearing of such a small section of suitable habitat within the impact	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. Although it contains essential habitat features to support foraging of the species, the abundance and size of hollow-bearing trees used for denning within the impact area is not significant. Clearing for the exploration program will comprise localised scattered small-scale impact areas, staged over a five-year program. All activities will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling. Although this habitat will be disturbed due to clearing activities (limited to 1.8ha), this is comprised of small, localised clearing for wells and tracks across the broader area and preferred habitat

Criteria	Gas project	Exploration project
	area for the Project is therefore unlikely to cause disruption to habitat critical to the survival of the species. Unlikely to result in a significant impact.	containing essential habitat features will still exist directly to the west of the impact area. Clearing of such small areas of suitable habitat within the impact area over a period of five years for the Project is therefore unlikely to cause disruption to habitat critical to the survival of the species. Unlikely to result in a significant impact.
Disrupt the breeding cycle of a population	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. The abundance and size of hollow-bearing trees used for denning within the impact area is limited and not considered to be significant for supporting breeding opportunities for this species. Additionally, the proposed clearing is not expected to prohibit movement across the broader area and in particular the impacts to riparian habitat along Sandy Creek have been minimised to ensure preferred habitat for breeding, resting and connectivity is maintained. Although this habitat will be disturbed due to clearing activities (limited to 0.2ha), preferred habitat containing essential habitat features will still exist along Sandy Creek and directly to the west of the impact area. Clearing of such a small section of suitable habitat within the impact area for the Project is therefore unlikely to disrupt the breeding cycle of the population. Unlikely to result in a significant impact.	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. The abundance and size of hollow-bearing trees used for denning within the impact area is limited and not considered to be significant for supporting breeding opportunities for this species. Additionally, clearing for the exploration program will comprise localised scattered small-scale impact areas, staged over a five-year program. All activities will be managed in an environmentally sensitive manner and include rehabilitation of areas after drilling. Although this habitat will be disturbed due to clearing activities (limited to 1.8ha), this is comprised of small, localised clearing for wells and tracks across the broader area and preferred habitat containing essential habitat features will still exist directly to the west of the impact area. Clearing of such small areas of suitable habitat within the impact area over a period of five years for the Project is therefore unlikely to disrupt the breeding cycle of the population. Unlikely to result in a significant impact.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The habitat within the impact area is not considered to have the potential to support a population of Greater gliders, rather provide refuge habitat and movement opportunities. Clearing of such a small proportion of available habitat within the broader area is not expected to decrease the availability or quality of habitat within the local area or region to the extent that it would result in a decline in the species. Nor is it likely to isolate the species from surrounding habitat given the presence of habitat that to be retained along Sandy Creek and the surrounding the impact area.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Gas project	Exploration project
	As the clearing is proposed to occur adjacent to existing mine operations, it will not isolate remaining habitat or impede the species ability to survive in the surrounding area. Large tracts of habitat will remain in the south, east and west. Unlikely to result in a significant impact.	
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	A range of invasive weed and pest species are known to occur within the impact area and surrounding region. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. Management measures will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Introduce disease that may cause the species to decline	Currently, there are no known diseases harmful to Greater glider. Proposed Project activities such as vegetation clearing are considered unlikely to introduce disease that may cause the species to decline. Unlikely to result in a significant impact.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.
Interfere with the recovery of the species	Habitat within the impact area has the potential to support a population of Greater glider as it contains essential habitat features to support breeding and foraging of the species (such as hollow-bearing trees used for denning). Although the Project will require removal of 0.2ha of this habitat, the relatively small impact area relative to AOO means the Project is unlikely to interfere with the recovery of the species. To minimise impacts on individuals that may be present, a pre-clearance survey will be undertaken, and suitably qualified fauna spotter catchers will be present during clearing activities to detect the presence of the species and implement necessary mitigation actions should the species be observed.	The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Greater glider. Exploratory drilling is not expected to have a significant impact on Greater glider as discussed in the Significant Impact Guidelines Appendix – Information for industry sectors guidance for mineral exploration activity.

Criteria	Gas project	Exploration project
	Unlikely to result in a significant impact.	
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Greater glider, based on avoiding impacts to preferred habitat and connectivity through the broader area and undertaking construction activities in an environmentally sensitive manner to minimise impacts to Greater gliders and their habitat.	

5.5. *Geophaps scripta scripta* (squatter pigeon (southern))

5.5.1. Occurrence within the impact area

Squatter pigeon habitat was ground-truthed within the impact area and surrounding land (ELA, 2024). Squatter pigeon was also recorded during the current and former field survey undertaken across the broader area.

Squatter pigeon generally inhabits the grassy understorey of Eucalyptus, Corymbia, Acacia or Callitris dominated woodlands on well-draining sandy soils on gently sloping, flat to undulating plains, with a patchy ground cover (DoE 2024a). The species requires access to water on a near daily basis. Suitable water sources identified within the broader area include dams, ephemeral watercourses and oxbow lagoons.

All remnant and non-remnant areas within the impact area are considered to comprise habitat for Squatter pigeon. The proposed impacts for the Project addressed in the significant impact assessment include 32.6 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.

5.5.2. Significant impact assessment

The significant impact assessment addresses the criteria for a vulnerable species in accordance with the Significant Impact Guidelines for the gas power project impact area. The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Squatter pigeon. Exploratory drilling is not expected to have a significant impact on MNES as discussed in the Appendix and therefore has not been assessed further.

The local population of Squatter pigeon is not considered to comprise an important population in accordance with the criteria for an important population as it is:

- Not considered to be a key source population either for breeding or dispersal.
- Not considered to be a population necessary for maintaining genetic diversity.
- Not a population near the limit of the species' range.

Therefore, any local population is not considered to be an important population for the purposes of this assessment.

Table 5 Potential impact and significant assessment – *Geophaps scripta scripta* (Squatter pigeon (southern))

Criteria	Gas Power project
Lead to a long-term decrease in the size of an important population of a species	A total of 32.6ha of habitat for Squatter pigeon occurs within the impact area, and four occurrences of the species were recorded in the study area during surveys in 2024 (ELA 2024). The removal of 32.6ha of habitat is considered unlikely to lead to a long-term decrease in the size of the local squatter pigeon population due to scattered impact footprint and available of habitat in the surrounding areas. To minimise impacts on individuals that may be present in the impact area, suitably qualified fauna spotter catchers will be present during clearing activities to detect the presence of the

Criteria	Gas Power project
	species and implement necessary mitigation actions should the species be recorded. Unlikely to result in a significant impact.
Reduce the area of occupancy of an important population	A total of 32.6ha of habitat for Squatter pigeon will be removed as a result of the Project. The AOO of the species is estimated to be approximately 116,000,000ha in 2024 (BirdLife International 2024) and the species distribution extends throughout much of central and southern Queensland. The Project is not located near the edge of the species distribution and is therefore not considered likely to reduce the AOO of the species. Unlikely to result in a significant impact.
Fragment an important population into two or more populations	A total of 32.6ha of habitat for Squatter pigeon occurs within the impact area. Due to the species' ability to disperse, and the availability of water within the broader landscape, it is likely that similar and / or better-quality habitat exists outside of the impact area. Therefore, it is unlikely that the Project will result in the fragmentation of an existing population of Squatter pigeon. Unlikely to result in a significant impact.
Adversely affect habitat critical to the survival of a species	A total of 32.6ha of habitat for Squatter pigeon occurs within the impact area. The clearing is proposed to occur adjacent to an existing operating mine. The progressive clearing of this habitat is unlikely to isolate remaining habitat or adversely impact the species' ability to survive in the surrounding area. Due to the species' ability to disperse, and the availability of water within the broader landscape, it is likely that similar and / or better-quality habitat exists outside of the impact area. Therefore, it is unlikely that the Project will affect habitat critical to the survival of the species. Unlikely to result in a significant impact.
Disrupt the breeding cycle of an important population	The Project will not disrupt the breeding cycle of an important population of Squatter pigeon as the likelihood of the study area supporting an important population is low and the extent of clearing of potential breeding resources is very small. To minimise impacts on individuals or at a local population level that may be present, suitably qualified spotter catchers will be present during clearing activities to detect the presence of the species (and breeding sites) and implement necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The Project will result in the loss of 32.6ha of habitat for foraging, roosting and breeding. Squatter pigeons are highly mobile species, and there is habitat within the surrounding areas for the species to utilise. Therefore, the extent of clearing will unlikely modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. Unlikely to result in a significant impact.

Criteria	Gas Power project
Result in an invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	A range of invasive weed and pest species are known to occur within the impact area. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. The SWC Weed and Feral Animal Management Procedure will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.
Introduce disease that may cause the species to decline	Currently, there are no known diseases harmful to Squatter pigeon. Proposed project activities such as vegetation clearing are considered unlikely to introduce disease that may cause the species to decline. Unlikely to result in a significant impact.
Interfere substantially with the recovery of the species	There is no adopted or made Recovery Plan for the Squatter pigeon as, in 2015, the TSSC recommended that there should not be a recovery plan for it as the approved conservation advice for the subspecies (TSSC 2008) provides sufficient direction for the implementation of priority actions and the mitigation of key threats. The Conservation Advice lists that the disappearance of the subspecies has been attributed to overgrazing at times of drought, followed by clearing of vegetation. The Project is unlikely to materially intensify these threats (due to the relatively small impact area compared to the AOO) and will not interfere with the recovery of the species. Suitable species habitat will remain adjacent to the impact area, to the north and west. Unlikely to result in a significant impact.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Squatter pigeon.

5.6. *Denisonia maculata* (Ornamental snake)

5.6.1. Occurrence within the impact area

Ornamental snake habitat was ground-truthed within the impact area and surrounding land (ELA, 2024). The species occurs within Brigalow dominated woodland and open forest habitats in moist areas such as floodplains, undulating clay pans, near waterbodies (swamps and lakes) and along watercourses. It prefers these moist areas due to its diet of mostly frogs. The species shelters under woody debris and in soil cracks, particularly gilgais, where it can remain inactive for many months during dry periods.

Ornamental snake habitat within the broader area includes Brigalow dominated woodlands on alluvial (RE 11.3.1) and on clay plains (RE 11.4.8 and 11.4.9), some areas of eucalypt dominated woodlands on alluvial (RE 11.3.4), a small patch of Poplar box woodland with a Brigalow understory on clay plains (RE 11.4.10) and freshwater wetlands (RE 11.3.27f). Some non-remnant areas adjacent to these habitat types were also mapped as suitable habitat for Ornamental snake where they also contained essential microhabitat features such as gilgais and deep soil cracks.

The proposed impacts for the project addressed in the significant impact assessment include 7.1 ha of proposed impacts for the gas power project that will comprise localised and longer-term impacts.

5.6.2. Significant impact assessment

The significant impact assessment addresses the criteria for a vulnerable species in accordance with the Significant Impact Guidelines for the gas power project impact area. The exploration project will be undertaken in an environmentally sensitive way to avoid and minimise impacts on habitat for the Ornamental snake. Exploratory drilling is not expected to have a significant impact on MNES as discussed in the Appendix and therefore has not been assessed further.

Within the impact area, the potential habitat is generally mapped as remnant RE 11.4.9 on cracking clays, with most patches dominated by *Casuarina cristata*. The Draft Referral Guidelines for Brigalow Belt Reptiles (DSEWPAC, 2011) identifies gilgais and mounds within the species' range as important habitat. Within the broader area, ephemeral gilgais are present, however, within the impact area mapped Ornamental snake habitat was generally lacking gilgai and mounds and considered to be of marginal to suitable quality (i.e. not preferred).

While important habitat is likely to occur in the broader area (specifically to the north and east of the impact area where gilgai and mounds are present), the habitat within the gas power project impact area is not considered to comprise important habitat for the species.

Table 6 Potential impact and significant assessment – *Denisonia maculata* (Ornamental snake)

Criteria	Gas power project
Lead to a long-term decrease in the size of an important population of a species	The Project will result in the removal of a total of 7.1ha of habitat for the Ornamental snake. Ornamental snake was recorded within the broader area during surveys in 2021 (ELA 2021a). The removal of 7.1ha of Ornamental snake habitat may decrease the availability of habitat for this species in the local area, however it is considered unlikely to lead to decrease in the size of the local species population. To minimise impacts on any individuals that may be present, suitably qualified spotter catchers will be present during clearing activities. They will be responsible for detecting the presence of the species and implementing the necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Reduce the area of occupancy of an important population	The impact area is not at the edge of the species AOO, as Ornamental snake occupies areas of gilgais depressions and mounds throughout the Brigalow Belt Bioregion. The Project is therefore unlikely to reduce the AOO of Ornamental snake. Unlikely to result in a significant impact.
Fragment an important population into two or more populations	The species is geographically dispersed in a sparsely populated area, and the population size is currently unknown (TSSC 2014). Although 7.1ha of habitat for the species occurs within the impact area, the extent of clearing is unlikely to fragment an existing population into two or more populations given the availability of preferred habitat extending outside the impact area. To minimise impacts on any individuals that may be present, suitably qualified spotter catchers will be present during clearing activities. They will be responsible for detecting the

Criteria	Gas power project
	presence of the species and implementing the necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Adversely affect habitat critical to the survival of a species	A total of 7.1ha of habitat for Ornamental snake will be removed as a result of the Project. While this may affect the availability of habitat within the local area, it is not considered likely to result in disruption to habitat critical to the survival of the species (specifically, breeding and foraging) due to the presence of gilgai and habitat for prey species (frogs) within the surrounding landscape that will still be available to the local population. To mitigate any potential negative impacts to the species, the following will be carried out: • Clearing events will be avoided during periods of breeding, such as following large summer rainfall events, as this is when the species emerges from cracks to actively disperse, forage and breed. • If clearing is required to occur during potential breeding cycles, fauna spotter catchers will conduct night-time pre-clearance assessments to actively relocate snakes out of the impact area. • A fauna spotter catcher will be present during all clearing activities to ensure adverse effects to habitat of the species are minimised to the greatest extent. Clearing of species habitat will be conducted in accordance with the SWC Species Management Plan which will include sequential clearing. Unlikely to result in a significant impact.
Disrupt the breeding cycle of an important population	Removing 7.1ha of species habitat is unlikely to disrupt the breeding cycle of an important population of the species. While the project may affect the availability of habitat within the local area, it is not considered likely to result in disruption to the breeding cycle or availability of breeding habitat to the local population due to the presence of gilgai and habitat for prey species (frogs) within the surrounding landscape that will still be available. To minimise loss of the species individuals, spotter catchers will be present during times of clearing. Those snakes recovered will be relocated to adjacent nearby suitable habitat. Unlikely to result in a significant impact.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The Project will result in the loss of up to 7.1ha of suitable habitat for the species. Whilst local impacts to the species may occur, given the presence of the species occurrence throughout the region and the relatively small population likely present (evident through only detecting one individual in non-preferred habitat), it is unlikely the Project will impact to an extent that the species as a whole is likely to decline. To minimise the impact on any individuals that may be present, a pre-clearance survey will be carried out, and suitably qualified fauna spotter-catchers will be present during the clearing activities. This will enable the detection of the species and the

Criteria	Gas power project
	implementation of any necessary mitigation actions should the species be observed. Unlikely to result in a significant impact.
Result in an invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	A range of invasive weed and pest species are known to occur within the impact area and surrounding region. Appropriate vehicle hygiene procedures will be implemented during the construction phase to minimise the risk of introduction of new weed species. The Project is considered unlikely to result in the introduction of any new pest species. The SWC Weed and Feral Animal Management Procedure will be implemented to avoid any adverse indirect impacts. Unlikely to result in a significant impact.
Introduce disease that may cause the species to decline	Currently, there are no known diseases harmful to Ornamental snake. Proposed Project activities such as vegetation clearing are considered unlikely to introduce disease that may cause the species to decline. Unlikely to result in a significant impact.
Interfere substantially with the recovery of the species	There is no adopted or made Recovery Plan for this species. However, the Conservation Advice lists the main identified threat to the species as broadscale land clearing and habitat degradation, destruction of wetlands from feral pigs and destruction of frog habitat and direct competition for their food source (frogs). The Project is unlikely to materially intensify these threats (due to the small impact area) and will not interfere with the recovery of the species. Unlikely to result in a significant impact.
Overall Significance outcome:	**Unlikely** - The project is considered unlikely to result in a significant impact to the Ornamental snake.

6. Conclusion

ELA was engaged by SMC, on behalf of Stanmore, to conduct an ecological assessment for the proposed gas power project and a multi-year exploration campaign at the SWC Mine and to prepare a significant impact assessment to identify and quantify likely impacts to MNES as a result of the Project.

MNES identified within the impact area include TECs and habitat for threatened species, however significant impacts to MNES are considered unlikely to occur as a result of the Project. Avoidance, mitigation and management measures (see Sections 3.4 and 3.5) will be implemented to minimise the impacts to MNES.

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Appendix A South Walker Creek Ecological Assessment Report

South Walker Creek Mine Ecological Assessment Report

Stanmore

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DOCUMENT TRACKING

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ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Trend Environmental.

Template 2.8.1

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Abbreviations

Abbreviation	Description
EA	Environmental Authority
ELA	Eco Logical Australia Pty Ltd
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESA	Environmentally Sensitive Area
ML	Approved Mining Lease under the *Mineral Resources Act 1989*
MNES	Matters of National Environmental Significance are prescribed under the *Environment Protection and Biodiversity Conservation Act 1999*
MSES	Matters of State Environmental Significance are defined by Schedule 2 of the *Environmental Offsets Regulation 2014* and include multiple prescribed environmental matters under Queensland legislation (and associated subordinate legislation and policies) including: *Nature Conservation Act 1992*, *Vegetation Management Act 1999*, *Environmental Protection Act 1994*, *Regional Planning Interests Act 2014*, *Marine Parks Act 2004*, and *Fisheries Act 1994*.
NC Act	*Nature Conservation Act 1992*
PMST	Protected Matters Search Tool
RE	A Regional Ecosystem is a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform, and soil. Regional Ecosystems are described in the Regional Ecosystem Description Database, produced by the Queensland Herbarium.
REDD	Regional Ecosystem Description Database
SWC	The South Walker Creek (SWC) Mine is an existing and operational open cut coal mine located on ML4750 and ML70131
TEC	Threatened Ecological Community listed under the *Environment Protection and Biodiversity Conservation Act 1999*
Trend	Trend Environmental
VM Act	*Vegetation Management Act 1999*
WO	Wildlife Online
WoNS	Weeds of National Significance

1. Introduction

1.1 Background

South Walker Creek Mine (SWC) is owned by Stanmore SMC Pty Ltd (SMC), a subsidiary of Stanmore Resources Limited (Stanmore). SWC is situated in the Bowen Basin, approximately 135km south-west of Mackay in Queensland. Mining activities at SWC are undertaken in accordance with Environmental Authority (EA) EMPL00712313 on Mining Lease (ML) 4750 and ML70131.

Eco Logical Australia (ELA) has been engaged to undertake an ecological assessment to support the South Walker Creek gas collection project and a multi-year exploration campaign (the Project). The Project comprises two main elements:

- An exploration program on ML4750 and ML70131 in areas beyond those authorised by Environmental Authority EPML00712313 (the EA).
- Development of a gas collection field on ML4750 to supply a proposed gas fired power station. This includes associated infrastructure to support the proposed gas fired power station including, powerlines, installation of pipework and single/dual layout lines.

Construction of the associated gas-fired power station is subject to a separate Development Application (DA) approvals process.

The purpose of this assessment is to support a major amendment to the EA, by determining the presence and extent of Commonwealth and State environmental values relevant to the Project.

1.2 Objective and scope of works

The objective of this ecological assessment report (EAR) is to identify ecological values relevant to the study area, with the purpose of supporting any required environmental approvals under both Commonwealth and State legislation. Specifically, the scope of work included:

- a desktop review of previous survey data and other available desktop information
- validation of the extent and condition of regional ecosystems (REs) within the study area
- confirmation of the presence or absence of threatened species and associated habitats
- identification and mapping of Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES)
- providing recommendations to reduce overall impacts to ecological values.

1.3 Study area

The study area is located within ML4750 and ML70131. It comprises a total of 5,152.4 ha of currently undisturbed land that surrounds the existing SWC open cut pits and associated infrastructure areas. To facilitate the discussion of relevant ecological values, the study area has been divided into three sections: northern, western, and eastern (Figure 1).

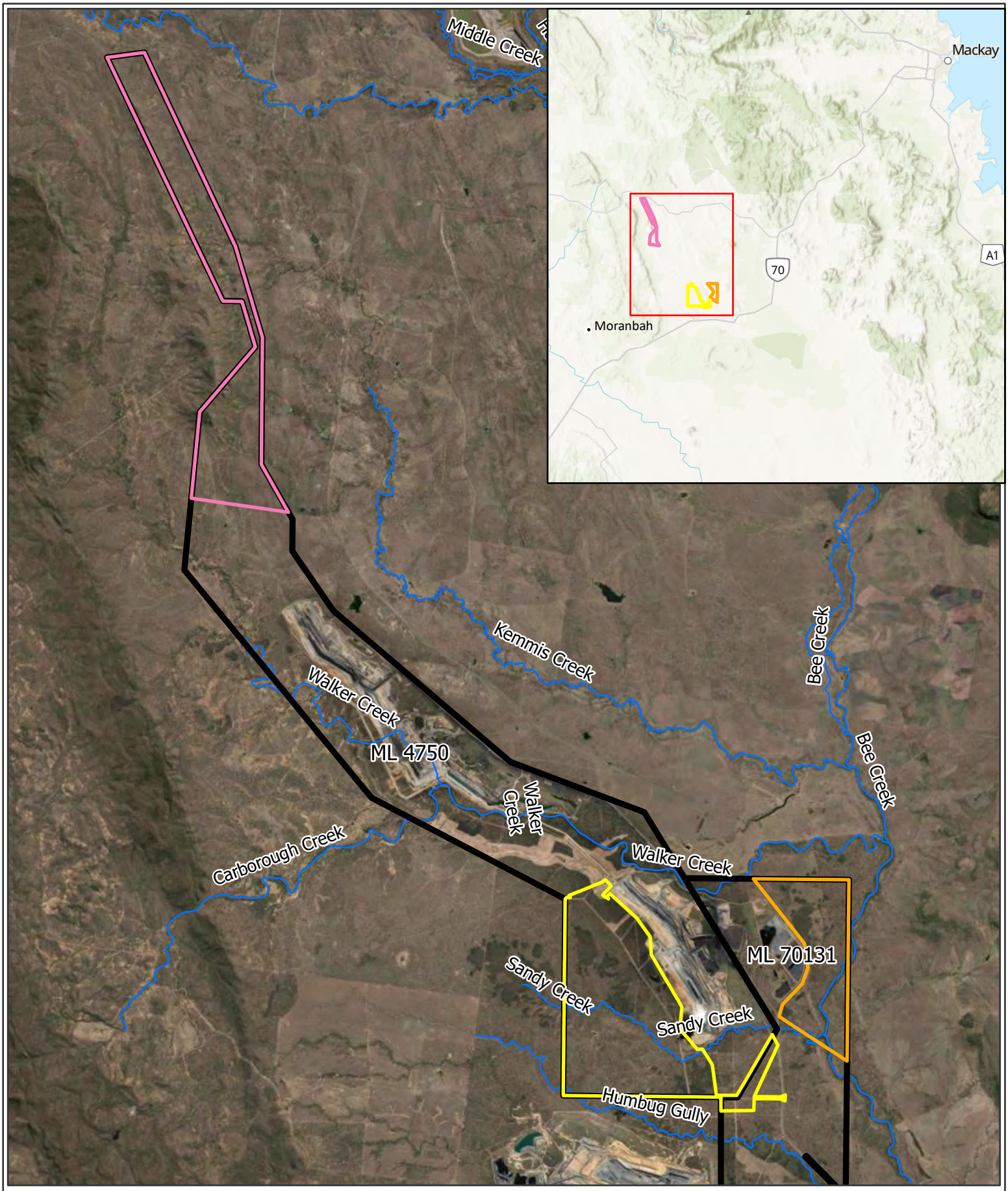

Figure 1: Location and study area

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining lease
- Watercourses (second-order and above)

0 1.25 2.5 5
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 8/9/2024

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2. Methods

2.1 Desktop assessment

A desktop assessment was undertaken to review all existing data and to identify the presence or potential presence of ecological values occurring within the study area. The desktop assessment involved a review of previous ecological studies, environmental databases, maps, and literature. Results were used to compile a preliminary likelihood of occurrence assessment, which identified the target threatened species and any potential habitat types within the study area. Field survey methods and effort were based on this information. Desktop assessment data for the northern section of ML 4750 was provided by Trend Environmental (Trend) which has been included in this assessment.

2.1.1 Database searches

The following resources were reviewed during the desktop assessment, with searches undertaken to include a 50km buffer of the study area:

- Protected Matters Search Tool (PMST) Report
- Wildnet database
- RE mapping version 13
- Regulated vegetation mapping
- Queensland geological digital data
- Essential habitat mapping
- Atlas of Living Australia records
- Queensland Wetland mapping
- *Vegetation Management Act 1999* (VM Act) watercourse data
- VM Act wetland data
- Referrable Wetland mapping
- Protected Plant High Risk Trigger mapping
- Environmentally Sensitive Area (ESA) mapping
- Commonwealth Species Profile and Threats (SPRAT) Database
- Previous ecological survey data and reporting for SWC Mine
- Aerial imagery.

Key desktop search results are provided in Appendix A.

2.1.2 Likelihood of occurrence assessment

Database searches identified species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and / or the *Nature Conservation Act 1992* (NC Act) that have the potential to occur within the study area and surrounding region. The likelihood of occurrence assessment for these values was reviewed and updated at the conclusion of the field survey to reflect the survey results.

These updates were associated with:

- changing the assessment of likelihood to ‘known’ if a species was found to be present during the field surveys; or

- reducing the likelihood of occurrence, based on an absence of habitat within the study area as identified by the field survey.

The likelihood score was not downgraded in response to a failure to detect a species during field surveys when habitat suitable for the species was identified within the study area. This approach accommodates natural changes in the distribution and abundance of species over time and was applied in acknowledgement of the limitations of field sampling methods (e.g. lack of targeted searches) and survey conditions, which may not capture all target species present at the time of sampling.

Likelihood assessments were based on the known distribution and preferred habitat of the species and the identification of these habitat values during field surveys. The criteria used to assess the likelihood of species occurring within the study area are presented in Table 1. The results of the assessment are presented in Appendix B.

Table 1 Likelihood of occurrence criteria

Likelihood	Description
Known	The species was positively identified and recorded in the study area during the field assessment; previous records of occurrence within the study area.
Likely	The species was not recorded during the field survey or previously, however there are known records within the surrounding area (50km) and suitable habitat exists in the study area.
Potential	The species was not recorded during the field survey or previously, however known records occur within the surrounding area and habitat in the study area is marginal or may provide some suitability at some point during the species lifecycle.
Unlikely	Habitat in the study area might be suitable or marginal; however, the species was not recorded during the field survey, and no known records of the species exist within the surrounding area (50km), or the study area occurs outside the species current known range.

2.1.3 Review of previous ecological assessments

Ground-truthed ecological data for the study area and surrounding areas was available from seven previous ecological assessments:

- Kemmis 3 Pit Ecological Assessment (ELA 2019),
- MRA2C Dam Assessment (ELA 2017),
- South Walker Creek Mine Tailings Solution (ELA 2021),
- SWC Toolah Levee Ecology Project (ELA 2021),
- Bidgerley (Pink Lilly Lagoon) Ecology Survey (ELA 2021),
- Kemmis Pit Extension (ELA, 2022), and
- South Walker Creek Mine Tailing Solution Project - Matters of National Environmental Significance Impact Assessment (ELA 2022).

The MRA2C Dam Assessment involved assessment of ecological values within the proposed footprints of two dams. This assessment included a desktop assessment and field survey to validate and map REs, Threatened Ecological Communities (TECs) and threatened species habitat. Ground-truthed RE mapping for the dam included an area of RE11.4.9, which is a Brigalow TEC listed RE. Suitable habitat for *Geophaps scripta scripta* (squatter pigeon) was also identified within the dam footprint.

The Kemmis Pit Extension Ecological Assessment was a desktop and field ecology assessment of ecological values within a study area of 1,631.7ha, which completely overlaps with Commonwealth values as identified by the ELA 2017 and 2019 study. Deliverables included refinement of previous ground-truthed RE mapping, mapping of TECs, habitat mapping and confirmation of the presence and absence through diurnal and nocturnal surveys of for species listed under the EPBC Act and the NC Act, and collection of habitat quality data in accordance with the Guide to Determining Terrestrial Habitat Quality for use in offsets calculations.

The Tailings Solution Project was a desktop and field ecology assessment of ecological values within a study area of 222.9ha, which completely overlaps with Commonwealth values as identified by the ELA 2017 study. Deliverables included ground-truthed RE mapping, mapping of TECs, habitat mapping and confirmation of the presence and absence of species listed under the EPBC Act and NC Act, and collection of habitat quality data in accordance with the Guide to Determining Terrestrial Habitat Quality for use in offsets calculations.

The Bidgerley (Pink Lilly Lagoon) Ecology Survey involved a baseline ecological survey with a desktop analysis to gain an understanding of ecological values. This included ground truthing the extent, condition, and classification of REs, conducting TEC assessments, assessing the nature and quality of flora and fauna habitat through BioCondition surveys, and assessing the likelihood of threatened flora and fauna occurrence.

The desktop findings and ground-truthed ecological data available from the above assessments have been reviewed and incorporated into this study.

2.2 Field surveys

Four field surveys were undertaken by two qualified ecologists to assess ecological values within the study area. Three of the field surveys were conducted by ELA across the western and eastern sections of the study areas on the following dates:

- 26 February – 1 March 2024
- 15 April – 19 April 2024
- 29 April – 3 May 2024.

The remaining field survey of the northern study area was carried out by Trend between 18 and 22 March 2024. All data collected by Trend regarding the northern section of the study area (within ML4750) have been included in the assessment.

The surveys aimed to collect additional information on the relevant ecological values identified in the desktop assessment. The field survey included flora, fauna, and targeted habitat assessment. Survey sites are illustrated in Figure 2 (a, b, and c) and Figure 3.

2.2.1 Data collection

Flora and fauna surveys were undertaken in the field using mobile devices loaded with Field Maps for ArcGIS software and relevant Geographic Information System (GIS) datasets (aerial photography, draft RE mapping, contours, drainage, and existing infrastructure).

2.2.2 Flora surveys

The flora assessment consisted of ground-truthing REs across the study area, as well as validating the presence of regulated vegetation, TECs, watercourses (as defined in *Water Act 2000*), threatened flora species and Category B ESAs. Data on vegetation characteristics (floristic and structural form), ecological condition and extent of the vegetation communities, including RE and TEC classification. Data was collected via three methodologies – tertiary assessments, quaternary assessments, and TEC assessments, which are described in the sections below.

2.2.2.1 Tertiary assessment

Tertiary assessments were used to identify vegetation communities and REs across the study area by capturing data on the condition and species composition. Tertiary surveys were undertaken in accordance with the '*Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*' (Neldner et al 2019). At each survey point, the following information was recorded:

- RE classification
- Vegetation condition (remnant, high-value regrowth, regrowth, non-remnant)
- Dominant, co-dominant, sub-dominant and associated species, as well as average height and cover at each structure level (emergent, T1, T2, T3, S1, S2, ground).
- Ecologically dominant layer (emergent, T1, T2, T3, S1, S2, ground)
- Structure (dense, mid-dense, sparse, very sparse)
- Landform
- Slope class and degree
- Soil texture and colour
- Evidence of disturbance (e.g., weeds, clearing, grazing or fire) and erosion.

RE classification was determined based on the vegetation, soil and landform characteristics identified in the field, geological mapping for the region and the Regional Ecosystem Description Database (REDD). Condition status for woody vegetation was evaluated using the definitions of remnant vegetation under the VM Act.

A total of 79 tertiary surveys were undertaken across the study area (Figure 2a, Figure 2b and Figure 2c).

2.2.2.2 Quaternary assessment

Quaternary surveys were undertaken to validate the extent, classification and condition of vegetation communities and habitat types within the study area. Quaternary surveys were undertaken in accordance with Neldner et al (2019). At each survey point, the following information was recorded:

- RE classification
- Vegetation condition (remnant, high-value regrowth, regrowth, non-remnant)
- Dominant species at each structure level (emergent, T1, T2, T3, S1, S2, ground)
- Ecologically dominant layer height (m) and cover (%)
- Structure (dense, mid-dense, sparse, very sparse).

A total of 602 quaternary surveys were undertaken across the study area (Figure 2a, Figure 2b and Figure 2c).

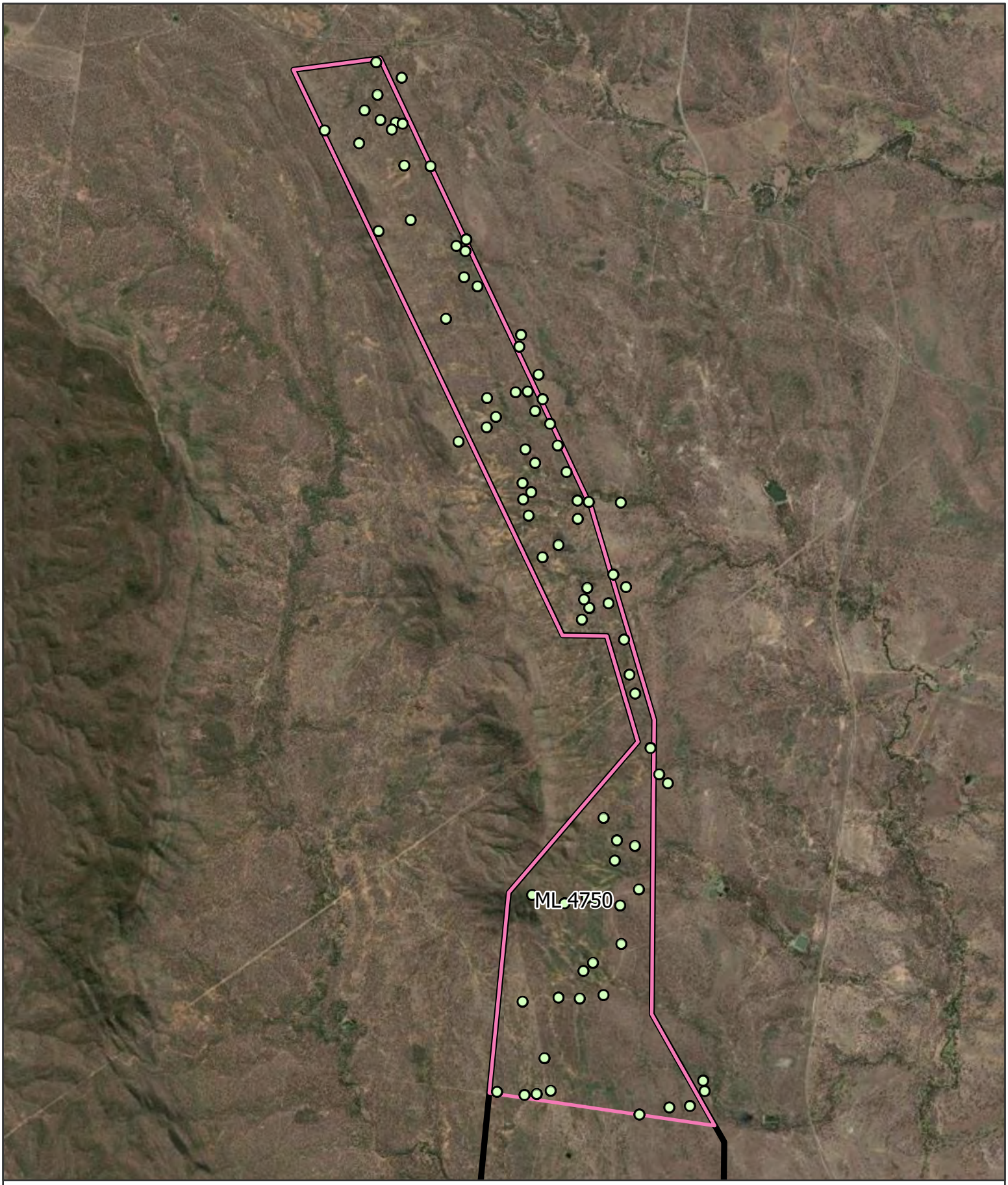

Figure 2a: Flora survey sites - northern

Study area (northern)

Mining lease

Quaternary site

0 0.5 1 2

Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 7/31/2024

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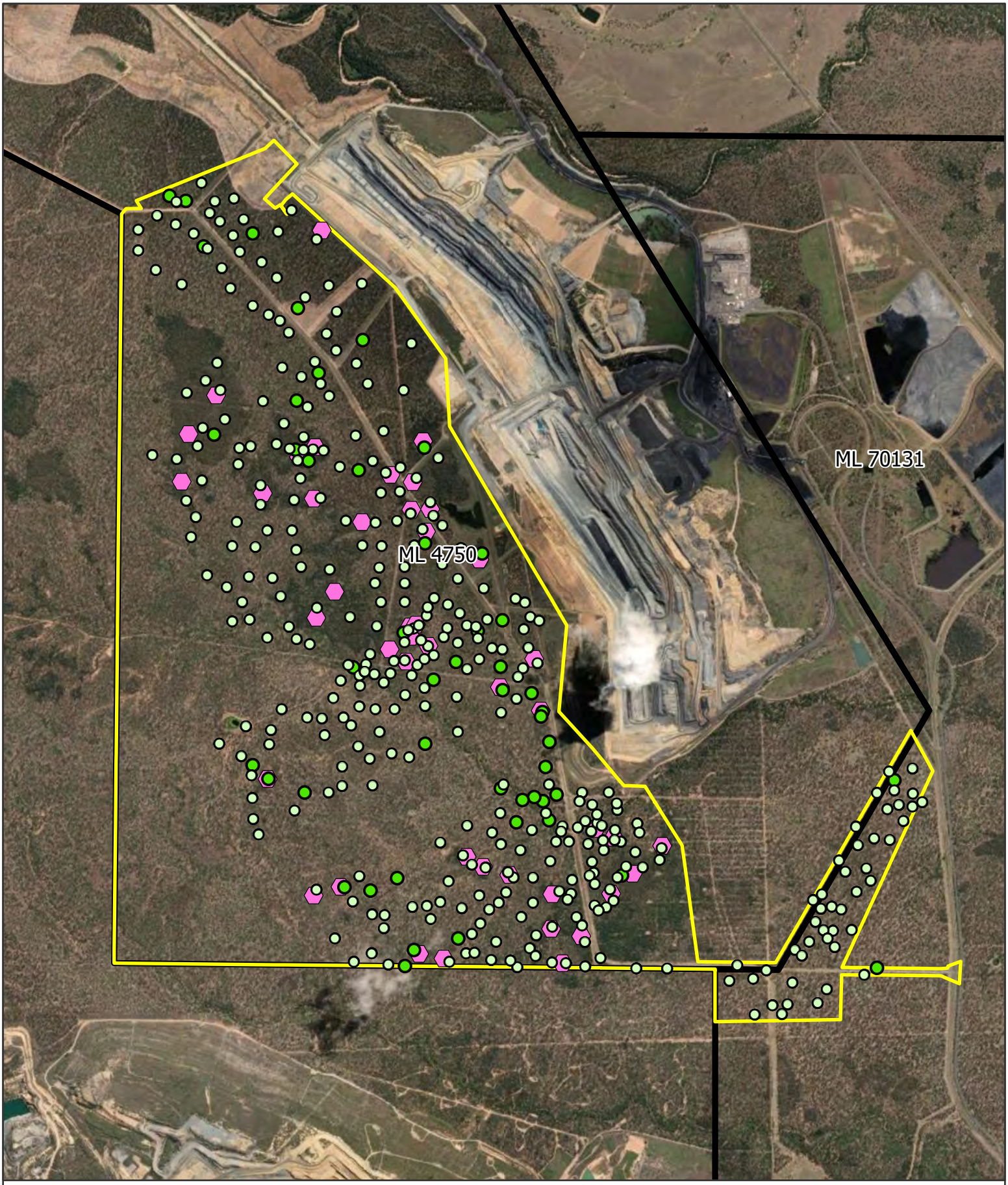

Figure 2b: Flora survey sites - western

Western study area
Mining lease
Quaternary site
Tertiary site
Brigalow TEC assessment

0 0.38 0.75 1.5
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 7/31/2024

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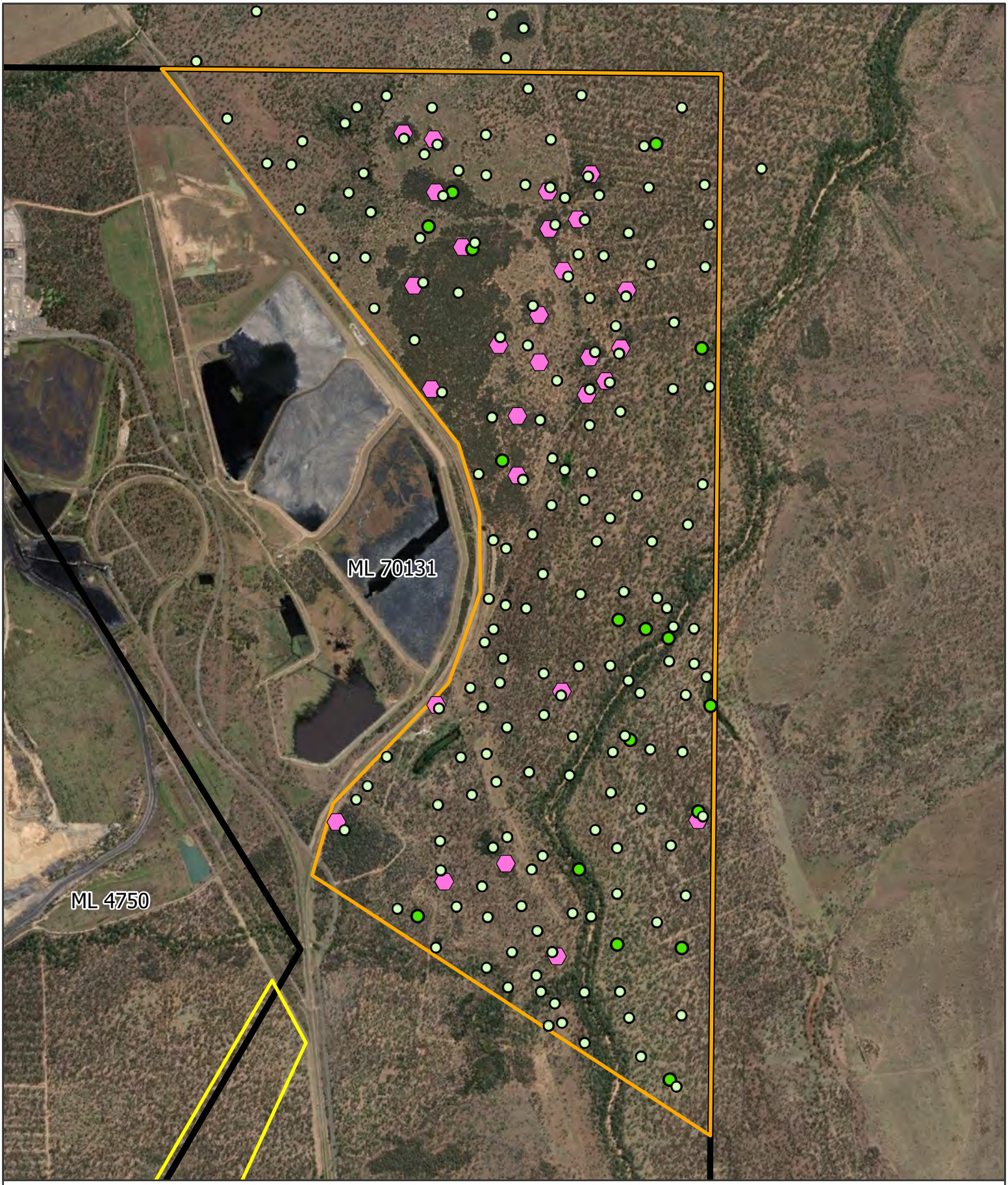

Figure 2c: Flora survey sites - eastern

Western study area
Eastern study area
Mining lease

Quaternary site
Tertiary site
Brigalow TEC assessment

0 0.25 0.5 1
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 7/31/2024

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2.2.2.3 Threatened Ecological Community assessment

TEC assessments were undertaken to confirm the status of vegetation communities potentially comprising TECs.

Brigalow TEC assessments were undertaken to identify vegetation communities meeting the key diagnostic and condition threshold criteria as described in the Commonwealth Approved Conservation Advice (TSSC, 2013a). The assessment consisted of collecting the following data at various sites within occurring Brigalow vegetation:

- Dominance or co-dominance of *Acacia harpophylla* (brigalow)
- Constituent brigalow RE
- Exotic perennial cover (%)
- Exotic perennial plants must comprise less than 50% of the total vegetation cover of the patch, as assessed over a minimum sample area of 0.5ha (100m by 50m), that is representative of the patch
- Age of community
- Patch size
    - Patch must be at least 0.5ha in size.

Poplar Box Grassy Woodland on Alluvial Plains TEC assessments were conducted with the objective of identifying vegetation communities fulfilling the key diagnostic and condition threshold criteria as described in the Commonwealth Draft Conservation Advice (TSSC 2017b). The assessment consisted of collecting the following data at various sites within occurring Poplar Box Grassy Woodland vegetation:

- Associated with ancient and recent depositional alluvial plains with clay, clay-loam, loam and sandy loam, non-sodic soils.
- A grassy woodland to an open grassland, with tree cover of at least 10% at the scale of individual patches
- Tree canopy layer is characterised by a height of at least 10m
    - Dominance of *Eucalyptus populnea* (poplar box) or
    - Co-dominance with *E*. *populnea* hybrids
- Mid-layer (1-10m) crown cover of shrubs and small trees estimated to be 20% or less
- Ground layer mostly dominated across a patch by native grasses, other herbs and occasionally chenopods, ranging from sparse to thick
- ≥ 50% of the ground layer's perennial vegetation cover is native
- ≥ 20/ha perennial native plant species in the ground layer
- Patch size
    - Patch must be at least 1ha in size.

Natural grasslands of the Queensland Central Highlands and the northern Fitzroy Basin TEC assessments were undertaken to identify vegetation communities meeting the key diagnostic and condition threshold criteria as described in the Commonwealth Approved Conservation Advice (TSSC 2008b and 2009). The assessment consisted of collecting the following data at various sites within vegetation potentially comprising the TEC:

- Tree canopy absent or sparse (10% or less projective crown cover)

    - Total projected canopy cover of shrubs is less than 50%
- Ground layer typically dominated by perennial native grasses and containing at least three of the indicator native grass species indicated in the TSSC Listing Advice (TSSC 2009)
    - At least 200 native grass tussocks
- Non-woody introduced species account for less than 30% of the total projected perennial plant cover.
- Patch size
    - Patch must be at least 1ha in size.

TEC assessment sites are presented on Figure 2a, Figure 2b and Figure 2c.

2.2.3 Fauna survey

The focus of the fauna survey was on delineating habitat for the species identified in the desktop assessment as likely to occur within the study area (Appendix B). Individual animal breeding places were recorded opportunistically as the field team traversed the site. Fauna habitat suitability assessments and opportunistic species observations were carried out as outlined below.

2.2.3.1 Habitat suitability assessment

Habitat suitability assessments were undertaken to identify and quantify the presence and extent of suitable habitat for threatened species within the study area. Habitat assessments conducted for threatened species were derived from available literature (including the SPRAT Database (DoE 2024), relevant Government documents and published research papers) and vegetation assessments conducted in the field.

Both general and species-specific habitat assessments were conducted, and included identifying the presence of key values such as:

- habitat condition (i.e. remnant or regrowth vegetation)
- presence and abundance of foraging resources (Eucalyptus species, ground layer species)
- presence and abundance of shelter resources (hollows, soil cracks, fallen woody debris)
- canopy cover percentage and condition
- presence of / distance to water
- soil type and landform
- species-specific threat presence and severity.

2.2.4 Opportunistic observations

Opportunistic observations were recorded whilst traversing the site. These included opportunistic threatened flora and fauna records and records of flora species that were not already captured during formal RE assessment sites (tertiary or quaternary assessments). Observations of weed species listed as restricted matter under the *Biosecurity Act 2014* (Biosecurity Act) or listed as Weeds of National Significance (WoNS) were also recorded.

2.3 Survey limitations

The detection and accurate identification of some plant species, particularly during the last two surveys, was constrained by the scarcity and/or poor condition of the available reproductive material (e.g. flowers, fruit, and/or seed capsules). Nevertheless, the field surveys were considered to comprise sufficient

coverage and effort to confidently assess habitat and likelihood of species presence for threatened flora species. Additionally, the precautionary principle was employed to reconcile any uncertainty in species observations during the field surveys.

Data for the northern section of the study area comes from third party sources. Every effort has been made to verify their consistency; however, ELA does not assume responsibility for the accuracy or completeness of this data.

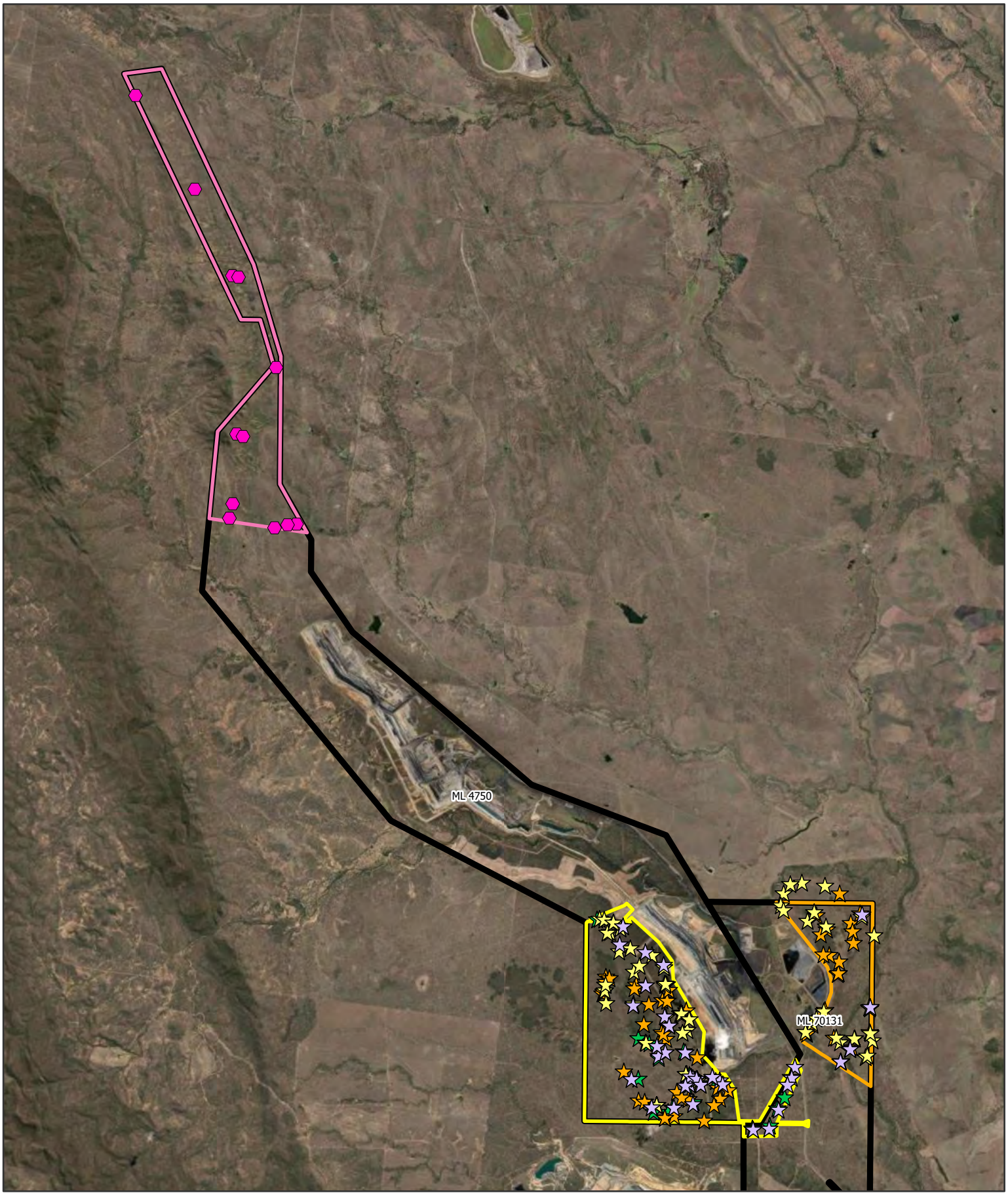

Figure 3: Fauna survey sites

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining leases
- Greater glider habitat assessment
- Ornamental snake habitat assessment
- Squatter pigeon habitat assessment
- Koala habitat assessment
- General habitat assessment

0 1.25 2.5 5
Kilometers

Datum/Projection:
GDA 1994 MGA Zone 55

Project: 7132-DH Date: 7/31/2024

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3. Results

3.1 Survey conditions

Weather conditions leading up to and at the time of the survey are presented in Table 2. Weather data was obtained from recordings taken at Moranbah Airport (station number 034035), located approximately 45 km south-west of the study area.

Table 2 Weather conditions preceding and during the field surveys

Mobilisation	Date	Temperature (˚C)		Total rainfall (mm)
		Mean minimum	Mean maximum	
Preceding field surveys	December 2023	21.4	34.4	80.8
	January 2024	22.9	34.0	145.4
	1 - 25 February 2024	21.8	32.9	92.8
1 - ELA	26 February 2024	23.8	33.2	0
	27 February 2024	23.0	33.8	0
	28 February 2024	22.6	33.5	0
	29 February 2024	20.6	31.1	0
	1 March 2024	17.8	33.2	0
2 - Trend Environmental	18-Mar-24	20.0	33.7	0
	19-Mar-24	22.1	34.8	0
	20-Mar-24	21.4	34.8	0
	21-Mar-24	20.1	33.2	0
	22-Mar-24	21.5	32.7	1.2
3 - ELA	15-Apr-24	16.3	31.5	0
	16-Apr-24	20.0	–	0
	17-Apr-24	18.4	30.2	–
	18-Apr-24	19.4	31.6	0.2
	19-Apr-24	19.1	31.4	0
4 - ELA	29-Apr-24	16.8	30.5	0
	30-Apr-24	15.8	30.6	0
	1-May-24	18.0	29.4	0
	2-May-24	15.3	29.4	0
	3-May-24	15.7	28.4	0

3.2 State values

3.2.1 Vegetation communities

Ground-truthing of vegetation communities in the study area revealed some inaccuracies in the State mapping, including the extent of remnant vegetation and the identification and classification of REs.

The study area was found to be comprised of predominantly remnant vegetation (94.6%) (Table 3). *Eucalyptus populnea* and *Corymbia clarksoniana* (Clarkson's bloodwood) dominated remnant woodlands (identified as RE 11.5.3) and are the dominant vegetation community in the study area (western and eastern). Remnant Brigalow woodlands (identified as REs 11.3.1, 11.4.8, 11.4.9 and 11.9.5) are scattered throughout the study area in small to medium size patches.

A total of 18 REs associated with remnant vegetation communities were ground-truthed within the study area (Table 3 and Figure 4a, Figure 4b and Figure 4c). Where multiple REs were mapped within a single polygon, the area of each individual RE has been reported based on its percentage composition of that polygon.

Table 3 Ground-truthed REs within the study area

RE	Short description	VM Act status	Biodiversity status	Condition	Area (ha)
11.3.1	*Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains	Endangered	Endangered	Remnant	5.6
11.3.2	*Eucalyptus* populnea woodland on alluvial plains	Of concern	Of concern	Remnant	200.2
11.3.21	*Dichanthium sericeum* and/or *Astrebla* spp. grassland on alluvial plains. Cracking clay soils.	Of concern	Endangered	Remnant	13.1
11.3.25	*Eucalyptus tereticornis* or *E. camaldulensis* woodland fringing drainage lines	Of concern	Of concern	Remnant	82.4
11.3.27f	*Eucalyptus coolabah* and/or *E. tereticornis* open woodland to woodland fringing swamps	Least concern	Of concern	Remnant	9.4
11.3.4	*Eucalyptus tereticornis* and/or *Eucalyptus* spp. woodland on alluvial plains	Of concern	Of concern	Remnant	142.9
11.3.9	*Eucalyptus platyphylla*, *Corymbia* spp. woodland on alluvial plains	Least concern	Of concern	Remnant	26.4
11.4.8	*Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains.	Endangered	Endangered	Remnant	17.4
11.4.9	*Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains	Endangered	Endangered	Remnant	645.5
11.4.10	*Eucalyptus populnea* or *E. woollsiana*, *Acacia harpophylla*, *Casuarina cristata* open forest to woodland on margins of Cainozoic clay plains	Endangered	Endangered	Remnant	9.8
11.5.3	*Eucalyptus populnea* +/- *E. melanophloia* +/- *Corymbia clarksoniana* woodland on Cainozoic sand plains and/or remnant surfaces	Least concern	No concern at present	Remnant	1,688.7

RE	Short description	VM Act status	Biodiversity status	Condition	Area (ha)
11.5.8c	*Eucalyptus platyphylla* woodland on white-yellow weathered sands on Cainozoic sand plains and/or remnant surfaces	Least concern	No concern at present	Remnant	196.6
11.5.9	*Eucalyptus crebra* and other *Eucalyptus* spp. and *Corymbia* spp. woodland on Cainozoic sand plains and/or remnant surfaces	Least concern	Least concern	Remnant	7.2
11.9.2	*Eucalyptus melanophloia* +/- *E. orgadophila* woodland to open woodland on fine-grained sedimentary rocks	Least concern	No concern at present	Remnant	137.7
11.9.5	*Acacia harpophylla* and/or *Casuarina cristata* open forest to woodland on fine-grained sedimentary rocks	Endangered	Endangered	Remnant	112.3
11.9.7a	*Eucalyptus populnea*, *Eremophila mitchellii* shrubby woodland on fine-grained sedimentary rocks	Of concern	Of concern	Remnant	412.6
11.9.9	*Eucalyptus crebra* woodland on fine-grained sedimentary rocks.	Least concern	No concern at present	Remnant	1,032.6
11.10.7	*Eucalyptus crebra* woodland on coarse-grained sedimentary rocks	Least concern	No concern at present	Remnant	131.7
-	Non-remnant	–	–	Non-remnant	280.2
				Total	**5,152.4**

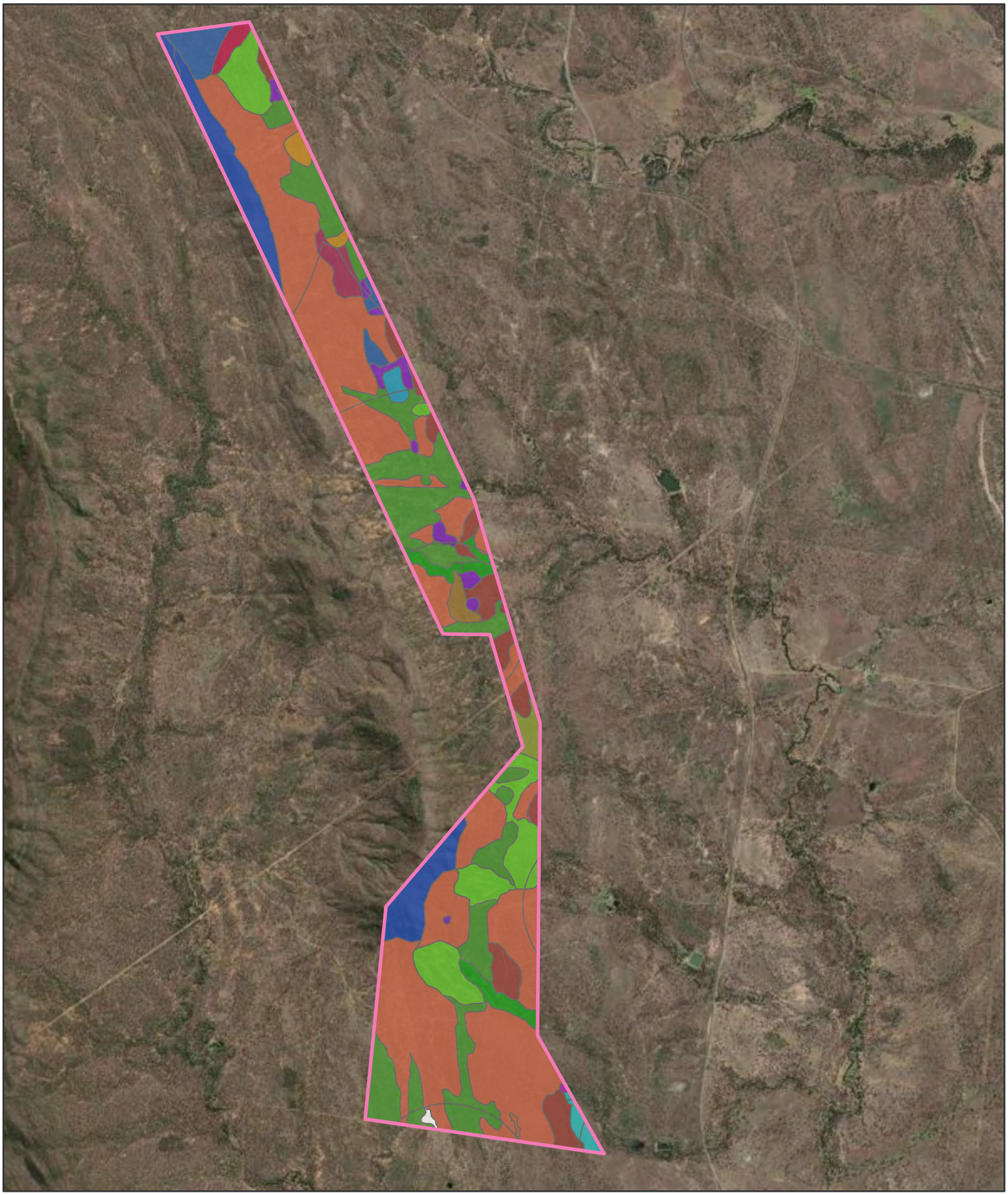

Figure 4a: Ground-truthed Regional Ecosystems - northern

Study area (northern)

Validated RE Code

- 11.10.7
- 11.3.2
- 11.3.21
- 11.3.25
- 11.9.2
- 11.9.2/11.9.7a
- 11.9.2/11.9.9
- 11.9.5
- 11.9.7a
- 11.9.7a/11.9.5
- 11.9.7a/11.9.9/11.9.2
- 11.9.7a/11.9.9/11.9.5
- 11.9.9
- 11.9.9/11.9.5
- 11.9.9/11.9.7a
- 11.9.9/11.9.7a/11.9.2
- Non-remnant

0 0.5 1 2

Kilometers

Datum/Projection:
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Project: 7132-DH Date: 8/6/2024

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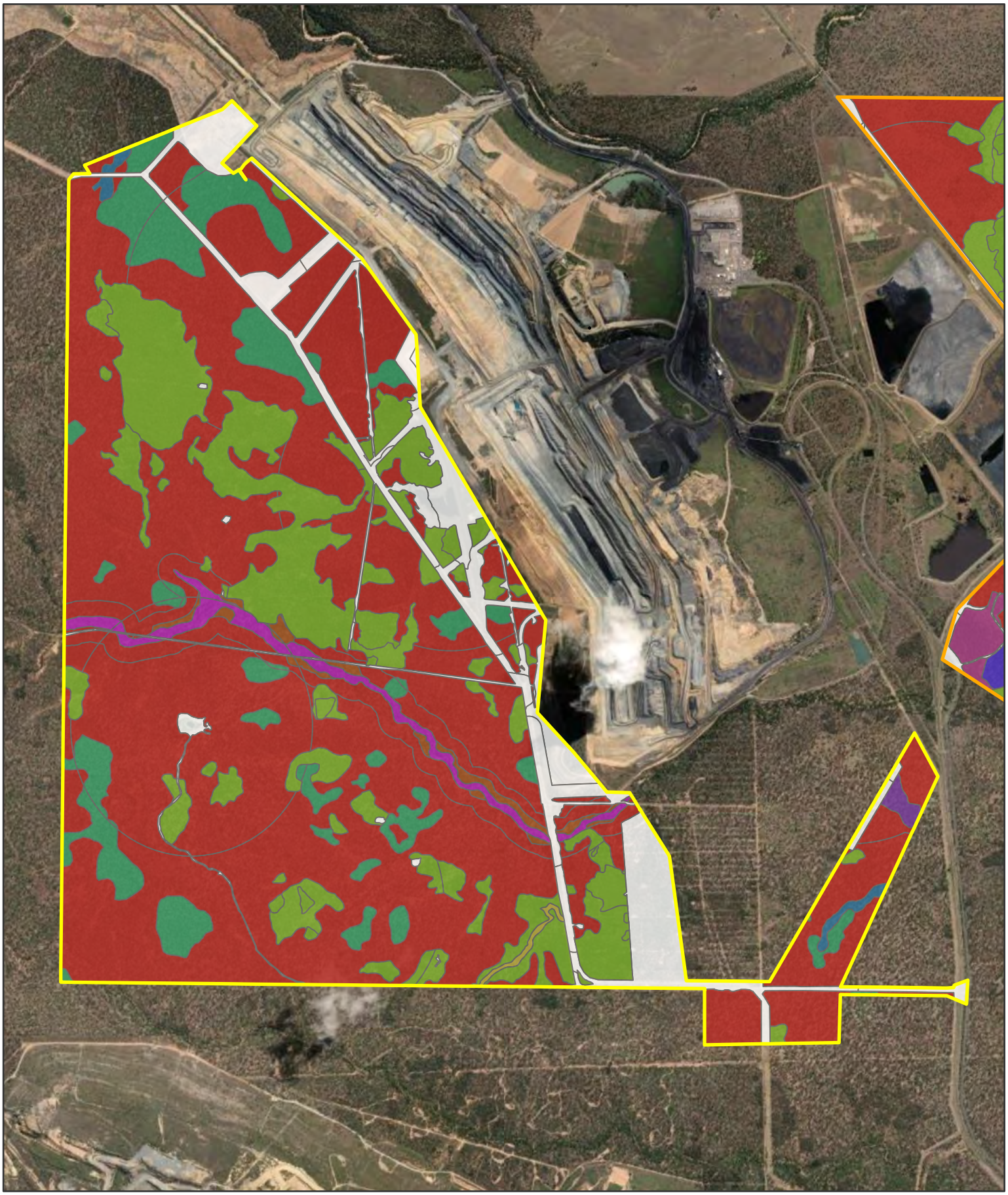

Figure 4b : Ground-truthed Regional Ecosystems - western

Study area (western)
Study area (eastern)

Validated RE Code

- 11.3.1
- 11.3.25
- 11.3.4
- 11.3.9
- 11.4.10
- 11.4.8
- 11.4.9
- 11.5.3
- 11.5.8c
- 11.5.9
- Non-remnant

0 0.38 0.75 1.5
Kilometers

Datum/Projection:
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Project: 7132-DH Date: 8/6/2024

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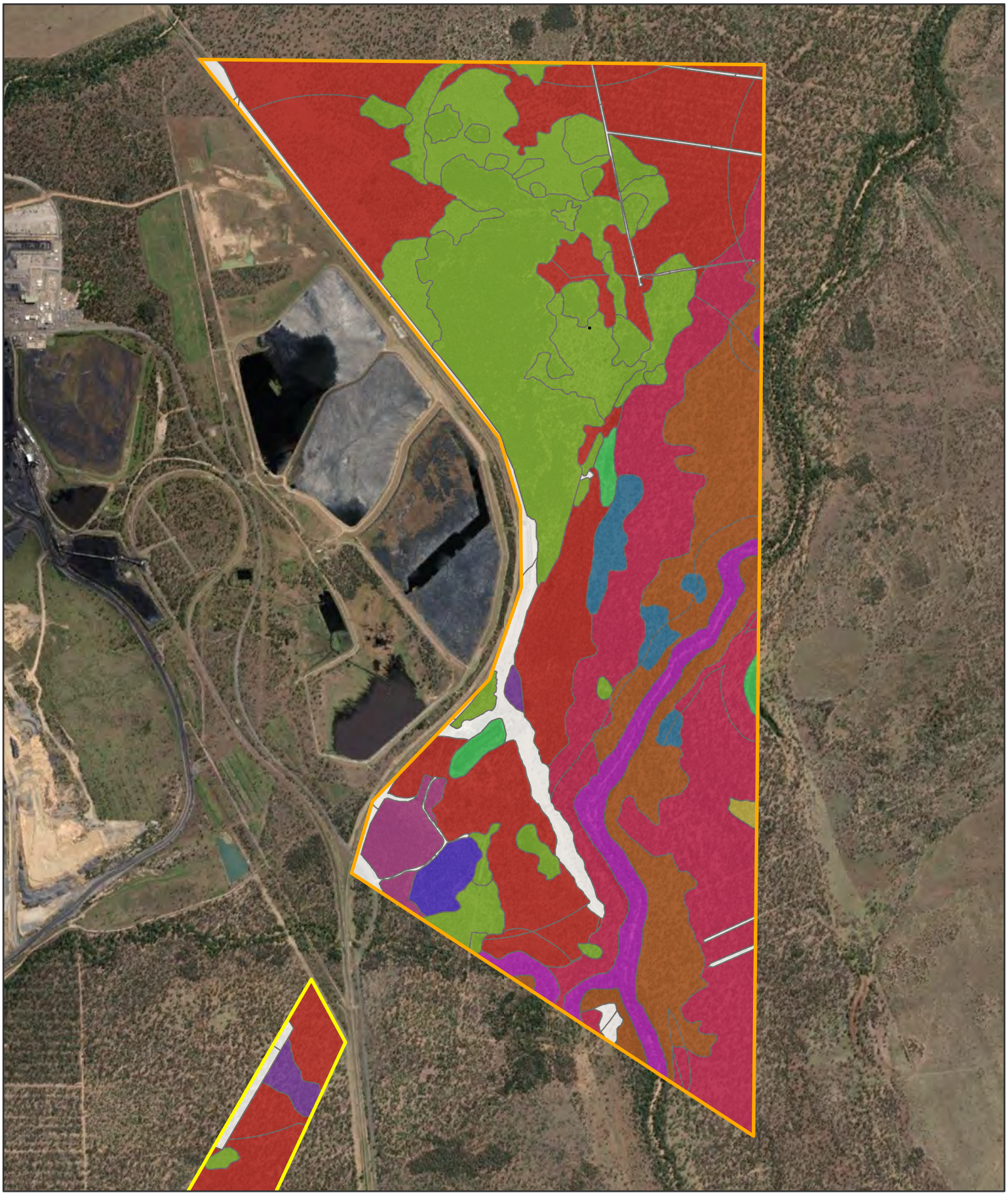

Figure 4c: Ground-truthed Regional Ecosystems - eastern

Study area (western)
Study area (eastern)
Validated RE Code
11.3.1
11.3.2
11.3.25
11.3.27f
11.3.4
11.3.9
11.4.10
11.4.8
11.4.9
11.5.3
11.5.9
Non-remnant

0 0.25 0.5 1
Kilometers

Datum/Projection:
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3.2.2 Environmentally Sensitive Areas

The current Queensland Environmentally Sensitive Areas (ESA) map identifies Category B ESA within the study area (Appendix A).

Under the *Environmental Protection Regulation 2019*, REs with an endangered Biodiversity status as defined in the REDD are classified as Category B ESAs. Therefore, REs 11.3.1, 11.3.21, 11.4.8, 11.4.9, 11.4.10, and 11.9.5, which were ground-truthed within the study area and have an endangered Biodiversity status, comprise Category B ESAs. The total extent of ground-truthed Category B ESAs throughout the study area is 803.7 ha (Table 3 and Figure 5).

No Category A ESAs are mapped or were ground-truthed within the study area.

3.2.3 Habitat types

A total of six habitat types were identified within the study area. These habitats provide a range of resources for native fauna species, including threatened species, which are described in the sections below. Habitat values associated with each habitat type are described in Table 4 and illustrated in Figure 6.

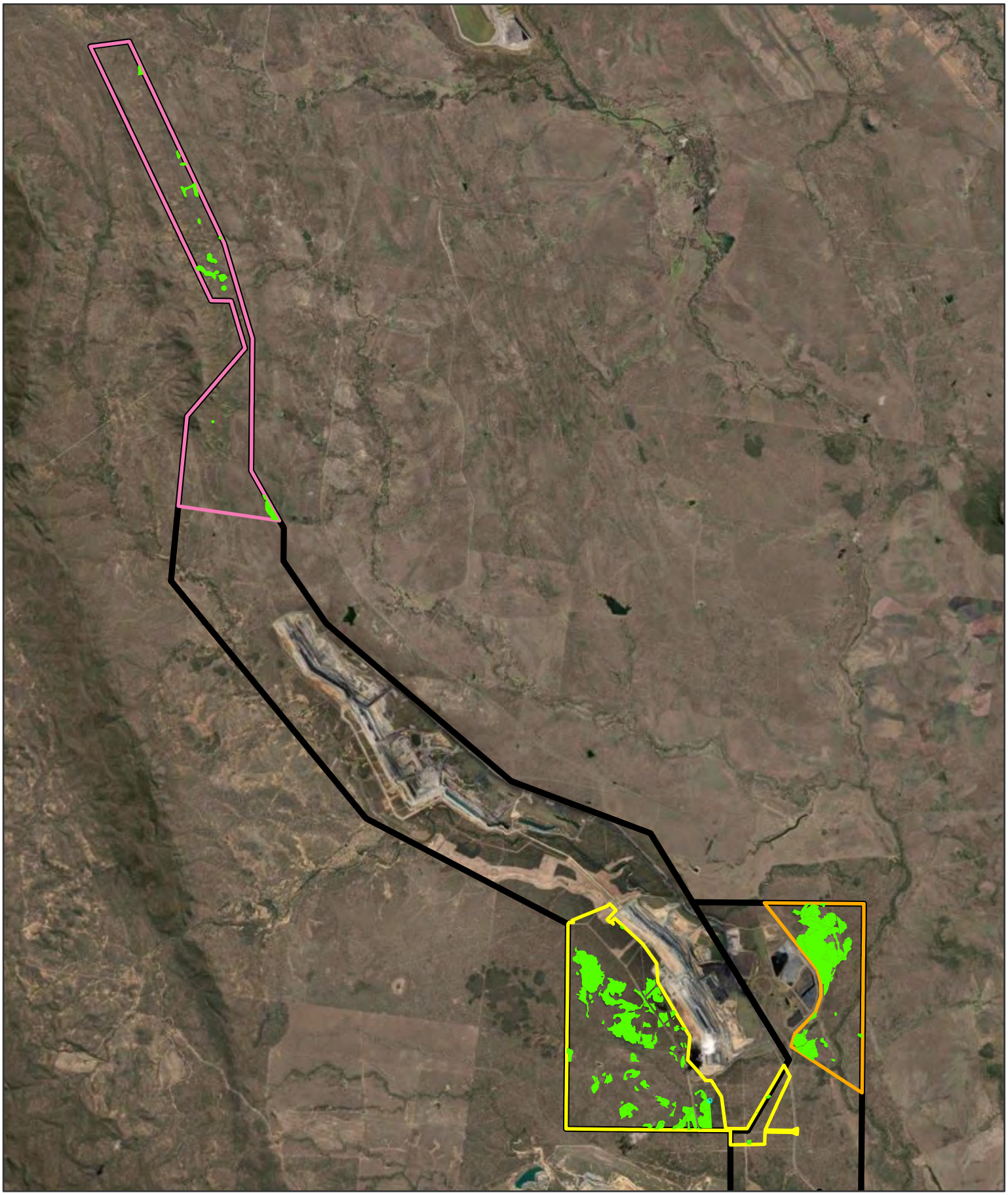

Figure 5: Category B ESAs

Study area (northern)
Study area (western)
Study area (eastern)
Mining lease
Category B ESAs

0 1.25 2.5 5
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 8/5/2024

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Table 4 Habitat types identified within the study area

Habitat type	RE associations	Description of habitat values	Area (ha)
Brigalow woodlands	11.3.1, 11.4.8, 11.4.9, 11.4.10	This habitat type occurred in scattered patches as well as along a first-order stream throughout the westernmost section of the study area. Generally, the habitat was characterised by a mid-dense canopy dominated by *A. harpophylla* and /or sometimes with *Eucalyptus orgadophila* (mountain coolibah) and a sub-canopy often containing *Terminalia oblongata* (yellow wood). The shrub layer comprised *Carissa ovata* (currant bush) and *Lysiphyllum carronii* (Queensland ebony), amongst others. The soils were clayey loam. The cracks in the soil were varied, common but absent in some areas. The ground layer contained mostly native grasses. This habitat type is suitable for small mammals and reptiles, with a particular focus on the ornamental snake. The presence of suitable habitat for this species and/or its primary prey, frogs, has been recorded within the eastern and western sections of the study area. Marginal habitat for koala was also recorded, while squatter pigeon may occur mostly if native groundcover prevails.	711.4
Dry eucalypt woodlands	11.5.3, 11.5.8c, 11.5.9, 11.9.2, 11.9.5, 11.9.7a, 11.9.9, 11.10.7	This habitat type contained a sparse canopy cover dominated by eucalypts such as *E. populnea* or *E. crebra* (narrow-leaved ironbark) and *C. tessellaris*, or *C. clarksoniana* or/ and *C. intermedia* (pink bloodwood) with a scarce shrub layer and a grassy groundcover. Microhabitat features such as hollow bearing trees were scarce which suggests this is not preferred habitat for the greater glider (DCCEEW 2022). While there were mature trees present, their limited number did not guarantee breeding and/or foraging quality habitat for this species. Fallen woody debris was more frequent within this habitat type. Fallen woody debris and leaf litter may provide refuge for reptile and small mammal species. The squatter pigeon may also occur in open areas mostly where native groundcover prevails. This habitat type is suitable for koala due to the dominance of food trees; however, the open canopy structure of this habitat type would render it only marginally suitable for koala in extremely dry or hot conditions as it would not provide refuge against extreme weather. In the northern study area rocky outcrops were observed within this habitat type which is marginally suitable for Dasy*urus hallucatus* (northern quoll).	3,686.2
Floodplain eucalypt woodlands	11.3.2, 11.3.4, 11.3.9	This habitat type occurred on flats and plains adjacent to streams in the east and west section of the western section, as well as within the eastern section of the study area. It contained a sparse to mid-dense canopy of Eucalyptus (*E. platyphylla* (poplar gum) or *E. tereticornis* and *E. populnea*) and Corymbia (*C. tessellaris* with scarce *C. clarksoniana*). The shrub layer is sparse. Sandy loam soils with moderate groundcover, generally with a mix of native and invasive species, provide suitable habitat for squatter pigeon where present within one kilometre of water. This habitat type is dominated by koala food trees and provides preferred foraging and dispersal habitat. When present, small to medium tree hollows in mature eucalypt trees may provide refuge habitat for the greater glider, however the quality of habitat is marginal for this species given the low abundance of suitable hollows.	369.6

Habitat type	RE associations	Description of habitat values	Area (ha)
Riparian eucalypt woodlands	11.3.25, 11.3.27f	This habitat type was confined to riparian vegetation associated with a stream. It contains a sparse to mid-dense canopy, dominated by *E. tereticornis* and *C. tessellaris* with a sub-canopy of *Casuarina cunninghamii* (river she-oak) and sparse understory, shrub layer and groundcover. Sandy alluvial soils, low groundcover and some moderate sloping banks provide suitable habitat for squatter pigeon. If present, small to medium tree hollows present in mature eucalypt trees may provide habitat for greater glider but there were not enough of them during this survey. Areas along riparian zones that are dominated by koala food trees provide important habitat and connectivity values for the species.	91.8
Grassland on alluvial plains	11.3.21	This habitat type is found in a subtropical, subhumid climatic zone, characterised by a marked wet summer and moderately dry winter. It occurs on flat ground or gently undulating rises. These grasslands are dominated by native grasses, such as *Dichanthium* spp (bluegrasses), with tropical *Aristida* spp and *Panicum* spp also a major component. The native grasses are mixed with forbs and frequently include a very sparse layer of shrubs such as *Acacia salicina* (sally wattle) or *Pittosporum angustifolium* (weeping pittosporum). The tree canopy is frequently absent, and the canopy cover is typically less than ten percent, with a variable species composition that may include *Corymbia erythrophloia* (red bloodwood), *E. crebra* or *E. populnea*. This habitat, which has been recorded in the northern section of the study area, is likely to be used by the squatter pigeon for breeding, foraging or dispersal.	13.1
Non-remnant	–	This habitat type was recorded in two patches and one cleared area in the westernmost section of the study area as well as in access tracks. This habitat type included cleared and highly disturbed areas. These areas were most associated with very eroded areas, and pipeline easements.	280.2

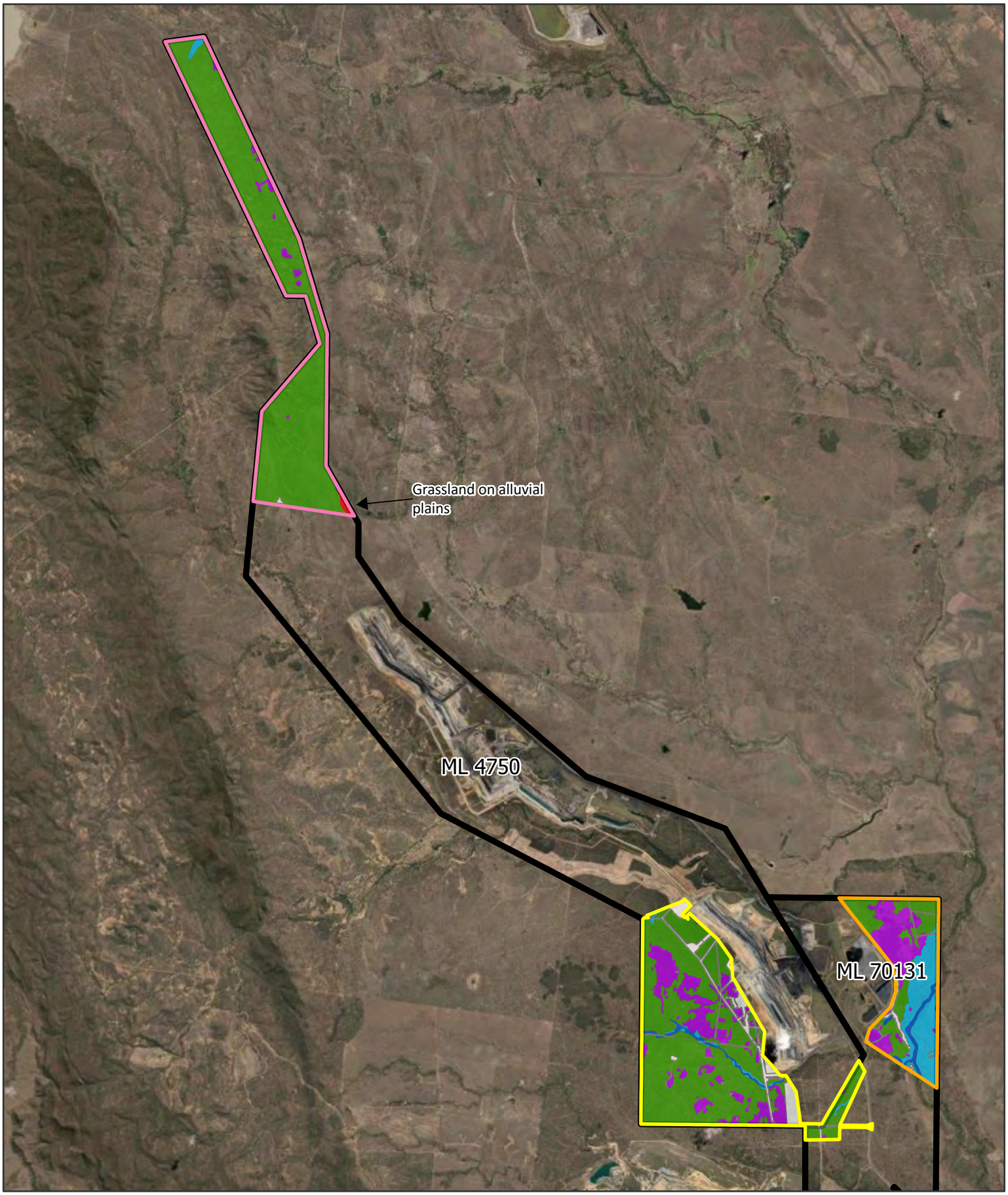

Figure 6: Habitat types

Study area (northern)
Study area (western)
Study area (eastern)
Mining lease

Habitat Types
Brigalow woodlands
Dry eucalypt woodlands
Floodplain eucalypt woodlands
Riparian eucalypt woodlands
Grassland on alluvial plains
Non-remnant areas

0 1.25 2.5 5
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 8/5/2024

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3.2.4 Threatened and special least concern fauna species

Three threatened fauna species listed under the NC Act, koala, greater glider and squatter pigeon, are known to occur within the study area (Table 5). Greater glider and squatter pigeon were recorded during field surveys in March and April 2024 and koala has been recorded on the boundary of the study area (western) during previous field surveys (ELA, 2019).

As well as koala, greater glider and squatter pigeon, an additional two species, ornamental snake and short-beaked echidna, are considered likely to occur within the study area (Table 5).

Fork-tailed swift and white-throated needletail, two predominantly aerial species with broad habitat preferences have the potential to occur over most habitat types within the study area. The extremely widespread distribution of these two species, their aerial ecology and broad habitat preferences mean that these species are unlikely to be affected by operational activities at SWC. While considered to have the potential to fly over habitat within the study area, these species have not been assessed further.

Table 5 NC Act listed fauna species known or likely to occur within the study area

Scientific name	Common name	NC Act status	Likelihood of occurrence	Area (ha)
Phascolarctos cinereus	Koala	Endangered	Known	4,102.0
Petauroides volans	Greater glider	Endangered	Known	543.9
Geophaps scripta scripta	Squatter pigeon	Vulnerable	Known	5,152.4
Denisonia maculata	Ornamental snake	Vulnerable	Likely	704.5
Tachyglossus aculeatus	Short-beaked echidna	Special least concern	Likely	4,872.2

Koala, greater glider, squatter pigeon and ornamental snake are all listed under the EPBC Act and habitat for these species within the study area is discussed in further detail in Section 3.3.2.

Suitable habitat for short-beaked echidna and its extent within the study area is described below.

3.2.4.1 Short-beaked echidna

Suitable habitat for short-beaked echidna is identified as all remnant vegetation within the study area, which includes a total area of 4,872.2 ha (Table 5). The species occurs in a diverse range of habitats (Rismiller 2019) provided there is a good supply of food, namely ants and termites, therefore, it is expected that the species could utilise all habitat types within the study area.

3.2.5 Threatened flora species

Based on the Protected Plants Flora Survey Trigger Map, there are areas mapped as high-risk areas for protected plants within the study area (northern). Additional targeted field surveys in accordance with the Flora Survey Guidelines - Protected Plants (DES, 2020a) would be required to be undertaken prior to any clearing in these areas to confirm presence/absence of threatened species and determine approvals requirements with respect to the NC Act.

Three NC Act listed threatened flora species have been identified as potentially occurring within the study area. These species are *Dichanthium queenslandicum* (king bluegrass), *Digitaria porrecta* (finger panic grass) and *Solanum elachophyllum* (Table 6).

Dichanthium queenslandicum is listed under the EPBC Act and habitat for this species within the study area is discussed in further detail in Section 3.3.2. Potential habitat for *Digitaria porrecta* and *Solanum elachophyllum* within the study area is presented on Figure 7 and discussed in Section 3.2.5.1 and Section 3.2.5.2, respectively.

Table 6 NC Act listed flora species potentially occurring within the study area

Scientific name	Common name	NC Act status	Likelihood of occurrence	Area (ha)
Dichanthium queenslandicum	King Bluegrass	Vulnerable	Potential	13.1
Digitaria porrecta	Finger Panic Grass	Near threatened	Potential	13.1
Solanum elachophyllum	-	Endangered	Potential	701.6

3.2.5.1 *Digitaria porrecta*

Suitable habitat for *Digitaria porrecta* within the study area is limited to a small patch of natural grassland located in the southern corner of the study area (northern). This natural grassland habitat is identified as RE 11.3.21.

3.2.5.2 Solanum elachophyllum

Suitable habitat for *Solanum elachophyllum* within the study area includes all remnant Brigalow woodlands. This habitat is identified as RE 11.3.1, 11.4.8, 11.4.9 and 11.9.5 and occurs as several small, scattered patches in the study area (northern) and several larger areas in the study area (western and eastern).

3.2.6 Animal breeding places

Animal breeding places are defined in Section 332(2) of the *Nature Conservation (Animals) Regulation 2020* and include obvious structures such as bird nests and tree hollows, as well as more cryptic places such as amphibian or reptile habitat where breeding takes place. Animal breeding places identified within the study area included stick nests, hollow bearing trees and hollow logs. Most of the identified animal breeding places were considered likely to be utilised periodically by least concern bird and mammal species, and some old growth hollow-bearing trees that were recorded potentially provide denning habitat for hollow dependent mammals, such as the greater glider (Hofman et al 2022).

3.2.7 Weeds and pest species

Five species listed as Category 3 restricted matters under the Biosecurity Act were identified in the study area. These are *Harrisia martinii* (harrisia cactus), *Opuntia stricta* (prickly pear), Parthenium *hysterophorus* (parthenium), *Vachellia nilotica* (prickly acacia) and *Lantana camara* (lantana) (Appendix C). *H. martinii* and *O. stricta* are abundant throughout the study area (western). The other species occur as scattered occurrences throughout the study area.

Three pest animal species (Appendix C) listed as Category 3 restricted matters under the Biosecurity Act were recorded within the study area *Sus scrofa* (wild boar), *Felis catus* (feral cat) and *Canis familiaris* (feral dog).

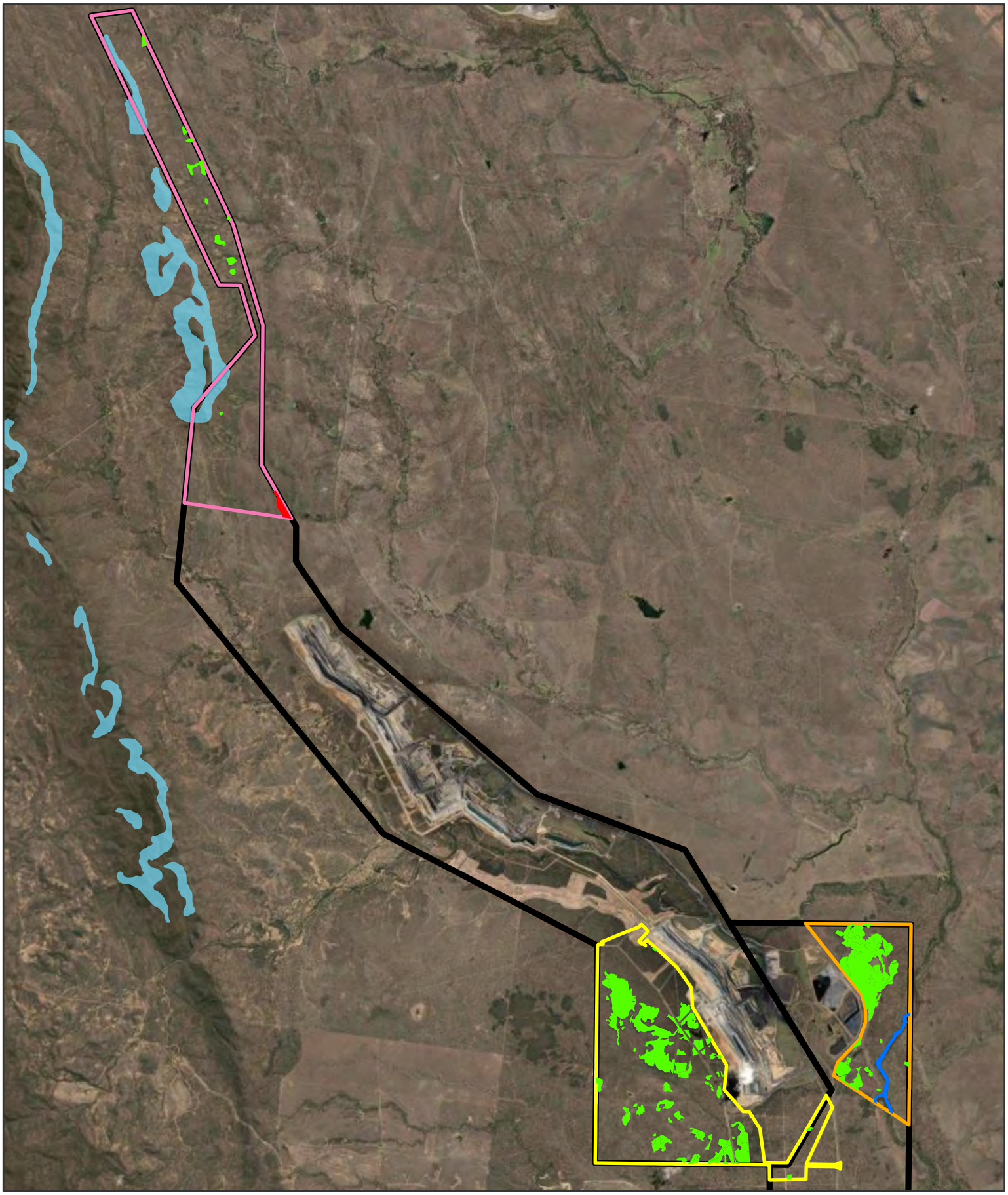

Figure 7: Threatened flora species habitat

3.2.8 Summary of MSES (Prescribed Environmental Matters)

MSES, as defined in Part 2, Section 5, and Schedule 2 of the *Environmental Offsets Regulation 2014* (EO Regulation), were assessed within the Project area. Two MSES identified in the EO Regulation are present within the Project area: regulated vegetation (prescribed REs listed as endangered and of concern, prescribed REs within a defined distance of a watercourse) and protected wildlife habitat (Table 7).

Table 7 MSES presence within study area

MSES	Presence within study area
Regulated vegetation[1] • Prescribed regional ecosystems that are endangered regional ecosystems • Prescribed regional ecosystems that are of concern regional ecosystems • Prescribed regional ecosystems that: o intersect with an area shown as a wetland on the vegetation management wetlands map (to the extent of the intersection); or o an area of essential habitat on the essential habitat map for an animal that is endangered wildlife or vulnerable wildlife or a plant that is endangered wildlife or vulnerable wildlife • A prescribed regional ecosystem to the extent that the ecosystem is located within a defined distance from the defining banks of a relevant watercourse	Present as: • Prescribed REs that are endangered: o RE 11.3.1 (5.6 ha) o RE 11.4.8 (17.4 ha) o RE 11.4.9 (645.5 ha) o RE 11.4.10 (9.8 ha) o 11.9.5 (112.3 ha) o Total: 790.6 ha. • Prescribed REs that are of concern: o RE 11.3.2 (200.2 ha) o RE 11.3.21 (13.1 ha) o RE 11.3.25 (82.4 ha) o RE 11.3.4 (142.9 ha) o RE 11.5.3 (1,688.7 ha) o RE 11.9.7a (412.6 ha). o Total: 2,539.9 ha • Prescribed REs that are essential habitat for koala, greater glider[2], squatter pigeon, ornamental snake, short-beaked echidna. • Prescribed REs that are located within a defined distance from the defining banks of a relevant watercourse[3] within a total area of 333.2 ha. (Not present as regional ecosystems that intersect an area shown as a wetland on the vegetation management wetlands map.)
Wetlands and watercourses • a wetland: o in a wetland protection area (WPA); or o of high ecological significance (HES) shown on the map of Queensland wetland environmental values • a wetland or watercourse in high ecological value waters.	Not present
Designated precinct in a strategic environmental area	Not present
Protected wildlife habitat	Present as suitable habitat for: • Protected plants (i.e. within the high risk-trigger area) (113.3 ha) • Koala (4,102.0 ha) • Greater glider (543.9 ha) • Squatter pigeon (5,152.4 ha)

MSES	Presence within study area
	• Ornamental snake (704.5 ha) • Short-beaked echidna (4,872.2 ha).
Protected areas	Not present
Highly protected zones of State marine parks	Not present
Fish habitat areas	Not present
Waterway providing for fish passage	Not present
Marine plants	Not present
Legally secured offset areas	Not present

[1]Definition of prescribed RE is in the EO Regulation and does not include regrowth vegetation; [2]Per VM Act essential habitat map. Essential habitat for koala, squatter pigeon and ornamental snake was ground-truthed within the study area. [3]Watercourses as shown on the vegetation management watercourse and drainage feature map (version 7.00) that intersect the study area were in accordance with the defined distances provided in Appendix 3 of the Queensland Environmental Offsets Policy (version 1.15).

3.3 Commonwealth values

3.3.1 Threatened ecological communities

Five TECs were identified in the desktop assessment as potentially occurring within the study area, which were:

- Brigalow (*A. harpophylla* dominant and co-dominant) (Brigalow TEC)
- Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland
- Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin (Natural Grasslands TEC)
- Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions
- Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box TEC).

Field survey results confirmed the presence of Brigalow TEC, Poplar Box TEC and Natural Grasslands TEC (Table 8 and Figure 8).

Table 8 Ground-truthed TECs within the study area

TEC	Area (ha)
Brigalow TEC	291.2
Poplar Box Grassy Woodland on Alluvial Plains TEC	186.9
Natural grasslands TEC	13.1

Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions TEC and Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland were not identified within the study area.

3.3.2 Threatened and migratory fauna species

Habitat for five threatened fauna species listed under the EPBC Act was ground-truthed within the study area (Table 9). Habitat for each of these species within the study area is described in the sections below.

Table 9 EPBC Act listed fauna species known or likely to occur within the study area

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Area (ha)
Phascolarctos cinereus	Koala	Endangered	Known	4,102.0
Petauroides volans	Greater glider	Endangered	Known	543.9
Geophaps scripta scripta	Squatter pigeon	Vulnerable	Known	5,152.4
Denisonia maculata	Ornamental snake	Vulnerable	Likely	704.5
Dasyurus hallucatus	Northern quoll	Endangered	Potential	131.7

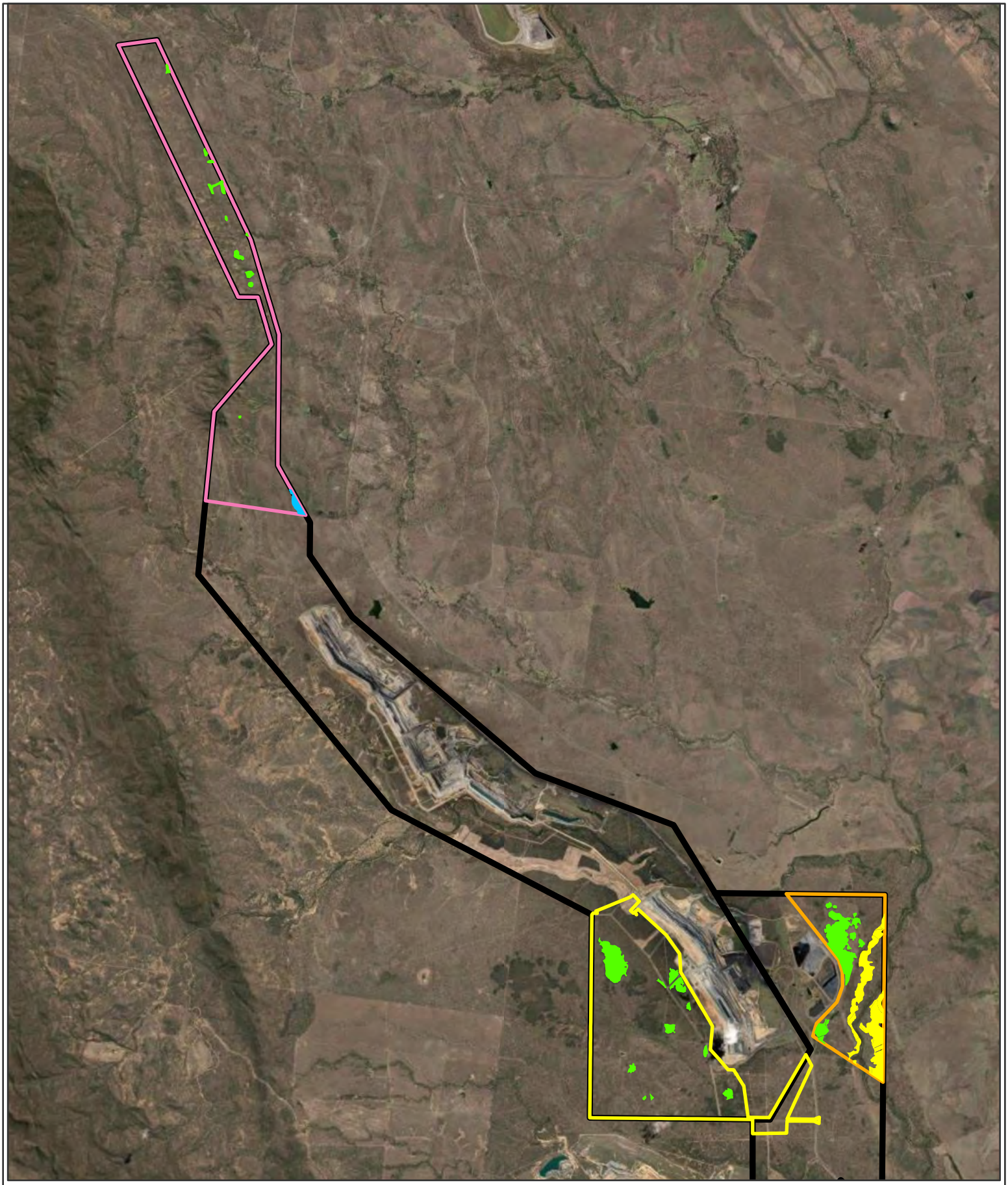

Figure 8: Threatened Ecological Communities

Study area (northern)
Study area (western)
Study area (eastern)
Mining lease

Threatened Ecological Community (TEC)

Brigalow TEC
Natural Grassland TEC
Poplar Box TEC

0 1.25 2.5 5
Kilometers

Datum/Projection:
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3.3.2.1 Koala

Koala habitat was ground-truthed across large portions of the study area (northern, western and eastern) (Table 5 and Figure 9). Koala habitat can be broadly defined as any forest or woodland containing canopy species that are known koala food trees, or shrubland with emergent food trees. In semi-arid environments in the western parts of the species' range, koala inhabit eucalypt dominated forests and woodlands, particularly near riparian environments.

Areas of preferred habitat included fringing riparian woodlands (RE 11.3.25) and eucalypt woodlands to open forest on alluvial plains (REs 11.3.2, 11.3.27f, 11.3.4, 11.3.9). Suitable habitat included all areas of dry eucalypt woodland habitat.

3.3.2.2 Greater glider

Greater glider habitat was ground-truthed within the study area (eastern and western only) in association with riparian and alluvial floodplain vegetation (Table 5 and Figure 9). Four individuals of the species were recorded during field surveys within the study area in March and April 2024, and greater glider has previously been recorded in habitat contiguous with the study area (ELA 2019) (Figure 9).

Greater glider is known to forage on eucalypt leaves and occasionally flowers and requires good habitat connectivity and an abundance of large hollows for breeding and sheltering. Preferred habitat for the species within the study area includes fringing riparian woodlands (RE11.3.25) and suitable habitat includes all floodplain eucalypt woodlands and adjacent areas of dry eucalypt woodlands (dominated by *Eucalyptus populnea* or *Eucalyptus platyphylla*).

3.3.2.3 Squatter pigeon

Squatter pigeon habitat was ground-truthed across all parts of the study area (northern, western and eastern) (Table 9 and Figure 10). Squatter pigeon was recorded within the study area (western) during the field survey and has been recorded during recent field surveys adjacent to the study area (western) and directly adjacent to the study area (northern) (Figure 10).

Squatter pigeon generally inhabits the grassy understorey of Eucalyptus, Corymbia, Acacia or Callitris dominated woodlands on well-draining sandy soils on gently sloping, flat to undulating plains, with a patchy ground cover (DoE 2024a). The species requires access to water on a near daily basis. Suitable water sources identified within the study area include dams, ephemeral watercourses, and a string of oxbow lagoons in the study area (eastern).

All remnant and non-remnant areas within the study area are considered to comprise habitat for squatter pigeon.

3.3.2.4 Ornamental snake

Ornamental snake habitat was ground-truthed within the study area (western and eastern) (Table 5 and Figure 10). The species occurs within Brigalow dominated woodland and open forest habitats in moist areas such as floodplains, undulating clay pans, near waterbodies (swamps and lakes) and along watercourses. It prefers these moist areas due to its diet of mostly frogs. The species shelters under woody debris and in soil cracks, particularly gilgais, where it can remain inactive for many months during dry periods.

Ornamental snake habitat within the study area includes Brigalow dominated woodlands on alluvial (RE 11.3.1) and on clay plains (RE 11.4.8 and 11.4.9), some areas of eucalypt dominated woodlands on alluvial (RE 11.3.4), a small patch of *Eucalyptus populnea* woodland with a Brigalow understory on clay plains (RE 11.4.10) and freshwater wetlands (RE 11.3.27f). Some non-remnant areas adjacent to these habitat types were also mapped as suitable habitat for ornamental snake where they also contained essential microhabitat features such as gilgais and deep soil cracks.

Brigalow dominated woodlands within the study area (northern) identified as RE 11.9.5, did not have the required microhabitat features (gilgais, soil cracks, abundant coarse woody debris) to comprise habitat for ornamental snake.

3.3.2.5 Northern quoll

Habitat for northern quoll is present in the study area (northern). Potential habitat for the species was identified in association with a rocky ridge which intersects the western boundary of the study area (northern) in two locations (Figure 10). This habitat is identified as RE 11.10.7 and is considered to be of marginal habitat value for the species.

3.3.3 Threatened flora species

Three threatened flora species listed under the EPBC Act were identified as potentially occurring within the study area, *Dichanthium queenslandicum* (king bluegrass), *Dichanthium setosum* (bluegrass) and *Eucalyptus raveretiana* (black ironbox). Habitat for *Dichanthium queenslandicum* and *Dichanthium setosum* within the study area is limited to a small patch of natural grassland located in the southern corner of the study area (northern) (Table 9 and Figure 7). This natural grassland habitat is identified as RE 11.3.21 and occurs within an area of 13.1 ha. Potential habitat for *Eucalyptus raveretiana* is limited to the riparian channel of Bee Creek in the study area (eastern) (Table 10 and Figure 7). This vegetation is dominated by *Eucalyptus tereticornis* and identified as RE 11.3.25.

Table 10 EPBC Act listed flora species potentially occurring within the study area

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Area (ha)
Dichanthium queenslandicum	king bluegrass	Endangered	Potential	13.1
Dichanthium setosum	bluegrass	Vulnerable	Potential	13.1
Eucalyptus raveretiana	black ironbox	Vulnerable	Potential	37.4

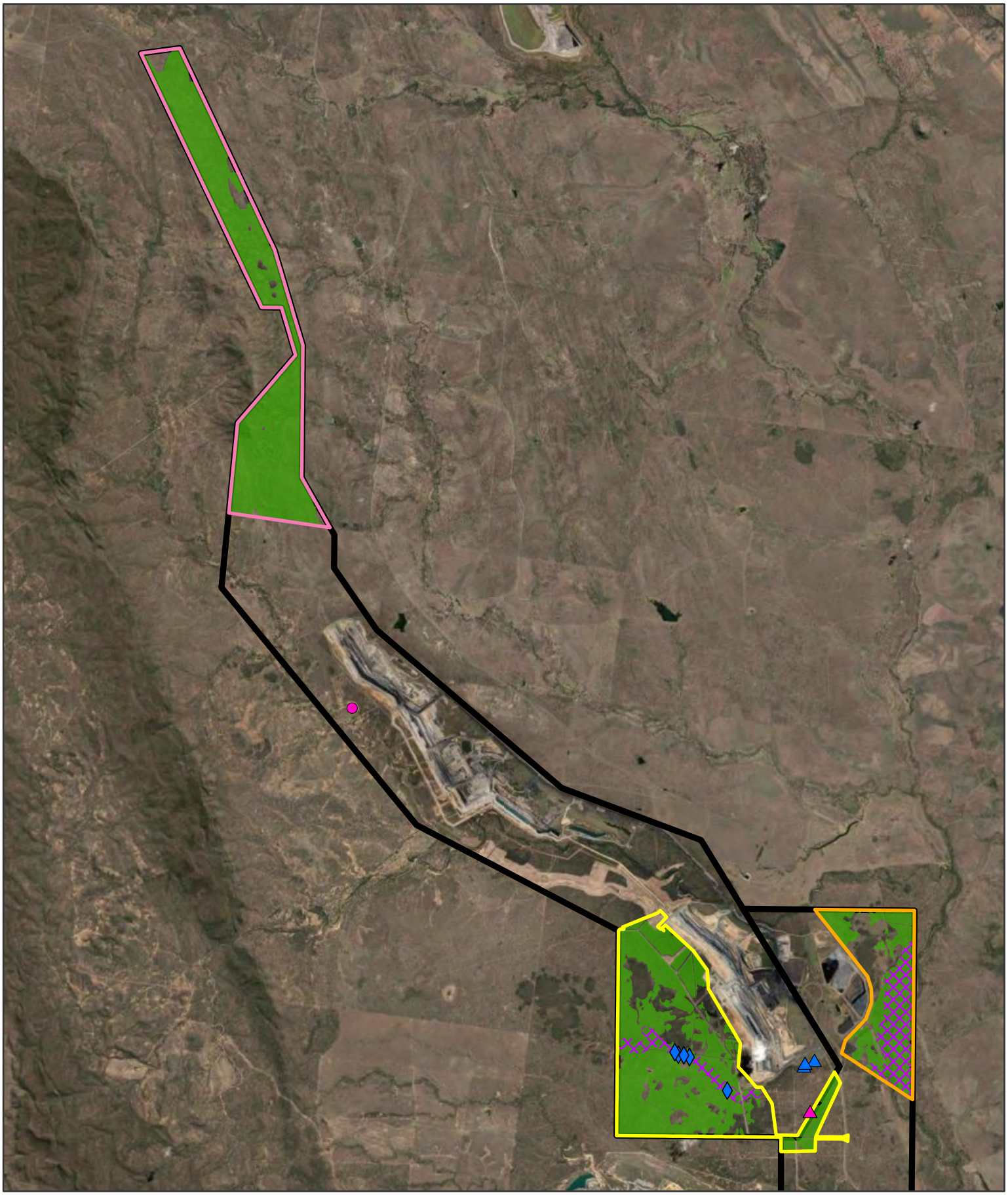

Figure 9: Koala and greater glider habitat and species records

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining lease
- Greater glider habitat
- Koala habitat
- Koala record (ELA, 2020)
- Koala record (ELA, 2019)
- Greater glider record (ELA, 2019)
- Greater glider record (ELA, 2024)

0 1.25 2.5 5
Kilometers

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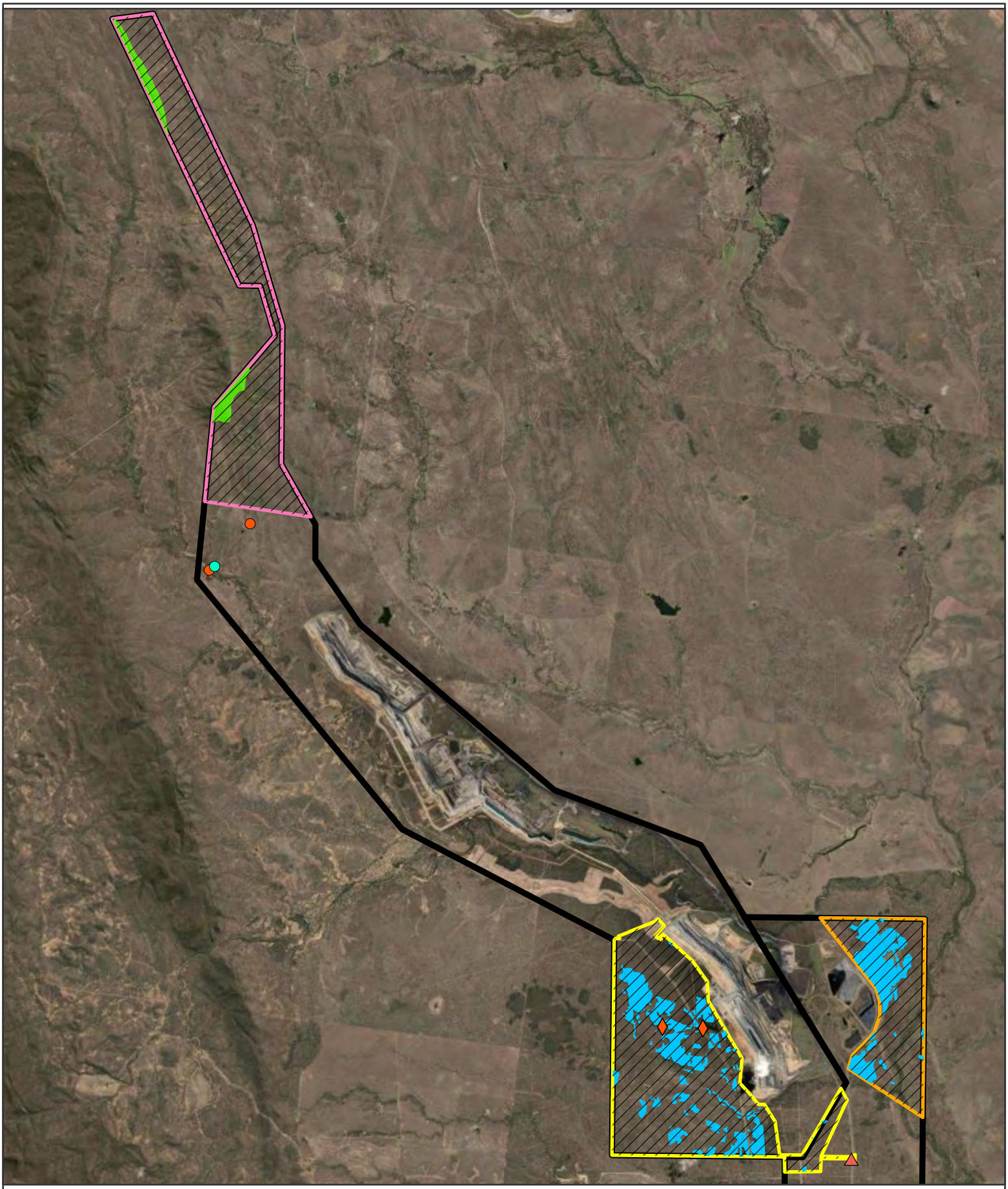

Figure 10: Squatter pigeon, ornamental snake and northern quoll habitat

- Study area (northern)
- Study area (western)
- Study area (eastern)
- Mining lease
- Ornamental snake habitat
- Northern quoll habitat
- Squatter pigeon habitat
- Ornamental snake record (ELA, 2020)
- Squatter pigeon record (ELA, 2020)
- Squatter pigeon record (ELA, 2019)
- Squatter pigeon record (ELA, 2024)

0 1.25 2.5 5
Kilometers

Datum/Projection:
GDA2020 MGA Zone 55

Project: 7132-DH Date: 8/6/2024

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4. Conclusion

Four field surveys conducted between 26 February – 3 May 2024 were undertaken to validate on-ground ecological values within the study area. The field surveys identified the study area as predominantly remnant vegetation with non-remnant areas interspersed throughout, associated with existing mine infrastructure such as access tracks and powerline or pipeline easements.

Ecological values identified within the study area include Category B ESAs, Regulated vegetation, Protected wildlife habitat, TECs and threatened flora and fauna species habitat. High-risk areas for protected plants are mapped within the study area (northern) which require additional targeted flora surveys to be undertaken in accordance with the Flora Survey Guidelines - Protected Plants (DES, 2020a) prior to any clearing in these areas. Depending on the results of detailed flora surveys, clearing within any of the mapped high-risk areas will trigger approvals requirements under the NC Act, requiring either submission of an exempt clearing notification or approval of a protected plant clearing permit.

Based on the results of the desktop and field survey findings, it is recommended that impact assessment is undertaken prior to any proposed works with the study area and appropriate mitigation and management measures are developed to ensure potential impacts to ecological values are minimised. Mitigation and management should consider, but not be limited to, the following recommendations:

- the environmental mitigation hierarchy of avoid, minimise and mitigate impacts is implemented through the Project
- vegetation clearing is minimised and refined to the greatest extent possible
- secondary impacts to remnant vegetation are minimised and managed during the works to protect threatened species in the study area, through implementation of management plans including Weed and Feral Animal Management Procedure and Bushfire Management Plan
- Project impacts aim to protect and minimise impacts to drainage lines, riparian zones and patches that exhibit resilience to periods of environmental stress, including droughts and heatwaves. Such areas constitute climate refugia and may prove to be of strategic importance for threatened species such as koala and greater glider, as well as threatened bird species such as squatter pigeon
- measures are developed and implemented as part of the project environmental management plan to protect threatened species and their habitat as far as practicable.
- fauna spotter catcher(s) are present prior to/during vegetation clearing, in compliance with the approved SWC Species Management Program
- If any threatened flora or fauna species are found during works, an unexpected threatened species finds protocol is to be in place. This protocol is to be developed before the commencement of works.

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Appendix A Desktop assessment results

Appendix A Desktop assessment results

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: 28-Apr-2024

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:	35
Listed Migratory Species:	14

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:	19
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:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	16
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
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may 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 known to 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
[Hirundapus caudacutus](#)			
White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[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 likely to occur within area	In feature area
[Stagonopleura guttata](#)			
Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tyto novaehollandiae kimberli](#)			
Masked Owl (northern) [26048]	Vulnerable	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 known to occur within area	In feature area
[Macroderma gigas](#)			
Ghost Bat [174]	Vulnerable	Species or species habitat likely to 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Petauroides minor			
Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
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
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
PLANT			
Bertya opponens			
[13792]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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 likely to occur within area	In feature area
Dichanthium setosum			
bluegrass [14159]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus raveretiana			
Black Ironbox [16344]	Vulnerable	Species or species habitat known to occur within area	In feature area
Omphalea celata			
[64586]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phlegmariurus tetrastichoides			
Square Tassel Fern [86555]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Solanum graniticum Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In buffer area only
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 buffer area only
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In buffer area only
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			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In buffer area only
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to 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 feature area
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 likely to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area overfly marine area	In buffer area only
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Homevale	National Park	QLD	In buffer area only

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Lake Elphinstone	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Urannah Dam and Pipelines Project	2020/8708		Completed	In buffer area only
Controlled action				
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In feature area
Ellensfield Underground Coal Mine	2007/3643	Controlled Action	Post-Approval	In buffer area only
Goonyella Riverside Mine to South Walker Creek Mine Dragline Move	2016/7788	Controlled Action	Completed	In buffer area only
Hail Creek coal mine extension transition project, Bowen Basin, Qld	2014/7240	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Hillalong coal mine and associated infrastructure project	2012/6566	Controlled Action	Post-Approval	In feature area
Kemmis 2 open cut coal mine South Walker Creek, 25 km WSW of Nebo Bowen Basin, QLD	2013/7025	Controlled Action	Post-Approval	In buffer area only
MRA2C Project, South Walker Creek Operations	2017/7957	Controlled Action	Post-Approval	In buffer area only
New Lenton Coal Project	2012/6303	Controlled Action	Completed	In buffer area only
New Lenton Coal Project, 65kms north of Moranbah, QLD	2020/8778	Controlled Action	Assessment Approach	In buffer area only
South Walker Creek Mulgrave Pit mine extension, Nebo, QLD	2014/7272	Controlled Action	Post-Approval	In buffer area only
The Broughton Coal Mine Project, Bowen Basin, QLD	2014/7132	Controlled Action	Completed	In buffer area only
Not controlled action				
Hail Creek open cut coal mine expansion	2006/2506	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Nebo to Strathmore 275kV Transmission Line	2006/2997	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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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: 20-Feb-2024

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:	5
Listed Threatened Species:	44
Listed Migratory Species:	16

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:	21
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:	5
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	64
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 buffer area only
Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland	Endangered	Community may occur within area	In buffer area only
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
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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 likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area	In buffer area only
FROG			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Taudactylus eungellensis](#) Eungella Day Frog [1887]	Endangered	Species or species habitat likely to 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 known to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to 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 minor](#) Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Petauroides volans](#) Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
[Petaurus australis australis](#) Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[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
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
PLANT			
[Arthraxon hispidus](#) Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bertya opponens [13792]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Cycas ophiolitica [55797]	Endangered	Species or species habitat may occur within area	In buffer area only
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 known to occur within area	In feature area
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat known to occur within area	In feature area
Omphalea celata [64586]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Ozothamnus eriocephalus [56133]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phalaenopsis rosenstromii listed as Phalaenopsis amabilis subsp. rosenstromii Native Moth Orchid [15984]	Endangered	Species or species habitat may occur within area	In buffer area only
Phlegmariurus tetrastichoides Square Tassel Fern [86555]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Polianthion minutiflorum [82772]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Solanum graniticum Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In buffer area only
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 buffer area only
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In buffer area only
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In buffer area only
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 Marine Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			
[Cuculus optatus](#) Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area	In buffer area only
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 known to occur within area	In feature area
Pandion haliaetus			
Osprey [952]		Breeding known to 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

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 feature area
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[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 known to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In buffer area only
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca			
Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
Pandion haliaetus			
Osprey [952]		Breeding known to occur within area	In buffer area only
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only
Reptile			
Crocodylus porosus			
Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Crediton	Forest Reserve	QLD	In buffer area only
Dipperu	National Park (Scientific)	QLD	In buffer area only
Homevale	National Park	QLD	In buffer area only
Homevale	Resources Reserve	QLD	In buffer area only
Homevale	Conservation Park	QLD	In buffer area only

Nationally Important Wetlands

[Resource Information]

Wetland Name	State	Buffer Status
Lake Elphinstone	QLD	In buffer area only

EPBC Act Referrals

[Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Caval Ridge Mine Horse Pit Extension, Bowen Basin	2021/9031		Assessment	In buffer area only
Isaac Downs coal mine project, near Moranbah, Qld	2019/8413		Post-Approval	In buffer area only
Isaac River Coal Mine Project	2021/8980		Post-Approval	In buffer area only
Moranbah North & Grosvenor Mines rail and pipeline realignment	2023/09489		Assessment	In buffer area only
Moranbah North Extension Project, Moranbah, Qld	2018/8338		Post-Approval	In buffer area only
Olive Downs Project	2005/2377		Post-Approval	In buffer area only
Olive Downs Project Mine Site and Access Road	2017/7867		Post-Approval	In buffer area only
Peak Downs Mine Continuation Project	2022/09350		Assessment	In buffer area only
Urannah Dam and Pipelines Project	2020/8708		Completed	In buffer area only
Winchester South Project Mine Site and Access Road, near Moranbah, Qld	2019/8460		Assessment	In buffer area only
Controlled action				
Alpha Coal Project - Mine and Rail Development	2008/4648	Controlled Action	Post-Approval	In buffer area only
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In buffer area only
Caval Ridge Open Cut Coal Mine Project	2008/4417	Controlled Action	Post-Approval	In buffer area only
Codrilla Open Cut Coal Mining and Processing Operation with Associated Infrastructure	2009/4892	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
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 buffer area only
Develop an Open Cut Coal Mine at Daunia	2008/4418	Controlled Action	Post-Approval	In buffer area only
Eagle Downs Coal Mine Central Queensland	2008/3945	Controlled Action	Post-Approval	In buffer area only
Ellensfield Underground Coal Mine	2007/3643	Controlled Action	Post-Approval	In buffer area only
Establishment of Galilee Coal Mine and Associated Infrastructure	2009/4737	Controlled Action	Post-Approval	In buffer area only
Extension to the exisiting 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
Hail Creek coal mine extension transition project, Bowen Basin, Qld	2014/7240	Controlled Action	Post-Approval	In buffer area only
Harrybrandt Open Cut Coal Mine and Associated Infrastructure, Bowen Basin, Qld	2012/6483	Controlled Action	Completed	In buffer area only
Hillalong coal mine and associated infrastructure project	2012/6566	Controlled Action	Post-Approval	In buffer area only
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only
Kemmis 2 open cut coal mine South Walker Creek, 25 km WSW of Nebo Bowen Basin, QLD	2013/7025	Controlled Action	Post-Approval	In buffer area only
Millenium Open Cut Coal Mine Expansion Project, QLD	2009/4821	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				
MRA2C Project, South Walker Creek Operations	2017/7957	Controlled Action	Post-Approval	In buffer area only
New Lenton Coal Project	2012/6303	Controlled Action	Completed	In buffer area only
New Lenton Coal Project, 65kms north of Moranbah, QLD	2020/8778	Controlled Action	Assessment Approach	In buffer area only
Olive Downs Project Electricity Transmission Line	2017/7869	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Rail Spur	2017/7870	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Water Pipeline	2017/7868	Controlled Action	Post-Approval	In buffer area only
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 buffer area only
Relocation of approximately 16km of Dysart Road and associated service infrastructure	2013/6868	Controlled Action	Post-Approval	In buffer area only
South Walker Creek Mulgrave Pit mine extension, Nebo, QLD	2014/7272	Controlled Action	Post-Approval	In buffer area only
The Broughton Coal Mine Project, Bowen Basin, QLD	2014/7132	Controlled Action	Completed	In buffer area only
The Grosvenor Coal Mine Project	2007/3785	Controlled Action	Post-Approval	In buffer area only
Winchester South Project Electricity Transmission Line, near Moranbah, Qld	2019/8458	Controlled Action	Assessment Approach	In buffer area only
Winchester South Project Water Pipeline, near Moranbah, Qld	2019/8459	Controlled Action	Assessment Approach	In buffer area only
Not controlled action				
275 kV double circuit transmission line	2006/2896	Not Controlled Action	Completed	In buffer area only
Broadlea North Coal Project open cut mine and associated infrastructure	2005/2179	Not Controlled Action	Completed	In buffer area only
Broadlea to Mallawa and Mallawa to Wotonga Rail Duplication	2006/3046	Not Controlled Action	Completed	In buffer area only
Carborough Downs mine extension	2006/3085	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
construction and operation of Carborough Downs Mine	2005/2064	Not Controlled Action	Completed	In buffer area only
Coppabella-Ingsdon Railway Duplication	2008/4103	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
Hail Creek open cut coal mine expansion	2006/2506	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
Nebo to Strathmore 275kV Transmission Line	2006/2997	Not Controlled Action	Completed	In buffer area only
Nebo Town Water Supply Pipeline	2012/6416	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 buffer area only
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
Not controlled action (particular manner)				
Moranbah South Feasibility Seismic Survey	2010/5497	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Moranbah South Project 2013 Seismic Exploration Program, Qld	2013/6814	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Expansion of open cut coal mine and diversion of creeks in existing mine operati	2006/2845	Referral Decision	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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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: 05-Aug-2024

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:	5
Listed Threatened Species:	43
Listed Migratory Species:	16

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:	21
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:	5
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	58
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
Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland	Endangered	Community may occur within area	In buffer area only
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
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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 likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area	In buffer area only
FROG			
Taudactylus eungellensis Eungella Day Frog [1887]	Endangered	Species or species habitat likely to occur within area	In buffer area only
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to 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 minor](#) Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Petauroides volans](#) Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
[Petaurus australis australis](#) Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[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
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
PLANT			
[Arthraxon hispidus](#) Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Bertya opponens](#) [13792]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cycas ophiolitica [55797]	Endangered	Species or species habitat may occur within area	In buffer area only
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 known to occur within area	In feature area
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat known to occur within area	In feature area
Omphalea celata [64586]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Ozothamnus eriocephalus [56133]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phalaenopsis rosenstromii listed as Phalaenopsis amabilis subsp. rosenstromii Native Moth Orchid [15984]	Endangered	Species or species habitat may occur within area	In buffer area only
Phlegmariurus tetrastichoides Square Tassel Fern [86555]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Solanum graniticum Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In buffer area only
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 buffer area only
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In buffer area only
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In buffer area only
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 Marine Species			
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In buffer area only
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Breeding known to 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

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 feature area
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 known to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to 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
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In buffer area only
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Pandion haliaetus](#) Osprey [952]		Breeding known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only
Reptile			
Crocodylus porosus			
Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Crediton	Forest Reserve	QLD	In buffer area only
Dipperu	National Park (Scientific)	QLD	In buffer area only
Homevale	Resources Reserve	QLD	In buffer area only
Homevale	Conservation Park	QLD	In buffer area only
Homevale	National Park	QLD	In buffer area only

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Lake Elphinstone	QLD	In buffer area only

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
Barada Barna Road upgrade	2024/09791		Assessment	In buffer area only
Coppabella Mine Humbug Gully Project	2024/09867		Referral Decision	In buffer area only
Isaac Downs coal mine project, near Moranbah, Qld	2019/8413		Post-Approval	In buffer area only
Isaac River Coal Mine Project	2021/8980		Post-Approval	In buffer area only
Moranbah North & Grosvenor Mines rail and pipeline realignment	2023/09489		Assessment	In buffer area only
Moranbah North Extension Project, Moranbah, Qld	2018/8338		Post-Approval	In buffer area only
Olive Downs Project	2005/2377		Post-Approval	In buffer area only
Olive Downs Project Mine Site and Access Road	2017/7867		Post-Approval	In buffer area only
Urannah Dam and Pipelines Project	2020/8708		Completed	In buffer area only
Winchester South Project Electricity Transmission Line, near Moranbah, Qld	2019/8458		Approval	In buffer area only
Winchester South Project Mine Site and Access Road, near Moranbah, Qld	2019/8460		Approval	In buffer area only
Winchester South Project Water Pipeline, near Moranbah, Qld	2019/8459		Approval	In buffer area only
Controlled action				
Alpha Coal Project - Mine and Rail Development	2008/4648	Controlled Action	Post-Approval	In buffer area only
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In feature area
Codrilla Open Cut Coal Mining and Processing Operation with Associated Infrastructure	2009/4892	Controlled Action	Post-Approval	In buffer area only
Construct and Operate the Connors River Dam and Pipelines	2008/4429	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Develop an Open Cut Coal Mine at Daunia	2008/4418	Controlled Action	Post-Approval	In buffer area only
Eagle Downs Coal Mine Central Queensland	2008/3945	Controlled Action	Post-Approval	In buffer area only
Ellensfield Underground Coal Mine	2007/3643	Controlled Action	Post-Approval	In buffer area only
Establishment of Galilee Coal Mine and Associated Infrastructure	2009/4737	Controlled Action	Post-Approval	In buffer area only
Extension to the exisiting Isaac Plains Mine, near Moranbah, Qld	2016/7827	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
Hail Creek coal mine extension transition project, Bowen Basin, Qld	2014/7240	Controlled Action	Post-Approval	In buffer area only
Harrybrandt Open Cut Coal Mine and Associated Infrastructure, Bowen Basin, Qld	2012/6483	Controlled Action	Completed	In buffer area only
Hillalong coal mine and associated infrastructure project	2012/6566	Controlled Action	Post-Approval	In buffer area only
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only
Kemmis 2 open cut coal mine South Walker Creek, 25 km WSW of Nebo Bowen Basin, QLD	2013/7025	Controlled Action	Post-Approval	In buffer area only
Millenium Open Cut Coal Mine Expansion Project, QLD	2009/4821	Controlled Action	Post-Approval	In buffer area only
Moranbah South Project Coal Mine, QLD	2012/6337	Controlled Action	Post-Approval	In buffer area only
MRA2C Project, South Walker Creek Operations	2017/7957	Controlled Action	Post-Approval	In buffer area only
New Lenton Coal Project	2012/6303	Controlled Action	Completed	In buffer area only
New Lenton Coal Project, 65kms north of Moranbah, QLD	2020/8778	Controlled Action	Assessment Approach	In buffer area only
Olive Downs Project Electricity Transmission Line	2017/7869	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Olive Downs Project Rail Spur	2017/7870	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Water Pipeline	2017/7868	Controlled Action	Post-Approval	In buffer area only
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 buffer area only
South Walker Creek Mulgrave Pit mine extension, Nebo, QLD	2014/7272	Controlled Action	Post-Approval	In buffer area only
The Broughton Coal Mine Project, Bowen Basin, QLD	2014/7132	Controlled Action	Completed	In buffer area only
The Grosvenor Coal Mine Project	2007/3785	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
275 kV double circuit transmission line	2006/2896	Not Controlled Action	Completed	In buffer area only
Broadlea North Coal Project open cut mine and associated infrastructure	2005/2179	Not Controlled Action	Completed	In buffer area only
Broadlea to Mallawa and Mallawa to Wotonga Rail Duplication	2006/3046	Not Controlled Action	Completed	In buffer area only
Carborough Downs mine extension	2006/3085	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
Coppabella-Ingsdon Railway Duplication	2008/4103	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
Hail Creek open cut coal mine expansion	2006/2506	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
Nebo to Strathmore 275kV Transmission Line	2006/2997	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Nebo Town Water Supply Pipeline	2012/6416	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 buffer area only
Upgrade of a section of the Goonyella Rail System	2011/5857	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Moranbah South Feasibility Seismic Survey	2010/5497	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Expansion of open cut coal mine and diversion of creeks in existing mine operati	2006/2845	Referral Decision	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;
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- 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.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Queensland status: Rare and threatened species
Records: All
Date: All
Latitude: -21.6279
Longitude: 148.3397
Distance: 20
Email: max@trendenvironmental.com.au
Date submitted: Tuesday 16 Apr 2024 09:54:48
Date extracted: Tuesday 16 Apr 2024 10:00:13

The number of records retrieved = 10

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Limnodynastidae	*Adelotus brevis*	tusked frog		V		1
animals	birds	Accipitridae	*Erythrotriorchis radiatus*	red goshawk		E	E	2
animals	birds	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)		V	V	12
animals	mammals	Megadermatidae	*Macroderma gigas*	ghost bat		E	V	1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	9
animals	mammals	Pseudocheiridae	*Petauroides volans volans*	southern greater glider		E	E	18
animals	reptiles	Elapidae	*Denisonia maculata*	ornamental snake		V	V	4/1
plants	land plants	Apocynaceae	*Cerbera dumicola*			NT		1/1
plants	land plants	Combretaceae	*Macropteranthes leiocaulis*			NT		2/2
plants	land plants	Euphorbiaceae	*Omphalea celata*			V	V	1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

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

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

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).
This number is output as 99999 if it equals or exceeds this value. A second number located after a / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

WildNet Records
Species List

For the selected area of interest 6849.63 Lot: 7 Plan: SP155252
Current as at 28/05/2024 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 7 Plan: SP155252

Table 1. Area of interest details

Size (ha)	
6,849.63	
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 Enviornment, 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 occurence 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

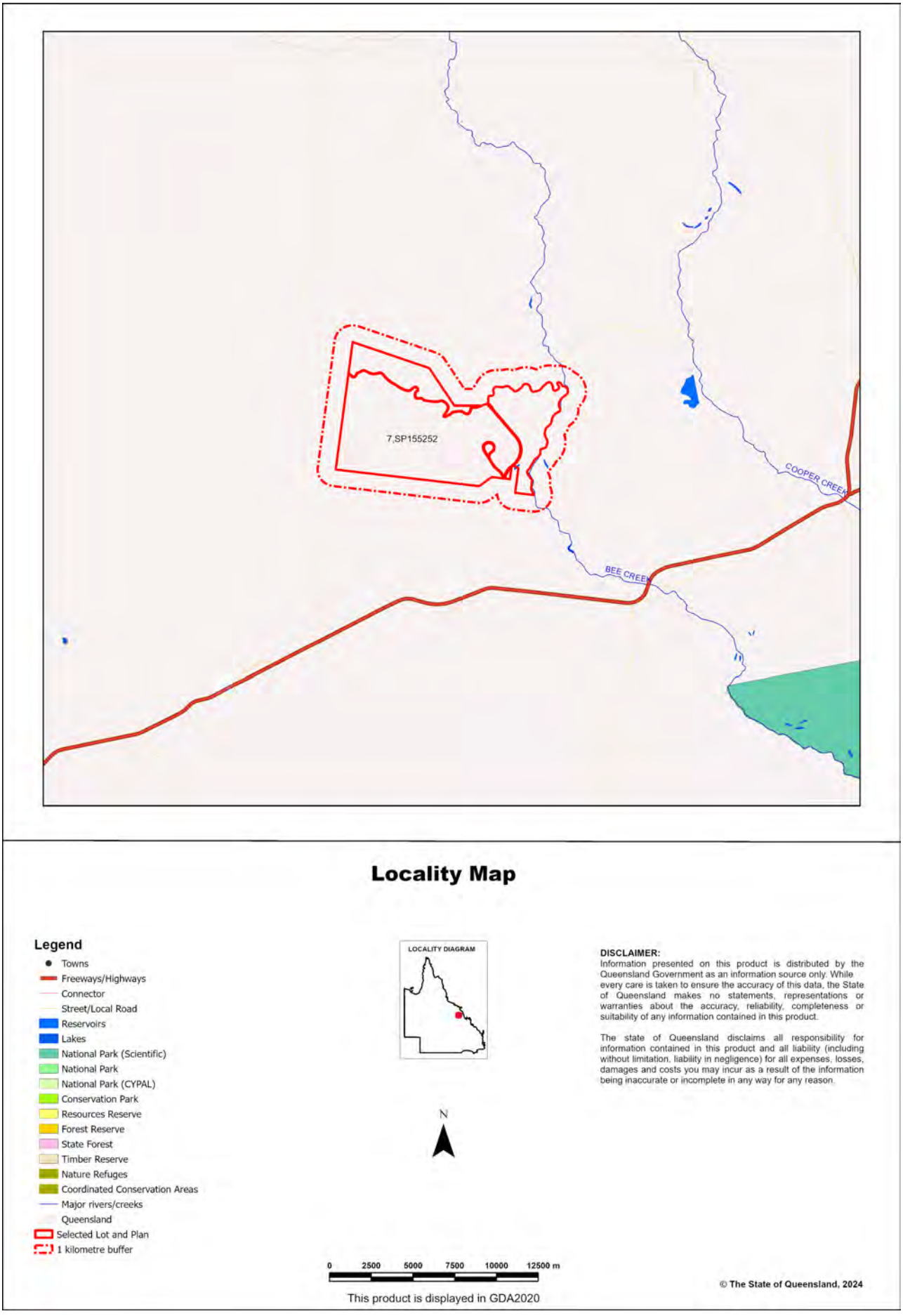

Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
627	Amphibia	Hylidae	*Litoria caerulea*	common green treefrog	C		0	3	2/02/2016
600	Amphibia	Hylidae	*Litoria rubella*	ruddy treefrog	C		0	1	8/05/2012
681	Amphibia	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog	C		0	4	2/02/2016
684	Amphibia	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog	C		0	1	8/05/2012
1422	Aves	Acanthizidae	*Acanthiza nana*	yellow thornbill	C		0	1	8/05/2012
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C		0	1	8/05/2012
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	2	21/06/2023
1767	Aves	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra	C		0	2	21/06/2023
1656	Aves	Artamidae	*Cracticus torquatus*	grey butcherbird	C		0	1	8/05/2012
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	8/05/2012
1637	Aves	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike	C		0	1	21/06/2023
1810	Aves	Columbidae	*Geopelia humeralis*	bar-shouldered dove	C		0	1	21/06/2023
1785	Aves	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)	V	V	0	1	20/06/2023
1744	Aves	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo	C		0	1	21/06/2023
1745	Aves	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo	C		0	2	21/06/2023
1342	Aves	Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C		0	1	8/05/2012
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	1	20/06/2023
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	1	20/06/2023
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	1	8/05/2012
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	1	8/05/2012
1471	Aves	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater	C		0	1	8/05/2012
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C		0	1	20/06/2023
1449	Aves	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush	C		0	2	21/06/2023

1437	Aves	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler	C		0	2	21/06/2023
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	2	21/06/2023
1955	Aves	Podargidae	*Podargus strigoides*	tawny frogmouth	C		0	7	27/06/2017
1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C		0	2	20/06/2023
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	1	8/05/2012
1575	Aves	Rhipiduridae	*Rhipidura albiscapa*	grey fantail	C		0	2	21/06/2023
1576	Aves	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail	C		0	2	21/06/2023
1006	Mammalia	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat	C		0	1	25/06/2017
901	Mammalia	Macropodidae	*Macropus giganteus*	eastern grey kangaroo	C		0	1	28/01/2016
862	Mammalia	Potoroidae	*Aepyprymnus rufescens*	rufous bettong	C		0	2	27/01/2016
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	E	E	0	2	9/08/2014
972	Mammalia	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat	C		0	14	27/06/2017
556	Reptilia	Agamidae	*Pogona barbata*	bearded dragon	C		0	2	26/06/2017
52	Reptilia	Chelidae	*Chelodina sp.*		C		0	1	9/09/2017
508	Reptilia	Colubridae	*Tropidonophis mairii*	freshwater snake	C		0	3	12/09/2017
429	Reptilia	Diplodactylidae	*Diplodactylus vittatus*	wood gecko	C		0	2	26/01/2016
18295	Reptilia	Diplodactylidae	*Oedura monilis*	ocellated velvet gecko	C		0	3	28/01/2016
493	Reptilia	Elapidae	*Demansia psammophis*	yellow-faced whipsnake	C		0	1	8/05/2012
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	9/09/2017
454	Reptilia	Elapidae	*Pseudonaja textilis*	eastern brown snake	C		0	2	2/02/2016
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C		0	12	28/01/2016
410	Reptilia	Gekkonidae	*Gehyra versicolor*		C		0	9	27/06/2017
413	Reptilia	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko	C		0	1	8/05/2012
297	Reptilia	Scincidae	*Carlia pectoralis sensu lato*		C		0	1	8/05/2012

283	Reptilia	Scincidae	*Cryptoblepharus pannosus*	ragged snake-eyed skink	C		0	1	8/05/2012
150	Reptilia	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink	C		0	1	8/05/2012
60	Reptilia	Varanidae	*Varanus tristis*	black-tailed monitor	C		0	3	28/09/2017

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
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		1	1	27/05/2007
14959	Equisetopsida	Asteraceae	*Vittadinia sulcata*	native daisy	C		1	1	27/05/2007
15618	Equisetopsida	Lamiaceae	*Basilicum polystachyon*		C		1	1	21/05/2007
37295	Equisetopsida	Lamiaceae	*Coleus*				1	1	27/05/2007
31412	Equisetopsida	Malvaceae	*Abutilon guineense*				1	1	27/05/2007
31580	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. incanum*		C		1	1	27/05/2007
14554	Equisetopsida	Myrtaceae	*Eucalyptus raveretiana*	black ironbox	C	V	1	1	14/03/2012
15364	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass	C		1	1	7/08/1980
17793	Equisetopsida	Portulacaceae	*Calandrinia pickeringii*		C		1	1	27/05/2007

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

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, 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.

WildNet Records
Species List

For the selected area of interest 6849.63 Lot: 7 Plan: SP155252
Current as at 05/08/2024 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 7 Plan: SP155252

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Size (ha)	
6,849.63	
Local Government(s)	
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Brigalow Belt	Northern Bowen Basin

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

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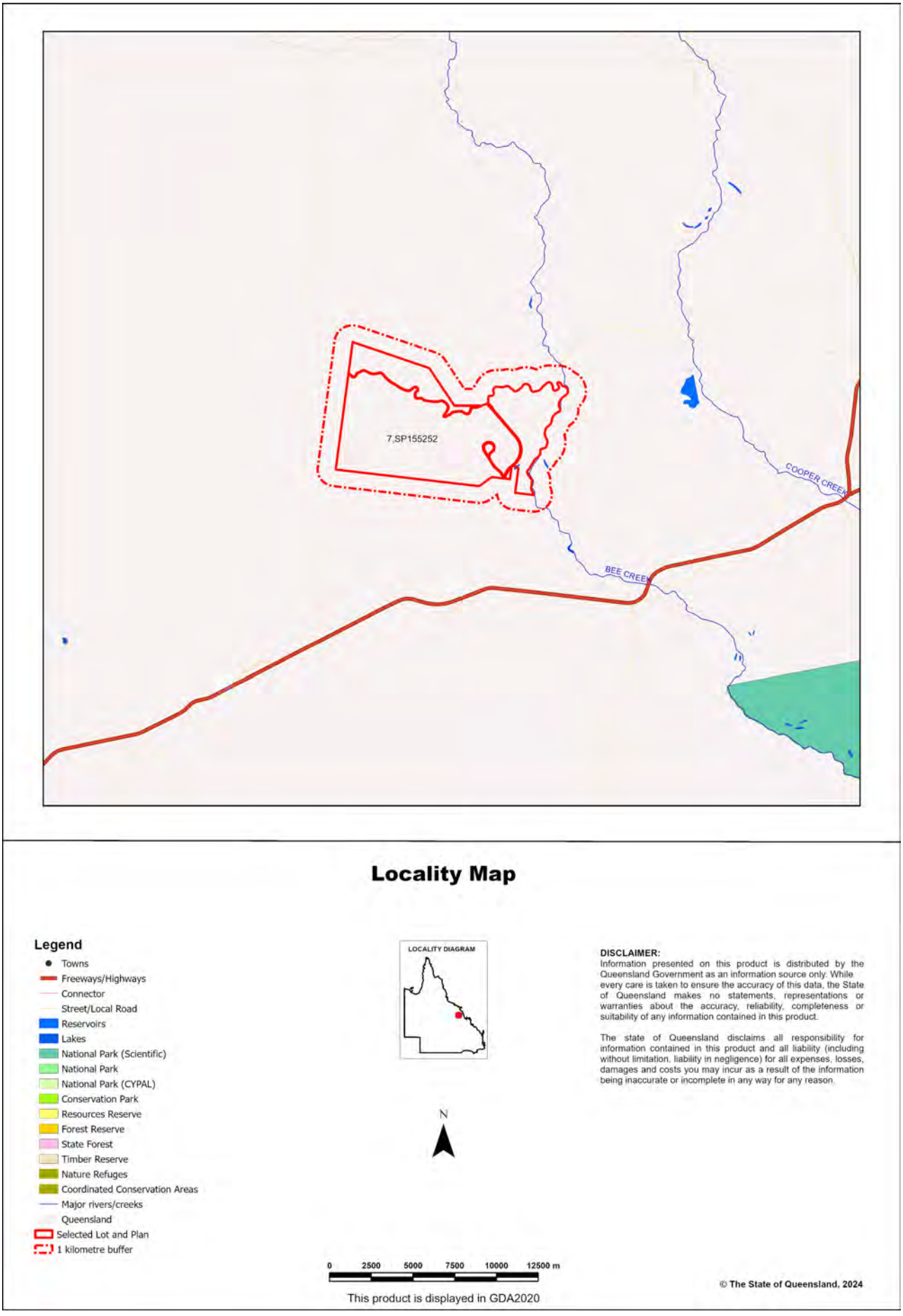
Map 1. Locality Map



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600	Amphibia	Hylidae	*Litoria rubella*	ruddy treefrog	C		0	1	5/8/2012
681	Amphibia	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog	C		0	4	2/2/2016
684	Amphibia	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog	C		0	1	5/8/2012
1422	Aves	Acanthizidae	*Acanthiza nana*	yellow thornbill	C		0	1	5/8/2012
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C		0	1	5/8/2012
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	2	6/21/2023
1767	Aves	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra	C		0	2	6/21/2023
1656	Aves	Artamidae	*Cracticus torquatus*	grey butcherbird	C		0	1	5/8/2012
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	5/8/2012
1637	Aves	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike	C		0	1	6/21/2023
1810	Aves	Columbidae	*Geopelia humeralis*	bar-shouldered dove	C		0	1	6/21/2023
1785	Aves	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)	V	V	0	1	6/20/2023
1744	Aves	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo	C		0	1	6/21/2023
1745	Aves	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo	C		0	2	6/21/2023
1342	Aves	Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C		0	1	5/8/2012
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	1	6/20/2023
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	1	6/20/2023
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	1	5/8/2012
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	1	5/8/2012
1471	Aves	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater	C		0	1	5/8/2012
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C		0	1	6/20/2023
1449	Aves	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush	C		0	2	6/21/2023

1437	Aves	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler	C		0	2	6/21/2023
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	2	6/21/2023
1955	Aves	Podargidae	*Podargus strigoides*	tawny frogmouth	C		0	7	6/27/2017
1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C		0	2	6/20/2023
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	1	5/8/2012
1575	Aves	Rhipiduridae	*Rhipidura albiscapa*	grey fantail	C		0	2	6/21/2023
1576	Aves	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail	C		0	2	6/21/2023
1006	Mammalia	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat	C		0	1	6/25/2017
901	Mammalia	Macropodidae	*Macropus giganteus*	eastern grey kangaroo	C		0	1	1/28/2016
862	Mammalia	Potoroidae	*Aepyprymnus rufescens*	rufous bettong	C		0	2	1/27/2016
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	E	E	0	2	8/9/2014
972	Mammalia	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat	C		0	14	6/27/2017
556	Reptilia	Agamidae	*Pogona barbata*	bearded dragon	C		0	2	6/26/2017
52	Reptilia	Chelidae	*Chelodina sp.*		C		0	1	9/9/2017
508	Reptilia	Colubridae	*Tropidonophis mairii*	freshwater snake	C		0	3	9/12/2017
429	Reptilia	Diplodactylidae	*Diplodactylus vittatus*	wood gecko	C		0	2	1/26/2016
18295	Reptilia	Diplodactylidae	*Oedura monilis*	ocellated velvet gecko	C		0	3	1/28/2016
493	Reptilia	Elapidae	*Demansia psammophis*	yellow-faced whipsnake	C		0	1	5/8/2012
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	9/9/2017
454	Reptilia	Elapidae	*Pseudonaja textilis*	eastern brown snake	C		0	2	2/2/2016
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C		0	12	1/28/2016
410	Reptilia	Gekkonidae	*Gehyra versicolor*		C		0	9	6/27/2017
413	Reptilia	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko	C		0	1	5/8/2012
297	Reptilia	Scincidae	*Carlia pectoralis sensu lato*		C		0	1	5/8/2012

283	Reptilia	Scincidae	*Cryptoblepharus pannosus*	ragged snake-eyed skink	C		0	1	5/8/2012
150	Reptilia	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink	C		0	1	5/8/2012
60	Reptilia	Varanidae	*Varanus tristis*	black-tailed monitor	C		0	3	9/28/2017

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
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		1	1	5/27/2007
14959	Equisetopsida	Asteraceae	*Vittadinia sulcata*	native daisy	C		1	1	5/27/2007
15618	Equisetopsida	Lamiaceae	*Basilicum polystachyon*		C		1	1	5/21/2007
37295	Equisetopsida	Lamiaceae	*Coleus*				1	1	5/27/2007
31412	Equisetopsida	Malvaceae	*Abutilon guineense*				1	1	5/27/2007
31580	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. incanum*		C		1	1	5/27/2007
14554	Equisetopsida	Myrtaceae	*Eucalyptus raveretiana*	black ironbox	C	V	1	1	3/14/2012
15364	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass	C		1	1	8/7/1980
17793	Equisetopsida	Portulacaceae	*Calandrinia pickeringii*		C		1	1	5/27/2007

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

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, 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.

WildNet Records
Species List

For the selected area of interest 11052.02 Lot: 8 Plan: SP155252
Current as at 05/08/2024 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 8 Plan: SP155252

Table 1. Area of interest details

Size (ha)	
11,052.02	
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 Enviornment, 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 occurence 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

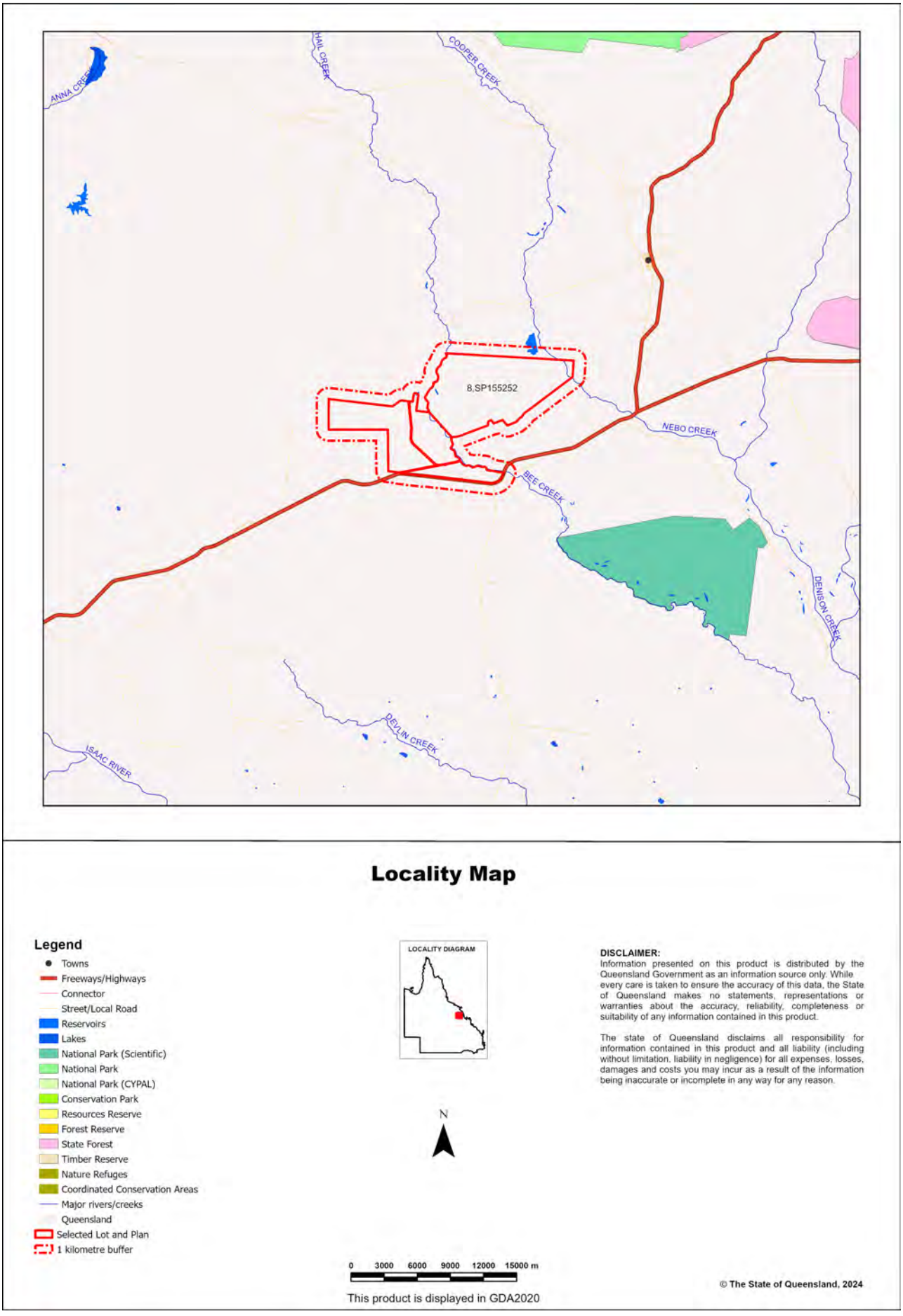

Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C		0	1	3/15/2000
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	1	11/14/2000
1998	Aves	Anatidae	*Anas superciliosa*	Pacific black duck	C		0	1	11/14/2000
1654	Aves	Artamidae	*Cracticus nigrogularis*	pied butcherbird	C		0	2	11/14/2000
1644	Aves	Artamidae	*Gymnorhina tibicen*	Australian magpie	C		0	2	11/14/2000
1193	Aves	Cacatuidae	*Eolophus roseicapilla*	galah	C		0	1	11/14/2000
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	11/14/2000
1294	Aves	Cisticolidae	*Cisticola exilis*	golden-headed cisticola	C		0	1	11/14/2000
1785	Aves	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)	V	V	0	1	3/15/2000
1795	Aves	Columbidae	*Phaps chalcoptera*	common bronzewing	C		0	1	3/15/2000
1779	Aves	Coraciidae	*Eurystomus orientalis*	dollarbird	C		0	1	3/15/2000
1605	Aves	Corcoracidae	*Struthidea cinerea*	apostlebird	C		0	2	11/14/2000
1609	Aves	Corvidae	*Corvus orru*	Torresian crow	C		0	2	11/14/2000
1704	Aves	Falconidae	*Falco cenchroides*	nankeen kestrel	C		0	1	11/14/2000
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	2	11/14/2000
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	2	3/15/2000
1499	Aves	Meliphagidae	*Manorina flavigula*	yellow-throated miner	C		0	1	3/15/2000
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	1	3/15/2000
1493	Aves	Meliphagidae	*Philemon citreogularis*	little friarbird	C		0	1	11/14/2000
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	1	3/15/2000
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C		0	2	11/14/2000
1595	Aves	Monarchidae	*Monarcha melanopsis*	black-faced monarch	SL		0	1	3/15/2000
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	3	11/14/2000

1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C		0	2	11/14/2000
1182	Aves	Psittaculidae	*Aprosmictus erythropterus*	red-winged parrot	C		0	1	11/14/2000
1136	Aves	Psittaculidae	*Platycercus adscitus*	pale-headed rosella	C		0	1	3/15/2000
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	2	11/14/2000
1161	Aves	Ptilonorhynchidae	*Chlamydera nuchalis*	great bowerbird	C		0	1	11/14/2000
859	Mammalia	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum	C		0	1	3/13/2014
860	Mammalia	Phascolarctidae	*Phascolarctos cinereus*	koala	E	E	0	5	8/8/2016
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	E	E	0	1	3/13/2014
949	Mammalia	Vespertilionidae	*Chalinolobus sp.*		C		0	1	4/21/2012
52	Reptilia	Chelidae	*Chelodina sp.*		C		0	1	9/9/2017
483	Reptilia	Elapidae	*Denisonia maculata*	ornamental snake	V	V	0	1	11/21/2014
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	9/9/2017
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C		0	1	6/14/2017
60	Reptilia	Varanidae	*Varanus tristis*	black-tailed monitor	C		0	1	6/14/2017

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
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		0	19	12/11/2009
16374	Equisetopsida	Acanthaceae	*Pseuderanthemum tenellum*		C		0	13	12/11/2009
16262	Equisetopsida	Acanthaceae	*Rostellularia adscendens*		C		0	9	12/11/2009
16015	Equisetopsida	Aizoaceae	*Trianthema triquetra*	red spinach	C		1	2	12/11/2009
18101	Equisetopsida	Amaranthaceae	*Achyranthes aspera*		C		0	4	12/11/2009
18026	Equisetopsida	Amaranthaceae	*Alternanthera denticulata*	lesser joyweed	C		0	2	12/11/2009
18029	Equisetopsida	Amaranthaceae	*Alternanthera nana*	hairy joyweed	C		0	16	12/11/2009
11738	Equisetopsida	Amaranthaceae	*Amaranthus cochleitepalus*		C		1	1	4/12/1997
17051	Equisetopsida	Amaranthaceae	*Gomphrena celosioides*	gomphrena weed			0	2	12/11/2009

12416	Equisetopsida	Amaryllidaceae	*Crinum flaccidum*	Murray lily	SL		0	1	12/11/2009
16424	Equisetopsida	Anacardiaceae	*Pleiogynium timorense*	Burdekin plum	C		0	1	12/11/2009
9698	Equisetopsida	Apocynaceae	*Carissa ovata*	currantbush	C		0	13	12/11/2009
35894	Equisetopsida	Apocynaceae	*Cynanchum viminale subsp. brunonianum*		C		0	7	12/11/2009
17050	Equisetopsida	Apocynaceae	*Gomphocarpus physocarpus*	balloon cottonbush			0	1	12/11/2009
41654	Equisetopsida	Apocynaceae	*Leichhardtia microlepis*		C		0	2	12/11/2009
41644	Equisetopsida	Apocynaceae	*Leichhardtia viridiflora subsp. viridiflora*		C		0	5	12/11/2009
16521	Equisetopsida	Apocynaceae	*Parsonsia lanceolata*	northern silkpod	C		0	12	12/11/2009
16184	Equisetopsida	Apocynaceae	*Secamone elliptica*		C		0	1	12/11/2009
15715	Equisetopsida	Asteraceae	*Acanthospermum hispidum*	star burr			0	1	12/11/2009
35061	Equisetopsida	Asteraceae	*Apowollastonia spilanthoides*		C		0	9	12/11/2009
18905	Equisetopsida	Asteraceae	*Calotis cuneata*		C		1	1	2/18/2003
15565	Equisetopsida	Asteraceae	*Calotis cuneifolia*	burr daisy	C		0	3	12/11/2009
8398	Equisetopsida	Asteraceae	*Chrysocephalum apiculatum*	yellow buttons	C		0	4	12/11/2009
22237	Equisetopsida	Asteraceae	*Cyanthillium cinereum*		C		0	10	12/11/2009
15401	Equisetopsida	Asteraceae	*Emilia sonchifolia*				0	5	12/11/2009
10959	Equisetopsida	Asteraceae	*Parthenium hysterophorus*	parthenium weed			1	4	12/11/2009
6541	Equisetopsida	Asteraceae	*Peripleura hispidula var. hispidula*		C		0	1	12/11/2009
15039	Equisetopsida	Asteraceae	*Sonchus oleraceus*	common sowthistle			0	6	12/11/2009
34624	Equisetopsida	Asteraceae	*Sphaeromorphaea australis*		C		0	4	12/11/2009
15393	Equisetopsida	Boraginaceae	*Ehretia membranifolia*	weeping koda	C		0	12	12/11/2009
14492	Equisetopsida	Boraginaceae	*Heliotropium*				0	1	12/11/2009
15968	Equisetopsida	Boraginaceae	*Trichodesma zeylanicum*		C		0	3	12/11/2009
15922	Equisetopsida	Byttneriaceae	*Waltheria indica*		C		0	7	12/11/2009

26344	Equisetopsida	Cactaceae	*Harrisia martinii*				0	10	12/11/2009
9535	Equisetopsida	Cactaceae	*Opuntia tomentosa*	velvety tree pear			0	12	12/11/2009
33856	Equisetopsida	Campanulaceae	*Lobelia concolor*		SL		0	1	12/11/2009
15918	Equisetopsida	Campanulaceae	*Wahlenbergia gracilis*	sprawling bluebell	SL		0	1	12/11/2009
13984	Equisetopsida	Capparaceae	*Capparis canescens*		C		0	1	12/11/2009
17726	Equisetopsida	Capparaceae	*Capparis lasiantha*	nipan	C		0	6	12/11/2009
18013	Equisetopsida	Casuarinaceae	*Allocasuarina luehmannii*	bull oak	C		0	3	12/11/2009
17707	Equisetopsida	Casuarinaceae	*Casuarina cristata*	belah	C		0	12	12/11/2009
34775	Equisetopsida	Celastraceae	*Denhamia cunninghamii*		C		0	10	12/11/2009
17455	Equisetopsida	Celastraceae	*Denhamia oleaster*		C		0	2	12/11/2009
22223	Equisetopsida	Celastraceae	*Elaeodendron australe*		C		0	1	12/11/2009
32391	Equisetopsida	Chenopodiaceae	*Dysphania melanocarpa forma melanocarpa*		C		0	2	12/11/2009
17320	Equisetopsida	Chenopodiaceae	*Einadia polygonoides*	knotweed goosefoot	C		0	1	12/11/2009
17296	Equisetopsida	Chenopodiaceae	*Enchylaena tomentosa*		C		0	6	12/11/2009
14431	Equisetopsida	Chenopodiaceae	*Maireana microphylla*		C		0	2	12/11/2009
8913	Equisetopsida	Combretaceae	*Terminalia oblongata*		C		0	10	12/11/2009
10033	Equisetopsida	Commelinaceae	*Commelina diffusa*		C		0	8	12/11/2009
10038	Equisetopsida	Commelinaceae	*Cyanotis axillaris*		C		0	5	12/11/2009
16599	Equisetopsida	Commelinaceae	*Murdannia graminea*	murdannia	C		0	5	12/11/2009
17599	Equisetopsida	Convolvulaceae	*Convolvulus erubescens*	Australian bindweed	C		0	1	12/11/2009
17176	Equisetopsida	Convolvulaceae	*Evolvulus alsinoides*		C		0	11	12/11/2009
9866	Equisetopsida	Convolvulaceae	*Ipomoea brownii*		C		0	1	12/11/2009
16862	Equisetopsida	Convolvulaceae	*Ipomoea plebeia*	bellvine	C		0	7	12/11/2009
16882	Equisetopsida	Convolvulaceae	*Jacquemontia paniculata*		C		0	14	12/11/2009

16396	Equisetopsida	Convolvulaceae	*Polymeria longifolia*	polymeria	C		0	5	12/11/2009
8914	Equisetopsida	Cucurbitaceae	*Cucumis anguria var. anguria*	West Indian gherkin			0	4	12/11/2009
9529	Equisetopsida	Cyperaceae	*Abildgaardia ovata*		C		1	5	12/11/2009
17511	Equisetopsida	Cyperaceae	*Cyperus bifax*	western nutgrass	C		1	1	1/22/1996
11060	Equisetopsida	Cyperaceae	*Cyperus concinnus*		C		1	3	12/11/2009
10520	Equisetopsida	Cyperaceae	*Cyperus cristulatus*		C		0	3	12/11/2009
14661	Equisetopsida	Cyperaceae	*Cyperus cyperoides*		C		0	3	12/11/2009
17515	Equisetopsida	Cyperaceae	*Cyperus difformis*	rice sedge	C		0	2	12/11/2009
17517	Equisetopsida	Cyperaceae	*Cyperus esculentus*	yellow nutgrass			1	1	1/22/1996
17519	Equisetopsida	Cyperaceae	*Cyperus fulvus*		C		1	1	1/22/1996
17521	Equisetopsida	Cyperaceae	*Cyperus gracilis*		C		0	9	12/11/2009
17524	Equisetopsida	Cyperaceae	*Cyperus iria*		C		0	2	12/11/2009
17528	Equisetopsida	Cyperaceae	*Cyperus leiocaulon*		C		1	1	1/22/1996
41243	Equisetopsida	Cyperaceae	*Cyperus leptocarpus*		C		0	2	12/11/2009
17473	Equisetopsida	Cyperaceae	*Cyperus perangustus*		C		0	1	12/11/2009
11454	Equisetopsida	Cyperaceae	*Cyperus rigidellus*		C		0	9	12/11/2009
14667	Equisetopsida	Cyperaceae	*Cyperus scariosus*		C		0	1	12/11/2009
11954	Equisetopsida	Cyperaceae	*Cyperus sesquiflorus*				1	1	1/22/1996
17480	Equisetopsida	Cyperaceae	*Cyperus squarrosus*	bearded flatsedge	C		0	7	12/11/2009
17107	Equisetopsida	Cyperaceae	*Fimbristylis dichotoma*	common fringe-rush	C		0	12	12/11/2009
14510	Equisetopsida	Cyperaceae	*Fimbristylis nuda*		C		0	1	12/11/2009
17109	Equisetopsida	Cyperaceae	*Fimbristylis nutans*		C		0	1	12/11/2009
14228	Equisetopsida	Cyperaceae	*Scleria mackaviensis*		C		0	13	12/11/2009
17351	Equisetopsida	Droseraceae	*Drosera*				0	4	12/11/2009

17445	Equisetopsida	Ebenaceae	*Diospyros humilis*	small-leaved ebony	C		1	8	5/31/2011
17288	Equisetopsida	Erythroxylaceae	*Erythroxylum australe*	cocaine tree	C		0	15	12/11/2009
6716	Equisetopsida	Euphorbiaceae	*Adriana tomentosa var. tomentosa*		C		1	1	2/17/1996
5515	Equisetopsida	Euphorbiaceae	*Euphorbia drummondii*		C		0	10	12/11/2009
4734	Equisetopsida	Euphorbiaceae	*Euphorbia hyssopifolia*				0	8	12/11/2009
17166	Equisetopsida	Euphorbiaceae	*Euphorbia tannensis subsp. eremophila*		C		0	3	12/11/2009
17060	Equisetopsida	Goodeniaceae	*Goodenia glabra*		C		0	2	12/11/2009
21715	Equisetopsida	Goodeniaceae	*Velleia*				0	5	12/11/2009
12249	Equisetopsida	Hemerocallidacea e	*Dianella*				0	2	12/11/2009
15974	Equisetopsida	Hemerocallidacea e	*Tricoryne elatior*	yellow autumn lily	C		0	4	12/11/2009
15286	Equisetopsida	Hypoxidaceae	*Hypoxis pratensis var. pratensis*		C		0	4	12/11/2009
17628	Equisetopsida	Lamiaceae	*Clerodendrum floribundum*		C		0	3	12/11/2009
41035	Equisetopsida	Lamiaceae	*Coleus australis*		C		0	4	12/11/2009
15026	Equisetopsida	Lamiaceae	*Teucrium integrifolium*		C		1	1	2/18/2003
17703	Equisetopsida	Lauraceae	*Cassytha filiformis*	dodder laurel	C		0	1	12/11/2009
15339	Equisetopsida	Laxmanniaceae	*Eustrephus latifolius*	wombat berry	C		0	6	12/11/2009
16776	Equisetopsida	Laxmanniaceae	*Lomandra longifolia*		C		0	2	12/11/2009
18792	Equisetopsida	Laxmanniaceae	*Lomandra multiflora*		C		0	2	12/11/2009
15798	Equisetopsida	Leguminosae	*Acacia excelsa*		C		0	4	12/11/2009
15746	Equisetopsida	Leguminosae	*Acacia flavescens*	toothed wattle	C		0	2	12/11/2009
15752	Equisetopsida	Leguminosae	*Acacia harpophylla*	brigalow	C		0	2	12/11/2009
15755	Equisetopsida	Leguminosae	*Acacia holosericea*		C		0	2	12/11/2009
14939	Equisetopsida	Leguminosae	*Acacia julifera*		C		0	2	12/11/2009
15694	Equisetopsida	Leguminosae	*Acacia salicina*	doolan	C		0	4	12/11/2009

6117	Equisetopsida	Leguminosae	*Alysicarpus muelleri*		C		1	1	2/17/1996
21988	Equisetopsida	Leguminosae	*Cassia brewsteri*		C		1	1	10/31/1974
15534	Equisetopsida	Leguminosae	*Cassia tomentella*		C		0	10	12/11/2009
21932	Equisetopsida	Leguminosae	*Chamaecrista absus*		C		0	5	12/11/2009
18870	Equisetopsida	Leguminosae	*Chamaecrista concinna*		C		0	2	12/11/2009
15469	Equisetopsida	Leguminosae	*Crotalaria medicaginea*	trefoil rattlepod	C		0	4	12/11/2009
15470	Equisetopsida	Leguminosae	*Crotalaria mitchellii subsp. mitchellii*		C		0	1	12/11/2009
15471	Equisetopsida	Leguminosae	*Crotalaria montana*		C		0	3	12/11/2009
14691	Equisetopsida	Leguminosae	*Crotalaria sessiliflora*		C		0	8	12/11/2009
13642	Equisetopsida	Leguminosae	*Desmodium brachypodum*	large ticktrefoil	C		0	8	12/11/2009
13935	Equisetopsida	Leguminosae	*Desmodium varians*	slender tick trefoil	C		0	3	12/11/2009
15343	Equisetopsida	Leguminosae	*Galactia tenuiflora*		C		0	2	12/11/2009
15354	Equisetopsida	Leguminosae	*Glycine falcata*		C		1	1	2/18/2003
15356	Equisetopsida	Leguminosae	*Glycine tabacina*	glycine pea	C		0	14	12/11/2009
15357	Equisetopsida	Leguminosae	*Glycine tomentella*	woolly glycine	C		0	9	12/11/2009
41975	Equisetopsida	Leguminosae	*Heliodendron basalticum*		C		0	8	12/11/2009
15292	Equisetopsida	Leguminosae	*Indigofera colutea*	sticky indigo	C		0	6	12/11/2009
15295	Equisetopsida	Leguminosae	*Indigofera linifolia*		C		0	1	12/11/2009
15296	Equisetopsida	Leguminosae	*Indigofera linnaei*	Birdsville indigo	C		0	6	12/11/2009
15298	Equisetopsida	Leguminosae	*Indigofera sericovexilla*		C		0	2	12/11/2009
15233	Equisetopsida	Leguminosae	*Lysiphyllum carronii*	ebony tree	C		0	1	12/11/2009
15204	Equisetopsida	Leguminosae	*Neptunia gracilis*		C		1	1	2/18/2003
14370	Equisetopsida	Leguminosae	*Neptunia gracilis forma gracilis*		C		0	2	12/11/2009
9173	Equisetopsida	Leguminosae	*Rhynchosia minima var. australis*		C		1	13	12/11/2009

15070	Equisetopsida	Leguminosae	*Senna coronilloides*		C		0	1	12/11/2009
12876	Equisetopsida	Leguminosae	*Stylosanthes scabra*				0	15	12/11/2009
12340	Equisetopsida	Leguminosae	*Tephrosia brachyodon var. longifolia*		C		0	2	12/11/2009
10816	Equisetopsida	Leguminosae	*Tephrosia dietrichiae*		C		0	2	12/11/2009
15021	Equisetopsida	Leguminosae	*Tephrosia juncea*		C		0	5	12/11/2009
10809	Equisetopsida	Leguminosae	*Tephrosia leptoclada*		C		0	3	12/11/2009
30907	Equisetopsida	Leguminosae	*Vachellia bidwillii*		C		0	3	12/11/2009
14952	Equisetopsida	Leguminosae	*Vigna lanceolata*		C		0	6	12/11/2009
13733	Equisetopsida	Leguminosae	*Zornia muelleriana*		C		0	1	12/11/2009
13734	Equisetopsida	Leguminosae	*Zornia muriculata*		C		0	8	12/11/2009
15196	Equisetopsida	Loganiaceae	*Mitrasacme alsinoides*		C		0	5	12/11/2009
12583	Equisetopsida	Loganiaceae	*Mitrasacme pygmaea*		C		0	8	12/11/2009
11979	Equisetopsida	Lythraceae	*Ammannia multiflora*	jerry-jerry	C		0	2	12/11/2009
12938	Equisetopsida	Lythraceae	*Lythrum paradoxum*		C		0	1	12/11/2009
31412	Equisetopsida	Malvaceae	*Abutilon guineense*				2	2	2/18/2003
18084	Equisetopsida	Malvaceae	*Abutilon malvifolium*	bastard marshmallow	C		0	1	12/11/2009
18088	Equisetopsida	Malvaceae	*Abutilon oxycarpum var. subsagittatum*		C		0	16	12/11/2009
9763	Equisetopsida	Malvaceae	*Hibiscus sturtii var. sturtii*		C		0	8	12/11/2009
22230	Equisetopsida	Malvaceae	*Malvastrum americanum*				0	2	12/11/2009
16151	Equisetopsida	Malvaceae	*Sida*				0	7	12/11/2009
16195	Equisetopsida	Malvaceae	*Sida cordifolia*				0	12	12/11/2009
12919	Equisetopsida	Malvaceae	*Sida cunninghamii*		C		0	3	12/11/2009
22197	Equisetopsida	Malvaceae	*Sida hackettiana*		C		0	5	12/11/2009
16146	Equisetopsida	Malvaceae	*Sida rhombifolia*				0	11	12/11/2009

16147	Equisetopsida	Malvaceae	*Sida rohlenae*		C		0	7	12/11/2009
16557	Equisetopsida	Meliaceae	*Owenia acidula*	emu apple	C		0	1	12/11/2009
15998	Equisetopsida	Menispermaceae	*Tinospora smilacina*	snakevine	C		0	1	12/11/2009
42246	Equisetopsida	Myrtaceae	*Blakella dallachiana*		C		0	6	12/11/2009
6534	Equisetopsida	Myrtaceae	*Corymbia clarksoniana*		C		1	7	12/11/2009
6572	Equisetopsida	Myrtaceae	*Corymbia tessellaris*	Moreton Bay ash	C		0	3	12/11/2009
17247	Equisetopsida	Myrtaceae	*Eucalyptus camaldulensis*		C		0	1	12/11/2009
17252	Equisetopsida	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark	C		1	1	1/21/1996
12185	Equisetopsida	Myrtaceae	*Eucalyptus crebra x Eucalyptus orgadophila*		C		1	1	1/21/1996
12503	Equisetopsida	Myrtaceae	*Eucalyptus platyphylla*	poplar gum	C		0	3	12/11/2009
17188	Equisetopsida	Myrtaceae	*Eucalyptus populnea*	poplar box	C		0	13	12/11/2009
14554	Equisetopsida	Myrtaceae	*Eucalyptus raveretiana*	black ironbox	C	V	1	1	5/31/2011
17204	Equisetopsida	Myrtaceae	*Eucalyptus tereticornis*		C		0	3	12/11/2009
18283	Equisetopsida	Myrtaceae	*Melaleuca fluviatilis*		C		1	1	1/23/1996
13828	Equisetopsida	Myrtaceae	*Melaleuca nervosa*		C		0	5	12/11/2009
12869	Equisetopsida	Nyctaginaceae	*Boerhavia dominii*		C		0	9	12/11/2009
16837	Equisetopsida	Oleaceae	*Jasminum didymum subsp. lineare*		C		0	6	12/11/2009
13835	Equisetopsida	Oleaceae	*Notelaea microcarpa*		C		0	1	12/11/2009
17505	Equisetopsida	Orchidaceae	*Cymbidium canaliculatum*		SL		0	3	12/11/2009
17808	Equisetopsida	Phyllanthaceae	*Breynia oblongifolia*		C		0	11	12/11/2009
16474	Equisetopsida	Phyllanthaceae	*Phyllanthus*				0	1	12/11/2009
14309	Equisetopsida	Phyllanthaceae	*Phyllanthus fuernrohrii*		C		0	1	12/11/2009
9602	Equisetopsida	Phyllanthaceae	*Phyllanthus maderaspatensis*		C		0	6	12/11/2009
16470	Equisetopsida	Phyllanthaceae	*Phyllanthus mitchellii*		C		0	1	12/11/2009

16473	Equisetopsida	Phyllanthaceae	*Phyllanthus virgatus*		C		0	16	12/11/2009
16505	Equisetopsida	Picrodendraceae	*Petalostigma pubescens*	quinine tree	C		0	10	12/11/2009
14019	Equisetopsida	Pittosporaceae	*Bursaria incana*		C		0	9	12/11/2009
26012	Equisetopsida	Pittosporaceae	*Pittosporum angustifolium*		C		0	3	12/11/2009
16183	Equisetopsida	Plantaginaceae	*Scoparia dulcis*	scoparia			0	3	12/11/2009
13600	Equisetopsida	Plantaginaceae	*Stemodia glabella*		C		1	1	2/18/2003
14843	Equisetopsida	Poaceae	*Alloteropsis cimicina*		C		0	3	12/11/2009
15670	Equisetopsida	Poaceae	*Alloteropsis semialata*	cockatoo grass	C		0	4	12/11/2009
15675	Equisetopsida	Poaceae	*Ancistrachne uncinulata*	hooky grass	C		0	10	12/11/2009
15648	Equisetopsida	Poaceae	*Aristida benthamii var. benthamii*		C		0	2	12/11/2009
15649	Equisetopsida	Poaceae	*Aristida calycina var. calycina*		C		0	10	12/11/2009
18398	Equisetopsida	Poaceae	*Aristida holathera*		C		0	3	12/11/2009
15652	Equisetopsida	Poaceae	*Aristida holathera var. holathera*		C		0	4	12/11/2009
11517	Equisetopsida	Poaceae	*Aristida jerichoensis var. subspinulifera*		C		0	8	12/11/2009
9661	Equisetopsida	Poaceae	*Aristida ramosa*	purple wiregrass	C		0	11	12/11/2009
15604	Equisetopsida	Poaceae	*Bothriochloa bladhii subsp. bladhii*		C		0	6	12/11/2009
10316	Equisetopsida	Poaceae	*Bothriochloa decipiens var. decipiens*		C		0	7	12/11/2009
9929	Equisetopsida	Poaceae	*Bothriochloa erianthoides*	satintop grass	C		1	1	1/22/1996
15605	Equisetopsida	Poaceae	*Bothriochloa ewartiana*	desert bluegrass	C		0	1	12/11/2009
15606	Equisetopsida	Poaceae	*Bothriochloa pertusa*				0	20	12/11/2009
34710	Equisetopsida	Poaceae	*Calyptochloa gracillima subsp. gracillima*		C		0	4	12/11/2009
14774	Equisetopsida	Poaceae	*Capillipedium spicigerum*	spicytop	C		0	3	12/11/2009
15540	Equisetopsida	Poaceae	*Cenchrus ciliaris*				0	18	12/11/2009
15552	Equisetopsida	Poaceae	*Chloris inflata*	purpletop chloris			0	4	12/11/2009

15526	Equisetopsida	Poaceae	*Chloris ventricosa*	tall chloris	C		0	12	12/11/2009
15531	Equisetopsida	Poaceae	*Chrysopogon fallax*		C		0	19	12/11/2009
15483	Equisetopsida	Poaceae	*Cymbopogon bombycinus*	silky oilgrass	C		0	2	12/11/2009
15485	Equisetopsida	Poaceae	*Cymbopogon refractus*	barbed-wire grass	C		0	7	12/11/2009
15486	Equisetopsida	Poaceae	*Cynodon dactylon*				0	2	12/11/2009
15490	Equisetopsida	Poaceae	*Dactyloctenium radulans*	button grass	C		0	4	12/11/2009
15464	Equisetopsida	Poaceae	*Dichanthium aristatum*	angleton grass			1	1	5/31/2011
15465	Equisetopsida	Poaceae	*Dichanthium fecundum*	curly bluegrass	C		2	5	12/11/2009
9620	Equisetopsida	Poaceae	*Dichanthium sericeum*		C		0	4	12/11/2009
15467	Equisetopsida	Poaceae	*Dichanthium sericeum subsp. sericeum*		C		1	1	3/17/1998
15414	Equisetopsida	Poaceae	*Dichanthium tenue*	small bluegrass	C		0	2	12/11/2009
10410	Equisetopsida	Poaceae	*Digitaria ammophila*	silky umbrella grass	C		0	4	12/11/2009
15417	Equisetopsida	Poaceae	*Digitaria bicornis*		C		0	4	12/11/2009
15419	Equisetopsida	Poaceae	*Digitaria brownii*		C		0	13	12/11/2009
15424	Equisetopsida	Poaceae	*Digitaria divaricatissima*	spreading umbrella grass	C		0	5	12/11/2009
34495	Equisetopsida	Poaceae	*Dinebra decipiens var. asthenes*		C		0	1	12/11/2009
34493	Equisetopsida	Poaceae	*Dinebra decipiens var. decipiens*		C		0	6	12/11/2009
14567	Equisetopsida	Poaceae	*Echinochloa colona*	awnless barnyard grass			0	3	12/11/2009
15398	Equisetopsida	Poaceae	*Elytrophorus spicatus*		C		0	1	12/11/2009
10335	Equisetopsida	Poaceae	*Enneapogon nigricans*	niggerheads	C		0	1	12/11/2009
10331	Equisetopsida	Poaceae	*Enneapogon pallidus*	conetop nineawn	C		0	7	12/11/2009
15407	Equisetopsida	Poaceae	*Enneapogon truncatus*		C		0	14	12/11/2009
10340	Equisetopsida	Poaceae	*Enteropogon acicularis*	curly windmill grass	C		0	4	12/11/2009
15409	Equisetopsida	Poaceae	*Enteropogon unispiceus*		C		0	13	12/11/2009

15361	Equisetopsida	Poaceae	*Eragrostis elongata*		C		1	13	12/11/2009
15364	Equisetopsida	Poaceae	*Eragrostis lacunaria*	purple lovegrass	C		0	12	12/11/2009
15366	Equisetopsida	Poaceae	*Eragrostis leptocarpa*	drooping lovegrass	C		0	5	12/11/2009
15367	Equisetopsida	Poaceae	*Eragrostis leptostachya*		C		0	11	12/11/2009
15373	Equisetopsida	Poaceae	*Eragrostis sororia*		C		0	4	12/11/2009
10729	Equisetopsida	Poaceae	*Eriachne mucronata*		C		0	1	12/11/2009
11081	Equisetopsida	Poaceae	*Eriachne rara*		C		0	4	12/11/2009
15330	Equisetopsida	Poaceae	*Eriochloa crebra*	spring grass	C		0	2	12/11/2009
15332	Equisetopsida	Poaceae	*Eriochloa pseudoacrotricha*		C		1	11	5/31/2011
15336	Equisetopsida	Poaceae	*Eulalia aurea*	silky browntop	C		0	11	12/11/2009
15320	Equisetopsida	Poaceae	*Heteropogon contortus*	black speargrass	C		0	15	12/11/2009
15321	Equisetopsida	Poaceae	*Heteropogon triticeus*	giant speargrass	C		0	4	12/11/2009
15290	Equisetopsida	Poaceae	*Imperata cylindrica*	blady grass	C		0	1	12/11/2009
10849	Equisetopsida	Poaceae	*Iseilema macratherum*		C		1	1	1/23/1996
10678	Equisetopsida	Poaceae	*Lolium perenne*	perennial ryegrass			1	1	8/31/2008
27900	Equisetopsida	Poaceae	*Megathyrsus maximus var. pubiglumis*				0	3	12/11/2009
9154	Equisetopsida	Poaceae	*Melinis repens*	red natal grass			0	12	12/11/2009
10640	Equisetopsida	Poaceae	*Panicum decompositum var. tenuius*		C		0	10	12/11/2009
13607	Equisetopsida	Poaceae	*Panicum effusum*		C		0	14	12/11/2009
15176	Equisetopsida	Poaceae	*Panicum larcomianum*		C		0	1	12/11/2009
15184	Equisetopsida	Poaceae	*Paspalidium caespitosum*	brigalow grass	C		1	11	12/11/2009
11417	Equisetopsida	Poaceae	*Paspalidium constrictum*		C		0	14	12/11/2009
13553	Equisetopsida	Poaceae	*Paspalidium criniforme*		C		1	1	1/22/1996
14345	Equisetopsida	Poaceae	*Paspalidium distans*	shotgrass	C		0	4	12/11/2009

15144	Equisetopsida	Poaceae	*Perotis rara*	comet grass	C		0	1	12/11/2009
15032	Equisetopsida	Poaceae	*Setaria surgens*		C		0	4	12/11/2009
11349	Equisetopsida	Poaceae	*Sporobolus actinocladus*	katoora grass	C		0	1	12/11/2009
15055	Equisetopsida	Poaceae	*Sporobolus caroli*	fairy grass	C		0	7	12/11/2009
14156	Equisetopsida	Poaceae	*Themeda avenacea*		C		0	1	12/11/2009
14974	Equisetopsida	Poaceae	*Themeda triandra*	kangaroo grass	C		0	11	12/11/2009
11356	Equisetopsida	Poaceae	*Tragus australianus*	small burr grass	C		0	4	12/11/2009
14995	Equisetopsida	Poaceae	*Tripogon loliiformis*	five minute grass	C		0	2	12/11/2009
29242	Equisetopsida	Poaceae	*Urochloa foliosa*		C		1	1	1/22/1996
29241	Equisetopsida	Poaceae	*Urochloa holosericea subsp. holosericea*		C		0	3	12/11/2009
14999	Equisetopsida	Poaceae	*Urochloa mosambicensis*	sabi grass			0	5	12/11/2009
2264	Equisetopsida	Poaceae	*Urochloa praetervisa*		C		0	2	12/11/2009
2250	Equisetopsida	Poaceae	*Urochloa pubigera*		C		0	8	12/11/2009
27672	Equisetopsida	Poaceae	*Walwhalleya subxerophila*		C		1	1	7/8/1998
10126	Equisetopsida	Poaceae	*Whiteochloa airoides*		C		0	2	12/11/2009
36334	Equisetopsida	Polygonaceae	*Rumex hypogaeus*				0	7	12/11/2009
17793	Equisetopsida	Portulacaceae	*Calandrinia pickeringii*		C		0	2	12/11/2009
16358	Equisetopsida	Portulacaceae	*Portulaca filifolia*		C		0	8	12/11/2009
16359	Equisetopsida	Portulacaceae	*Portulaca oleracea*	pigweed			0	1	12/11/2009
19434	Equisetopsida	Portulacaceae	*Portulaca pilosa*				0	1	12/11/2009
17039	Equisetopsida	Proteaceae	*Grevillea parallela*		C		0	1	12/11/2009
17045	Equisetopsida	Proteaceae	*Grevillea striata*	beefwood	C		0	1	12/11/2009
14538	Equisetopsida	Proteaceae	*Hakea lorea*		C		0	5	12/11/2009
17682	Equisetopsida	Pteridaceae	*Cheilanthes sieberi subsp. sieberi*		C		0	6	12/11/2009

9659	Equisetopsida	Rhamnaceae	*Alphitonia excelsa*	soap tree	C		0	11	12/11/2009
15950	Equisetopsida	Rhamnaceae	*Ventilago viminalis*	supplejack	C		0	10	12/11/2009
29824	Equisetopsida	Rubiaceae	*Psydrax attenuata*		C		0	4	12/11/2009
29826	Equisetopsida	Rubiaceae	*Psydrax odorata forma buxifolia*		C		0	7	12/11/2009
29823	Equisetopsida	Rubiaceae	*Psydrax oleifolia*		C		0	2	12/11/2009
16139	Equisetopsida	Rubiaceae	*Spermacoce multicaulis*		C		0	13	12/11/2009
18819	Equisetopsida	Rutaceae	*Citrus glauca*		C		1	1	9/30/1993
11300	Equisetopsida	Rutaceae	*Flindersia australis*	crow's ash	C		0	1	12/11/2009
17122	Equisetopsida	Rutaceae	*Flindersia dissosperma*		C		0	12	12/11/2009
11430	Equisetopsida	Rutaceae	*Geijera salicifolia*	brush wilga	C		1	13	5/31/2011
16237	Equisetopsida	Santalaceae	*Santalum lanceolatum*		SL		0	2	12/11/2009
18054	Equisetopsida	Sapindaceae	*Alectryon diversifolius*	scrub boonaree	C		0	4	12/11/2009
14839	Equisetopsida	Sapindaceae	*Alectryon oleifolius subsp. elongatus*		C		0	2	12/11/2009
17906	Equisetopsida	Sapindaceae	*Atalaya hemiglauca*		C		0	11	12/11/2009
8631	Equisetopsida	Scrophulariaceae	*Eremophila debilis*	winter apple	C		0	5	12/11/2009
3377	Equisetopsida	Scrophulariaceae	*Eremophila deserti*		C		0	1	12/11/2009
17278	Equisetopsida	Scrophulariaceae	*Eremophila mitchellii*		C		0	10	12/11/2009
16602	Equisetopsida	Scrophulariaceae	*Myoporum acuminatum*	coastal boobialla	C		0	4	12/11/2009
16165	Equisetopsida	Solanaceae	*Solanum ellipticum*	potato bush	C		0	3	12/11/2009
16166	Equisetopsida	Solanaceae	*Solanum esuriale*	quena	C		1	2	12/11/2009
29802	Equisetopsida	Solanaceae	*Solanum parvifolium subsp. parvifolium*		C		0	3	12/11/2009
17049	Equisetopsida	Sparrmanniaceae	*Grewia latifolia*	dysentery plant	C		0	19	12/11/2009
16438	Equisetopsida	Thymelaeaceae	*Pimelea linifolia subsp. linifolia*		C		0	3	12/11/2009
41612	Equisetopsida	Violaceae	*Pigea enneasperma*		C		0	9	12/11/2009

41630	Equisetopsida	Violaceae	*Pigea stellarioides*		C		0	2	12/11/2009
31727	Equisetopsida	Vitaceae	*Clematicissus opaca*		C		0	1	12/11/2009

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

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, 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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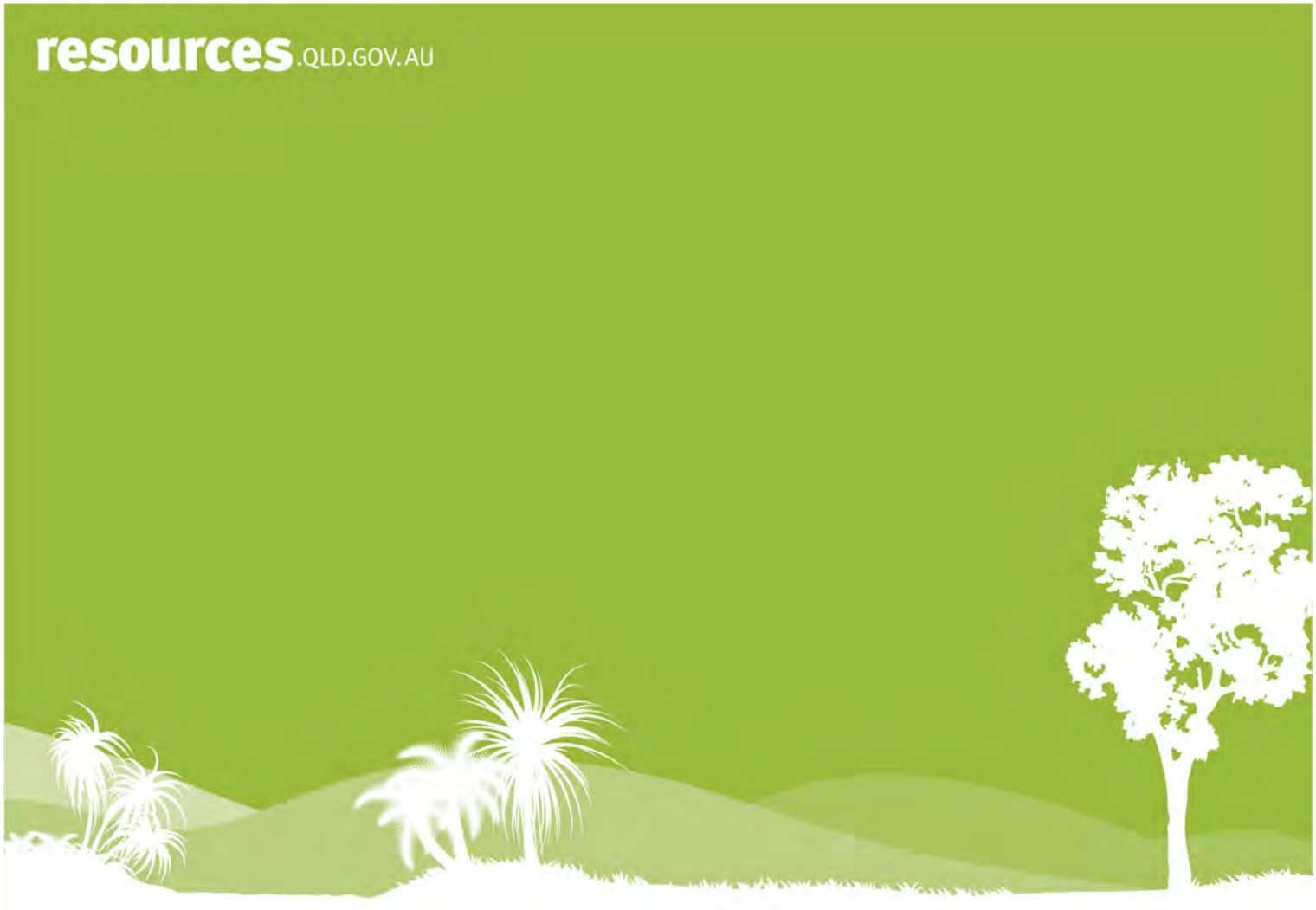

Vegetation management report

For Lot: 12 Plan: SP303309
12/05/2024

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of Environment, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

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1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 12 Plan: SP303309 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
12	SP303309	Lands Lease	278,000,000
J	SP303309	Easement	26,030
C	SP195754	Easement	86,330
A	WHS412	Easement	107,300
A	WHS417	Easement	403,500
B	SP195754	Easement	53,850
D	SP195754	Easement	180,600

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 12 Plan: SP303309 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 12 Plan: SP303309, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Isaac Regional

Catchment(s)
Fitzroy
Burdekin

Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 12 Plan: SP303309

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category A	60.92
Category B	23,549.53
Category C	129.52
Category R	1.27
Category X	3,871.45

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property.
Reference number:

2013/001437

2013/000563

2013/003275

2019/004917

2006/001802

2010/008592

2024/000544

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.10.12	Least concern	B	251.81	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.12	Least concern	C	1.19	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.12	Least concern	R	0.01	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.4	Least concern	B	895.13	Eucalyptus decorticans, Lysicarpus angustifolius +/- Eucalyptus spp., Corymbia spp., Acacia spp. woodland on coarse-grained sedimentary rocks	Sparse
11.10.7	Least concern	B	1,111.38	Eucalyptus crebra woodland on coarse-grained sedimentary rocks	Sparse
11.11.1	Least concern	A	17.20	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse
11.11.1	Least concern	B	1,277.00	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse
11.11.1	Least concern	C	37.70	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse

11.12.1	Least concern	A	4.30	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.1	Least concern	B	320.23	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.1	Least concern	C	9.42	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.2	Least concern	B	0.66	Eucalyptus melanophloia woodland on igneous rocks	Sparse
11.12.3	Least concern	B	540.16	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks especially granite	Sparse
11.12.3	Least concern	C	2.17	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks especially granite	Sparse
11.12.4	Least concern	B	146.28	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.4	Least concern	C	2.17	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.3.1	Endangered	B	83.92	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	B	834.81	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	757.84	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.27	Least concern	B	19.98	Freshwater wetlands	Sparse
11.3.4	Of concern	A	0.58	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	B	1,123.89	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	11.08	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	0.09	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.8.13	Endangered	B	22.69	Semi-evergreen vine thicket and microphyll vine forest on Cainozoic igneous rocks	Dense
11.9.10	Of concern	B	265.12	Eucalyptus populnea open forest with a secondary tree layer of Acacia harpophylla and sometimes Casuarina cristata on fine-grained sedimentary rocks	Mid-dense
11.9.2	Least concern	B	2,352.87	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.2	Least concern	C	13.23	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse

11.9.2	Least concern	R	0.66	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.4	Of concern	A	11.65	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.4	Of concern	B	124.46	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.4	Of concern	C	27.24	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.4	Of concern	R	0.01	Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks	Dense
11.9.5	Endangered	A	27.19	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	B	262.13	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	C	16.55	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.7	Of concern	B	7,219.23	Eucalyptus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Sparse
11.9.7	Of concern	R	0.05	Eucalyptus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	B	5,939.92	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	C	8.78	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	R	0.46	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
non-rem	None	X	3,871.45	None	None

Please note:
1. All area and area derived figures included in this table 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.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses
Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands
Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 4.2 of this report.

3.5 Essential habitat
Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.		Riparian areas, plains and hill/escarpment slopes.
7667	Macropteranthes leiocaulis		NT	deciduous vine thicket; semi-evergreen vine thicket; brigalow-semi-evergreen vine thicket; softwood scrub; Araucarian microphyll or simple microphyll vine forest; brigalow/belah scrub	0 to 400 m	duplex soil with sandy clay loam surface or loam to clay loam or heavy clay soil	gentle to steep hill slope, steep ridge line, plain, alluvial flat, watercourse

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 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7667	11.3.1, 11.3.11, 11.4.1, 11.5.15, 11.11.5, 11.11.14, 11.11.18, 11.12.4, 12.11.4, 12.11.12, 12.12.13

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A (with urban areas masked as per SPP): 1109.54 ha

Class B (with urban areas masked as per SPP): 6549.07 ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 12 Plan: SP303309.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

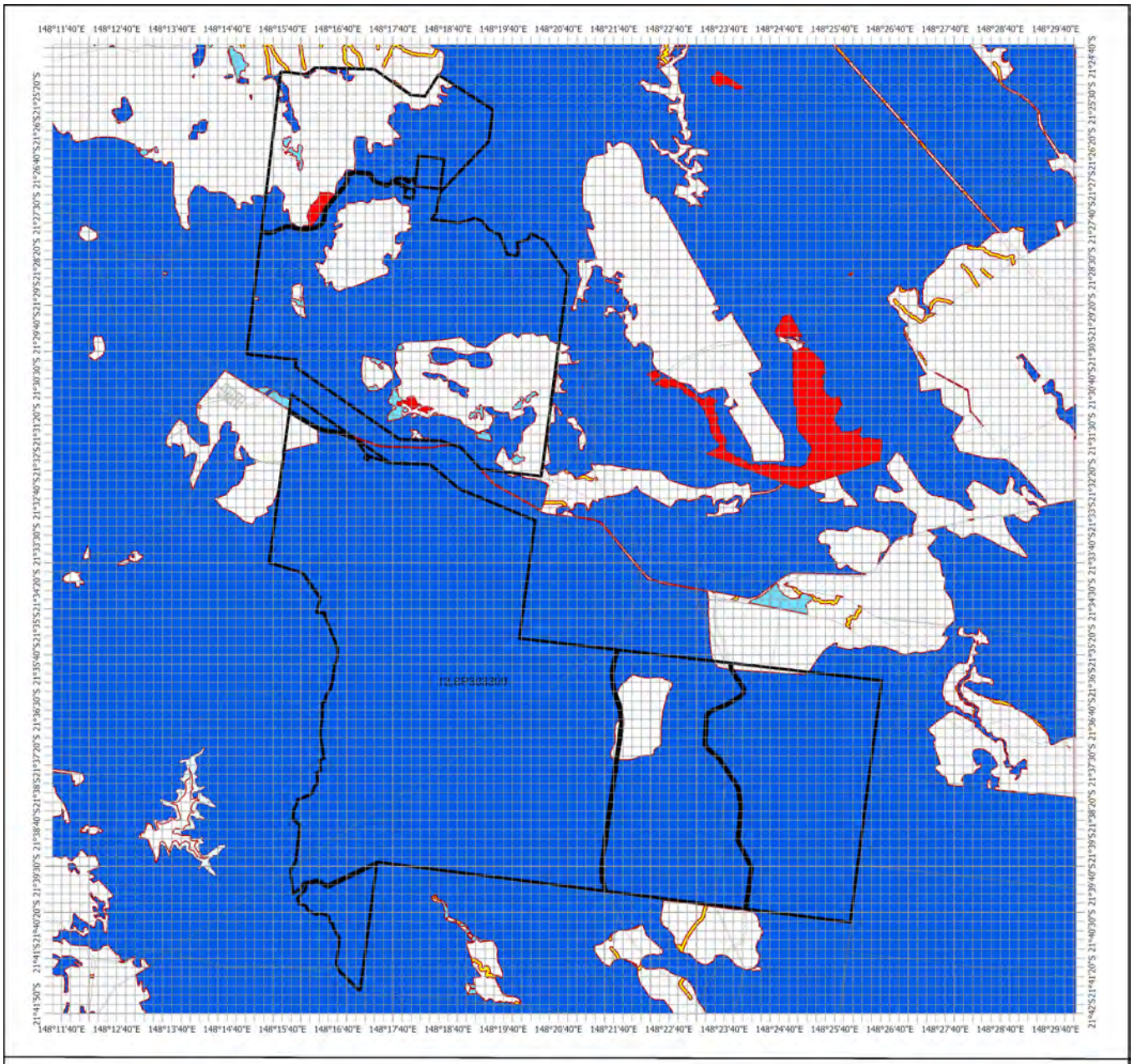
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

4.1 Regulated vegetation management map



Regulated Vegetation Management Map

- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Other land parcel boundaries
- Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

This product is displayed in:
GDA2020

Disclaimer:
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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

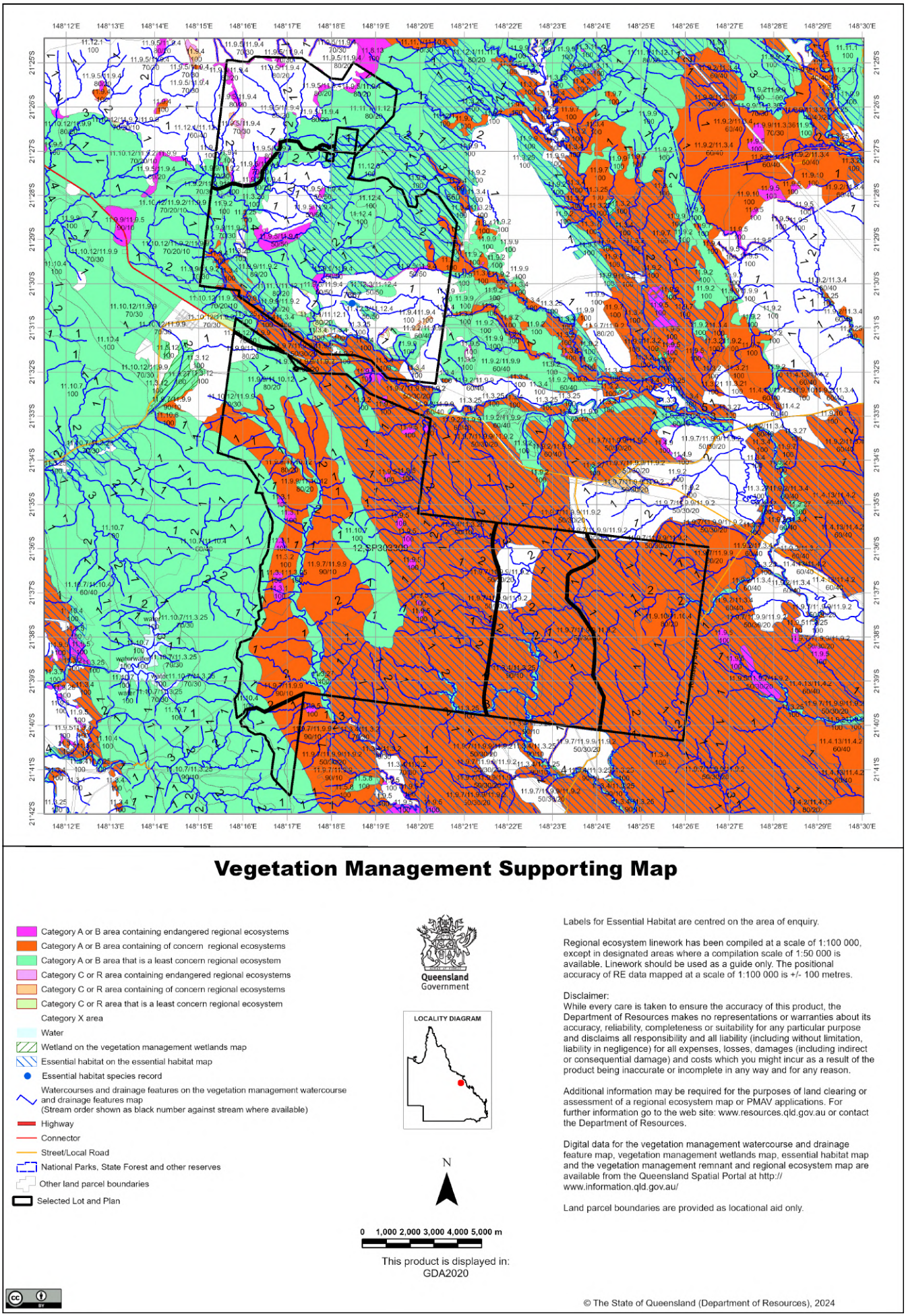
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

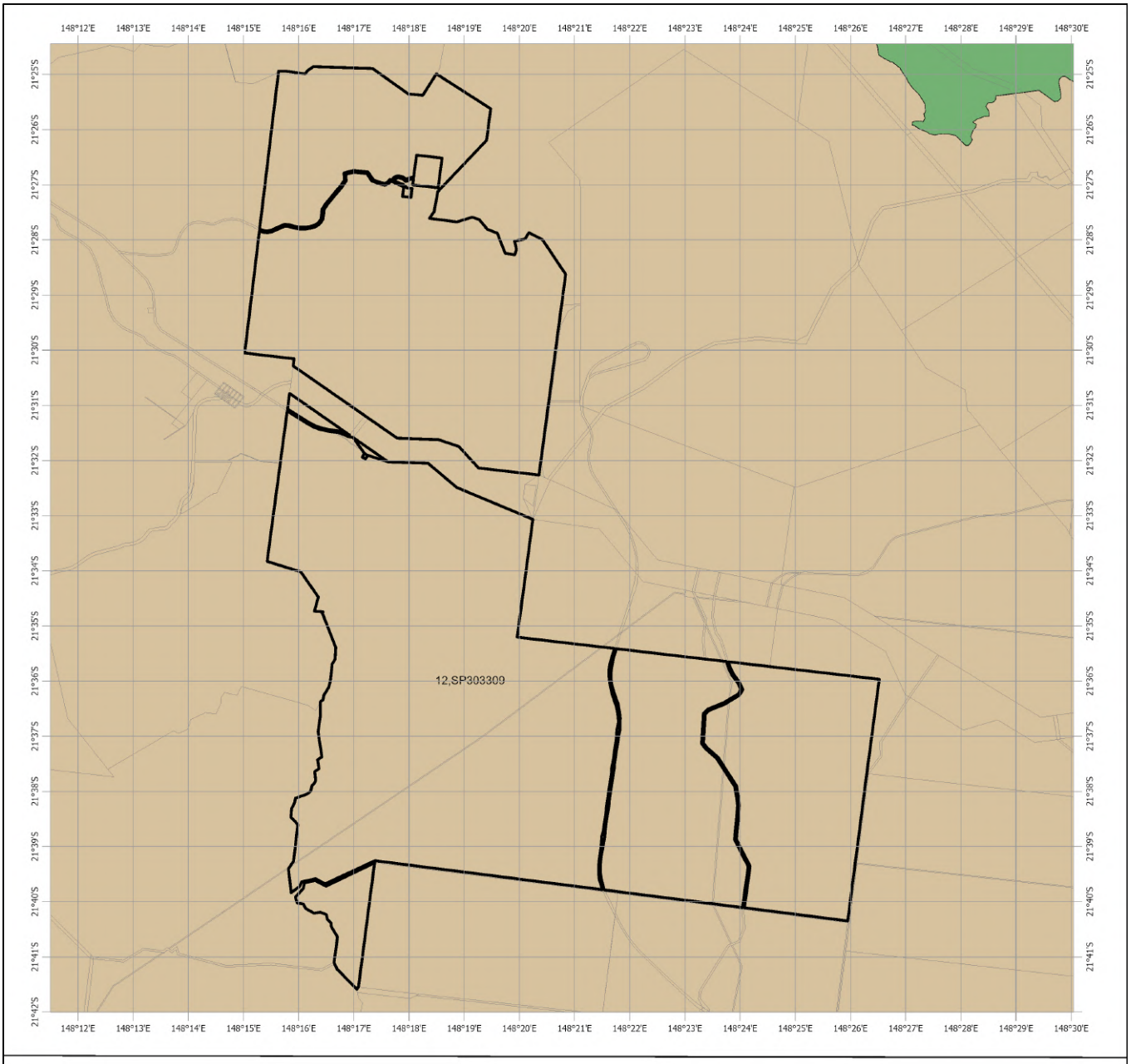
This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

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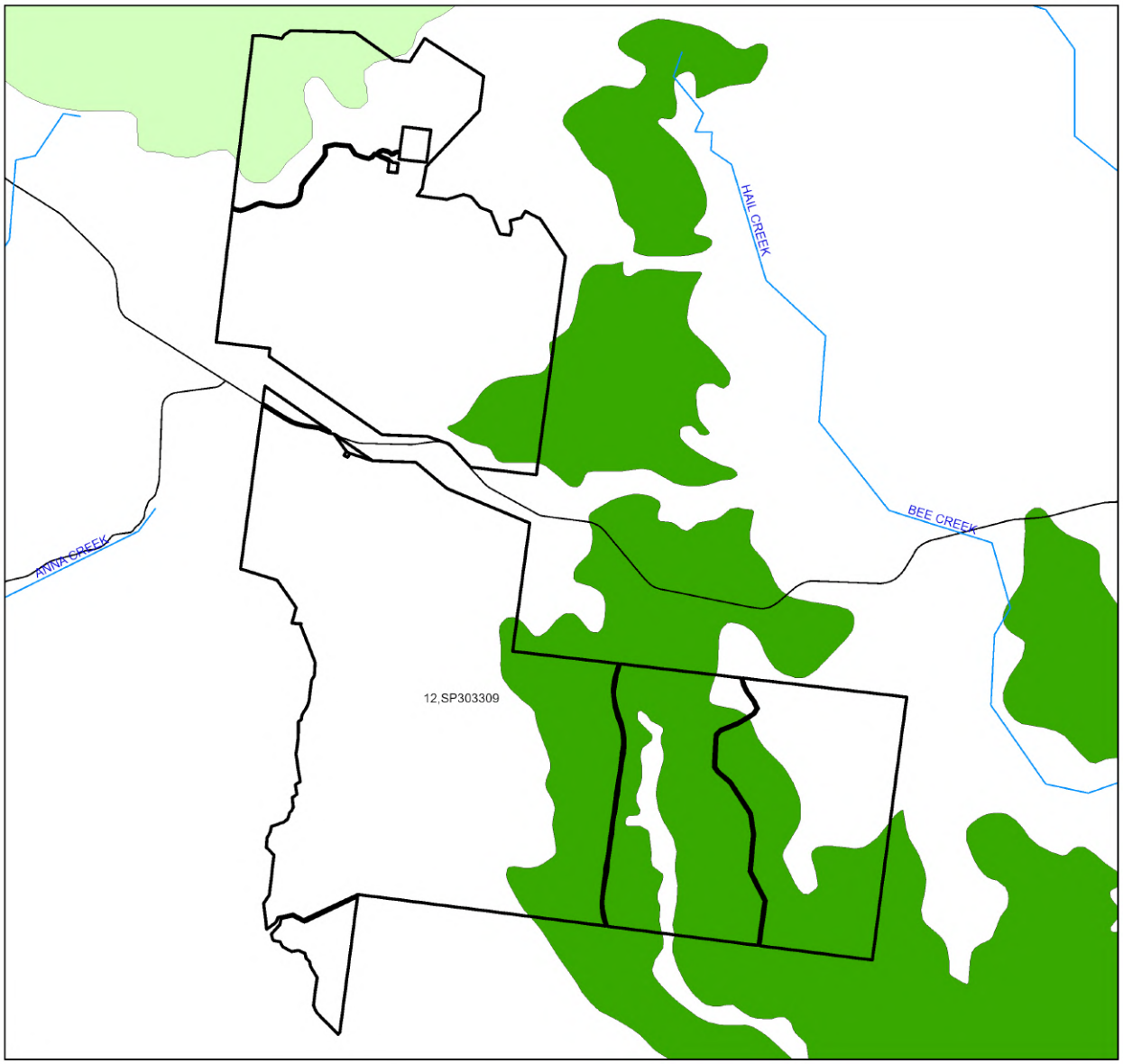
Land parcel boundaries shown are provided as a locational aid only.

4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



Agricultural Land Class A or B
as per State Planning Policy: State Interest for Agriculture

- Towns
- Rivers and creeks
- Freeways / motorways; Highways
- Secondary roads; Streets

Agricultural land class A or B

- A
- B
- Not class A or B
- Selected Lot and Plan

LOCALITY DIAGRAM

N

Disclaimer
Whilst every care is taken to ensure the accuracy of these details all data custodians and/or 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 to which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.

0 1000 2000 3000 4000 5000 m

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5. Protected plants framework (administered by the Department of Environment, Science and Innovation (DESI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DESI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment, Science and Innovation webpage on the clearing of protected plants for more information.

Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

This product is displayed in:
GDA2020

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment, Science and Innovation (DESI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DESI

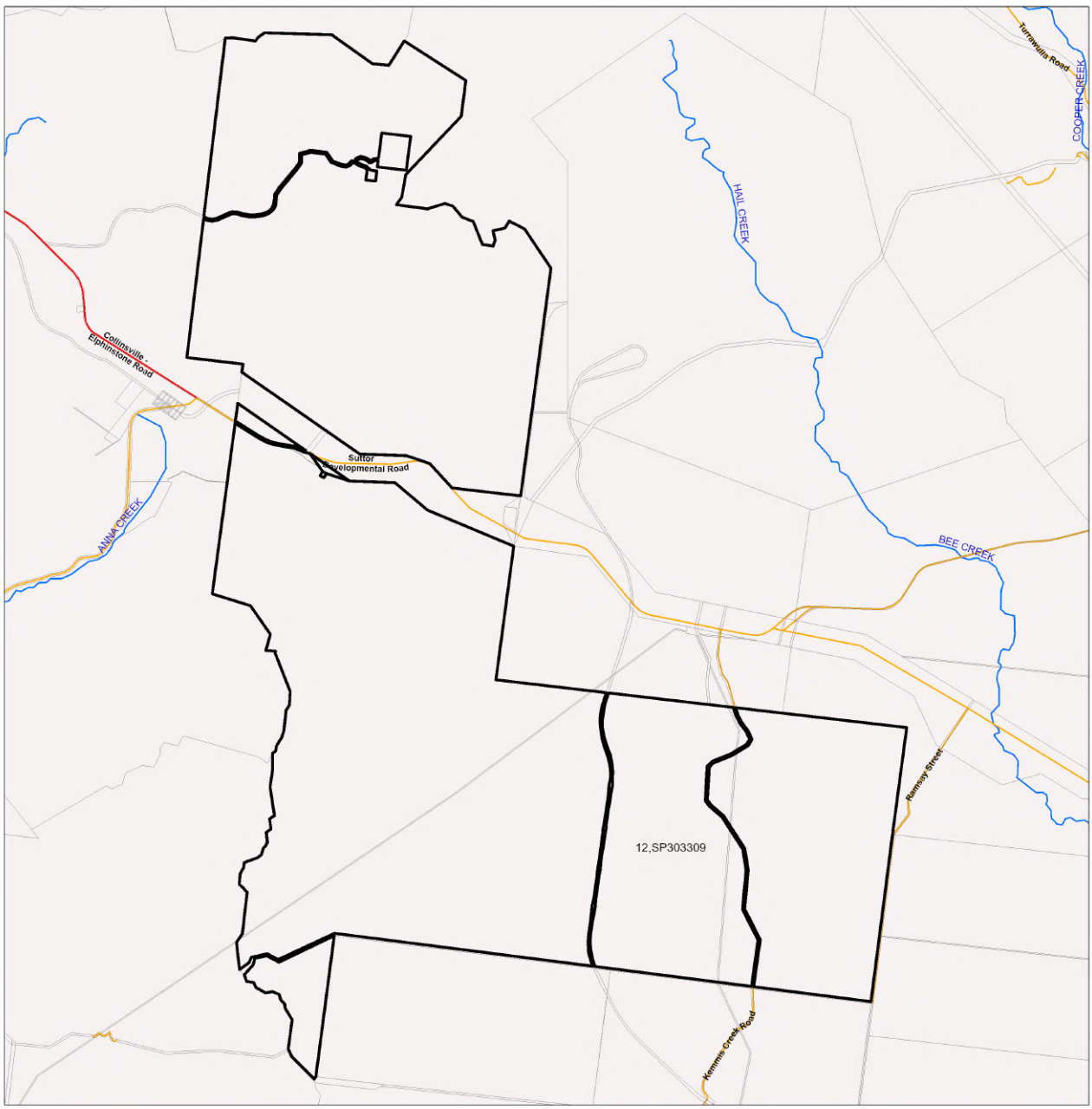
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 12 Plan: SP303309

7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



Koala priority area, koala habitat area and identified koala broad-hectare area map

- Koala habitat area (core)
- Koala habitat area (locally refined)
- Koala priority area
- Identified koala broad-hectare area
- Cadastral Boundaries
- Towns
- Major rivers/creeks
- Highway
- Connector
- Street/Local Road
- Queensland
- 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.

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

This product is displayed in GDA2020

Disclaimer:
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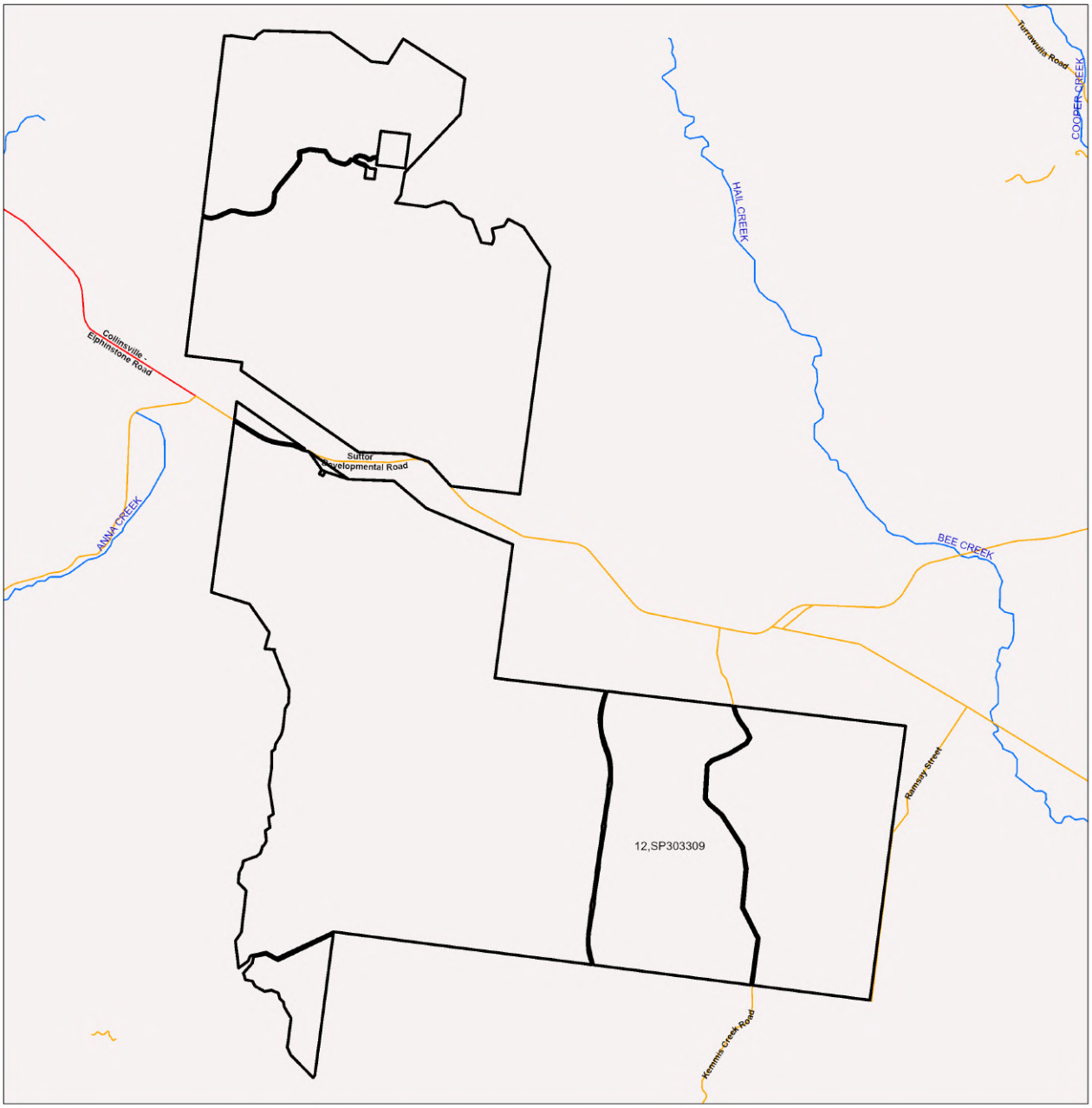
The koala conservation plan maps will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

In order to ensure that the most recent map for an area of interest can be accessed, prior to the annual update, a register of changes made to koala habitat areas as a result of the map amendment process will be available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/. The register will include lot on plan for the change, the date the decision was made and the map issued to the landholder which shows areas determined to be koala habitat areas.

7.3 Koala habitat regional ecosystems for core koala habitat areas



Koala habitat regional ecosystems for core koala habitat areas

Koala habitat area (core)
Towns
Highway
Connector
Street/Local Road
Major rivers/creeks
Queensland
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 1,000 2,000 3,000 4,000 5,000 m

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Due to varying sources of data, spatial locations may not coincide when overlaid.

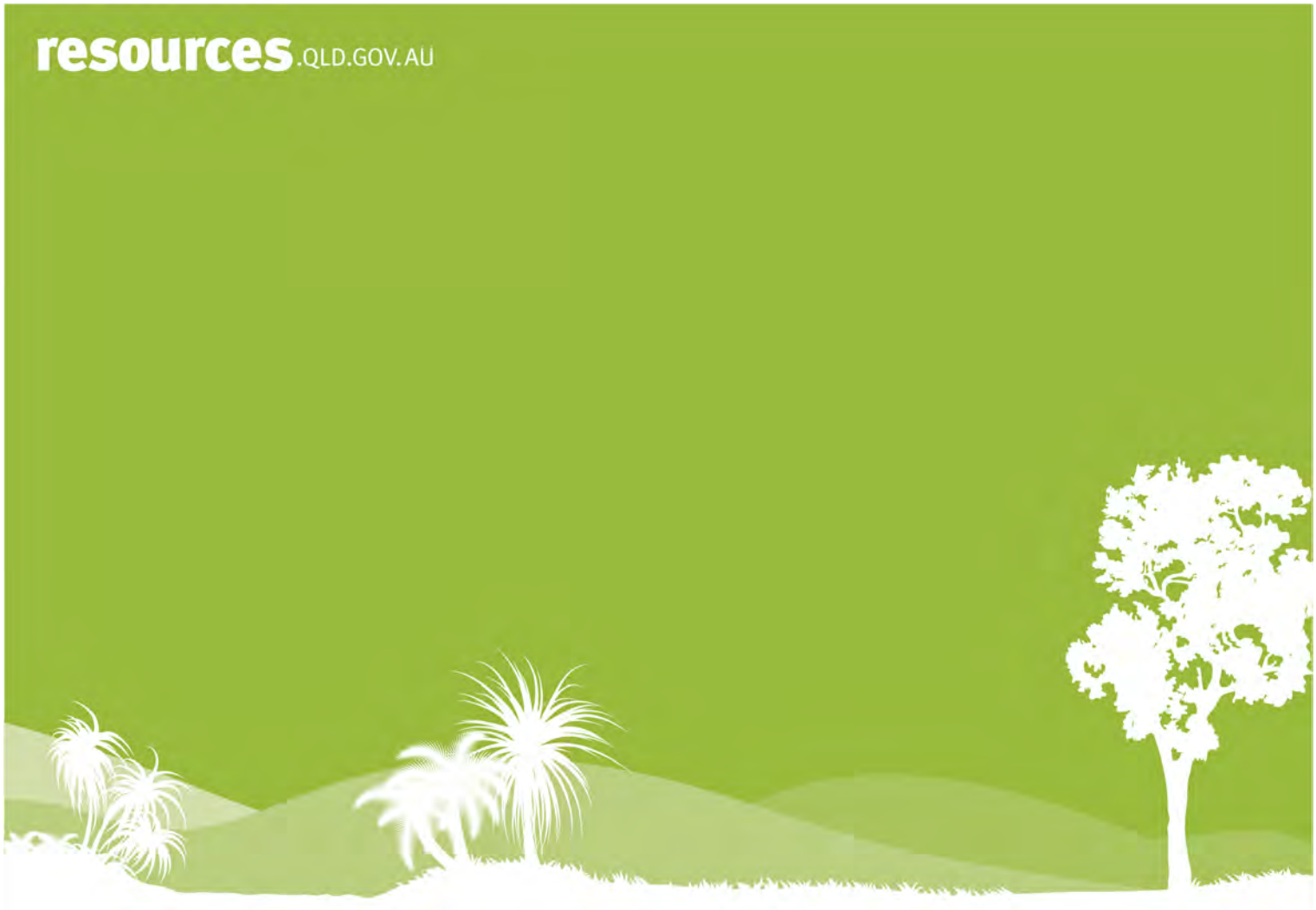
The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

This product is displayed in GDA2020

8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au/ www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 https://www.wettropics.gov.au/

resources.QLD.GOV.AU



Vegetation management report

For Lot: 7 Plan: SP155252
8/5/2024

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of Environment, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 7 Plan: SP155252 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
7	SP155252	Freehold	68,566,100
E	SP202911	Easement	149,200
F	SP202911	Easement	11,850
G	SP258644	Easement	5,182
J	SP266885	Easement	20,910

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 7 Plan: SP155252 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 7 Plan: SP155252, in relation to natural and administrative boundaries.

Table 2: Property location details

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

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 7 Plan: SP155252

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category B	4,056.45
Category C	546.09
Category R	30.27
Category X	2,216.82

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.3.2	Of concern	B	232.81	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	C	83.36	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	2.37	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	241.29	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	C	0.47	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	4.84	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.4	Of concern	B	698.43	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	205.39	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	9.86	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.4.13	Least concern	B	16.44	Eucalyptus orgadophila open woodland on Cainozoic clay plains	Very sparse
11.4.13	Least concern	C	10.43	Eucalyptus orgadophila open woodland on Cainozoic clay plains	Very sparse
11.4.2	Of concern	B	65.77	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.2	Of concern	C	41.70	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.9	Endangered	B	479.53	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.4.9	Endangered	C	151.71	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse

11.4.9	Endangered	R	1.90	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.5.3	Least concern	B	1,804.67	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	C	50.39	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	R	11.07	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.8	Least concern	B	232.73	Melaleuca spp., Eucalyptus crebra, Corymbia intermedia woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.7.2	Least concern	B	284.79	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
11.7.2	Least concern	C	2.64	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
11.7.2	Least concern	R	0.24	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
non-rem	None	X	2,216.82	None	None

Please note:
1. All area and area derived figures included in this table 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.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 4.2 of this report.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.
1785	Geophaps scripta scripta	squatter pigeon (southern subspecies)	V	Dry eucalypt woodland (including poplar box, spotted gum, yellow box, acacia and callitris), with sparse short grass, often on sandy areas near to permanent water; grassy eucalypt woodlands. Nest on ground near or under grass tussock, log or low bush.			Gravelly ridges, traprock and river flats.

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6
1785	8.2.1, 8.2.7, 8.2.8, 8.2.12, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.13, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.9.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.12.6, 8.12.7, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.9, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.18, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.23, 9.4.1, 9.4.2, 9.4.3, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.16, 9.7.1, 9.7.2, 9.7.3, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.4, 9.8.5, 9.8.6, 9.8.9, 9.8.10, 9.8.11, 9.10.1, 9.10.3, 9.10.6, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.11, 9.11.12, 9.11.13, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.23, 9.11.26, 9.11.28, 9.11.29, 9.11.31, 9.11.32, 9.12.1, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.26, 9.12.28, 9.12.30, 9.12.31, 9.12.33, 9.12.35, 9.12.37, 9.12.39, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.8, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.19, 10.3.20, 10.3.22, 10.3.27, 10.3.28, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.5, 10.4.8, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.7, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.7.13, 10.9.1, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.7, 11.3.8, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.23, 11.3.25, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.5, 11.4.8, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.4, 11.7.6, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.2, 11.9.3, 11.9.7, 11.9.9, 11.9.14, 11.10.1, 11.10.4, 11.10.6, 11.10.7, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.15, 11.11.16, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.17, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.10, 12.2.11, 12.3.3, 12.3.6, 12.3.10, 12.3.12, 12.3.14, 12.3.18, 12.3.19, 12.5.1, 12.5.2, 12.5.4, 12.5.5, 12.5.7, 12.5.8, 12.5.11, 12.5.12, 12.7.1, 12.7.2, 12.8.14, 12.8.16, 12.8.17, 12.8.19, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.12, 12.9-10.13, 12.9-10.25, 12.9-10.26, 12.9-10.28, 12.11.5, 12.11.7, 12.11.8, 12.11.14, 12.11.15, 12.11.20, 12.11.21, 12.11.22, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.7, 12.12.8, 12.12.9, 12.12.12, 12.12.14, 12.12.21, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.27, 13.3.1, 13.3.4, 13.3.7, 13.11.1, 13.11.3, 13.11.4, 13.11.8, 13.12.2, 13.12.3, 13.12.5, 13.12.8, 13.12.9, 13.12.10.

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A (with urban areas masked as per SPP): 8.62 ha

Class B (with urban areas masked as per SPP): 1070.87 ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 7 Plan: SP155252.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

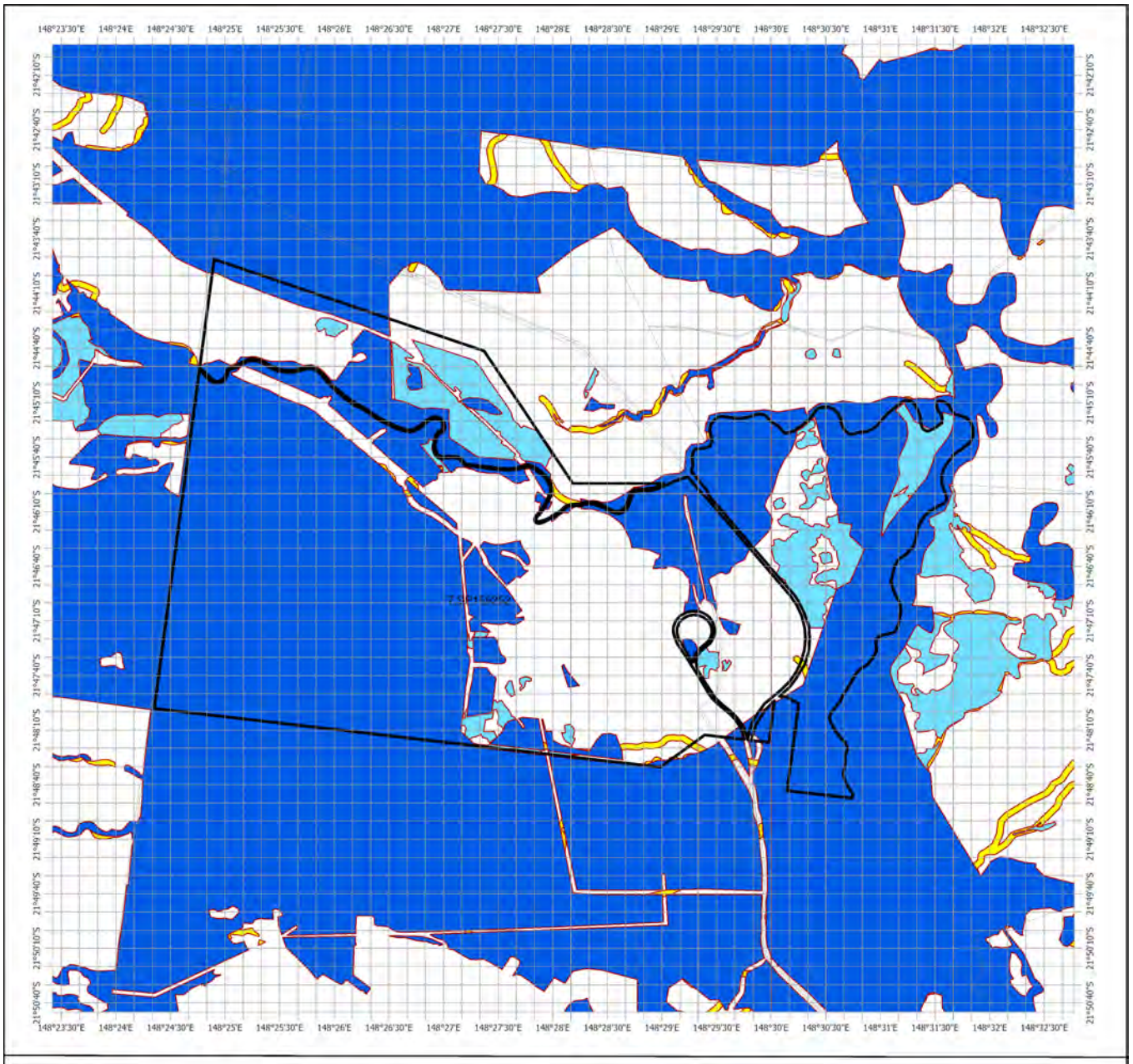
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

4.1 Regulated vegetation management map



Regulated Vegetation Management Map

Category A area (Vegetation offsets/compliance notices/VDecs)
Category B area (Remnant vegetation)
Category C area (High-value regrowth vegetation)
Category R area (Reef regrowth watercourse vegetation)
Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
Water
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 940 1,880 2,820 3,760 4,700 m

This product is displayed in:
GDA2020

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Resources makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

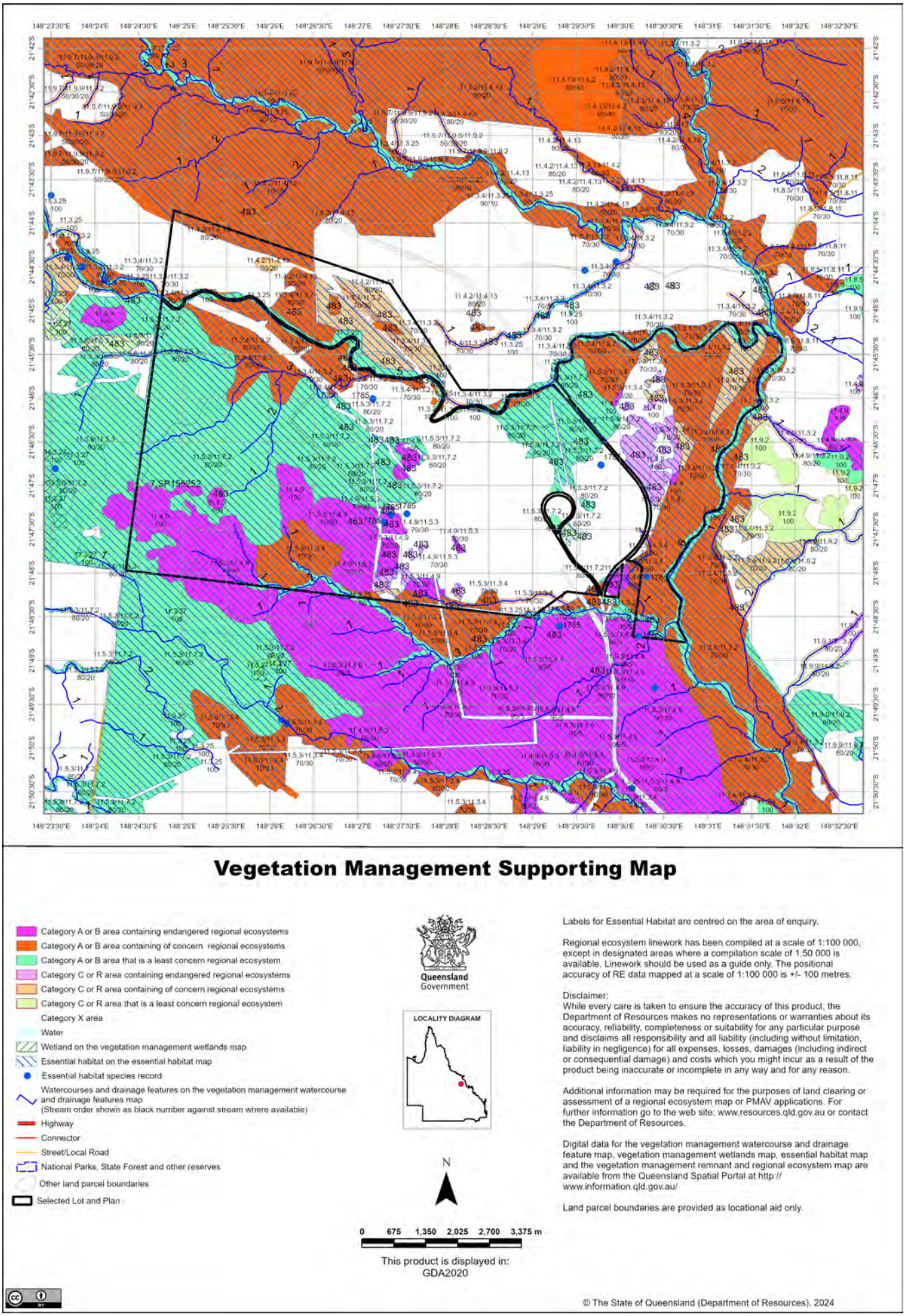
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

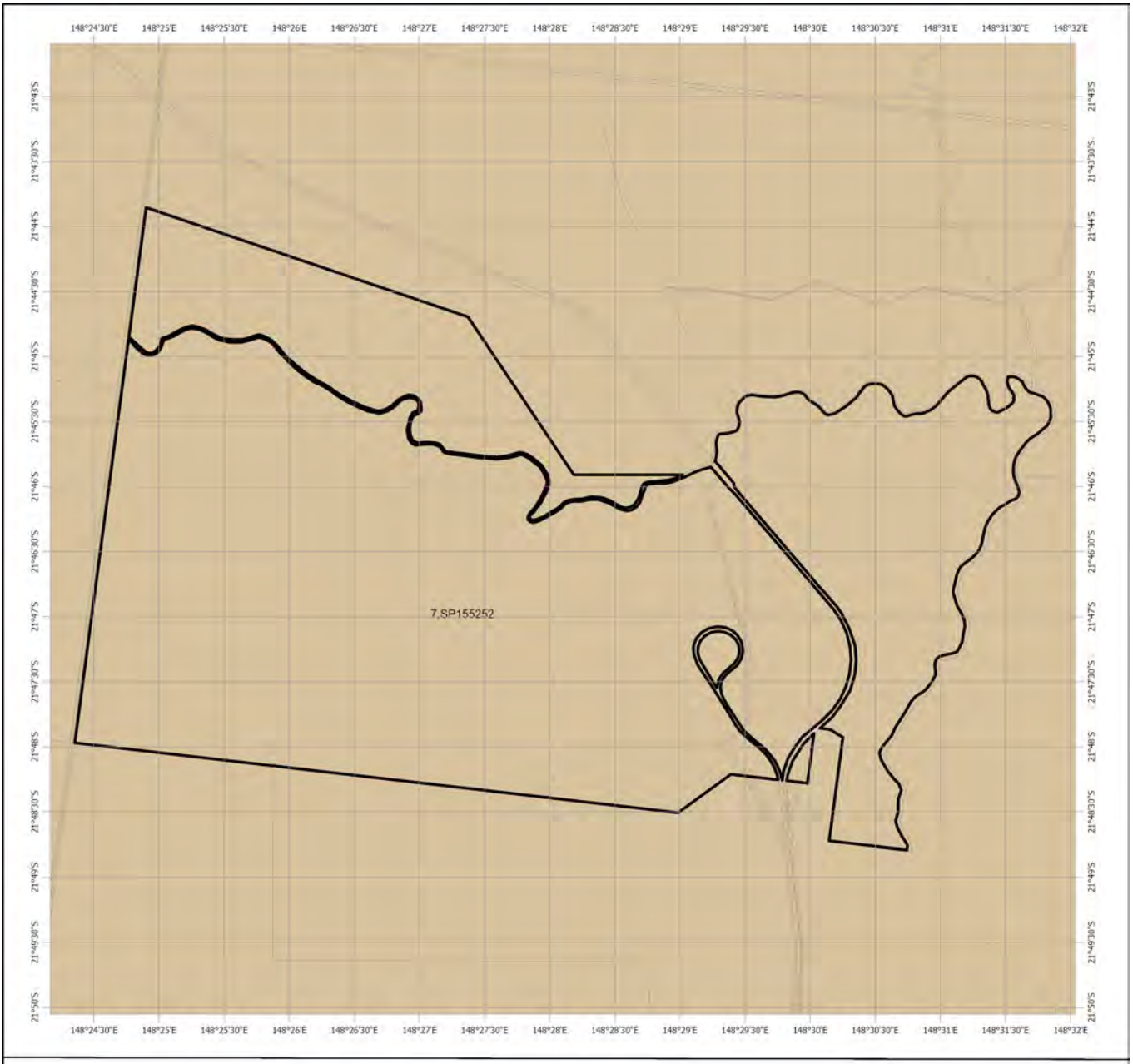
This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

4.2 Vegetation management supporting map



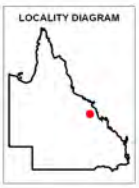
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Resources makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

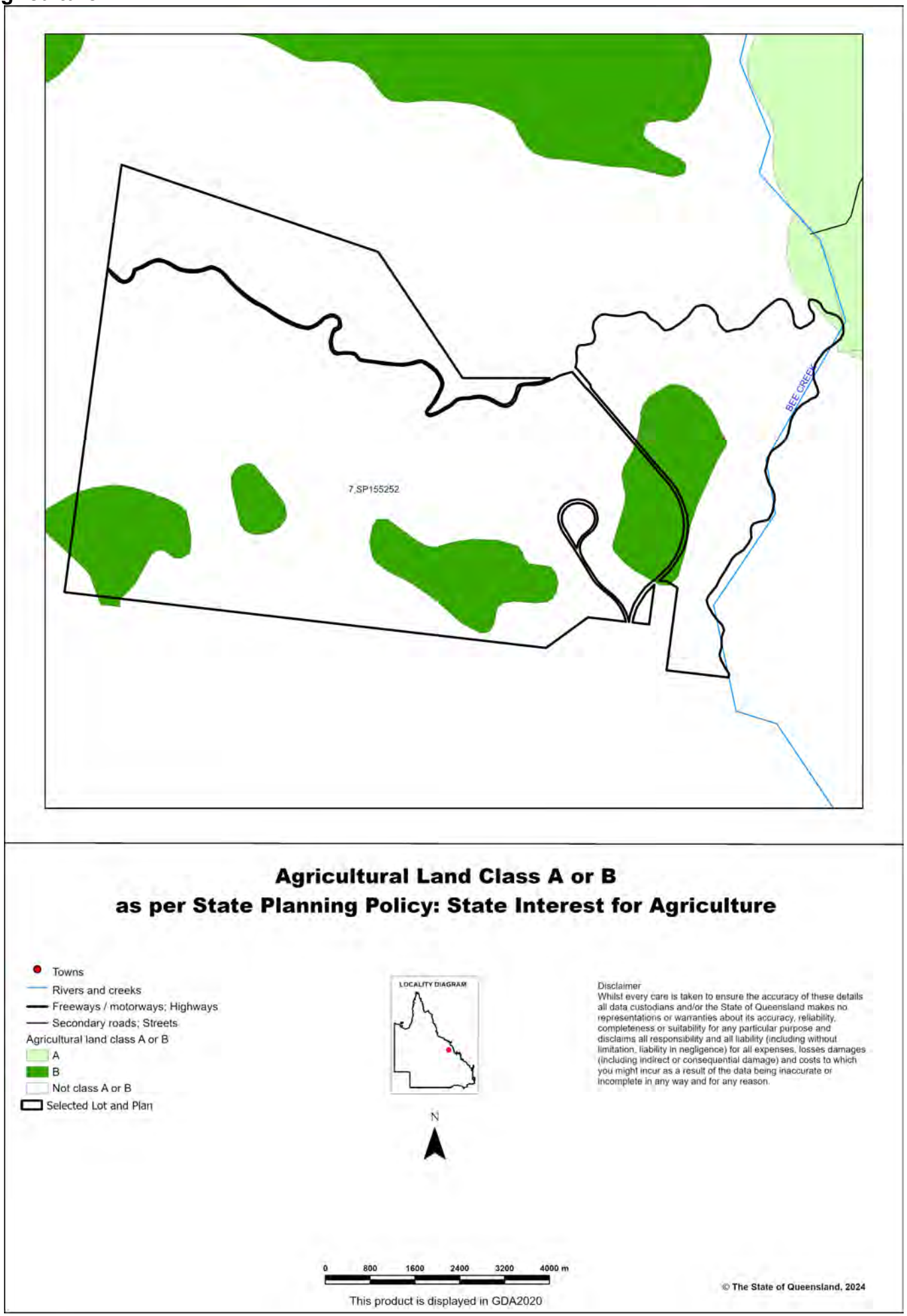
Land parcel boundaries shown are provided as a locational aid only.

N

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

This product is displayed in:
GDA2020

4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



5. Protected plants framework (administered by the Department of Environment, Science and Innovation (DESI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DESI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

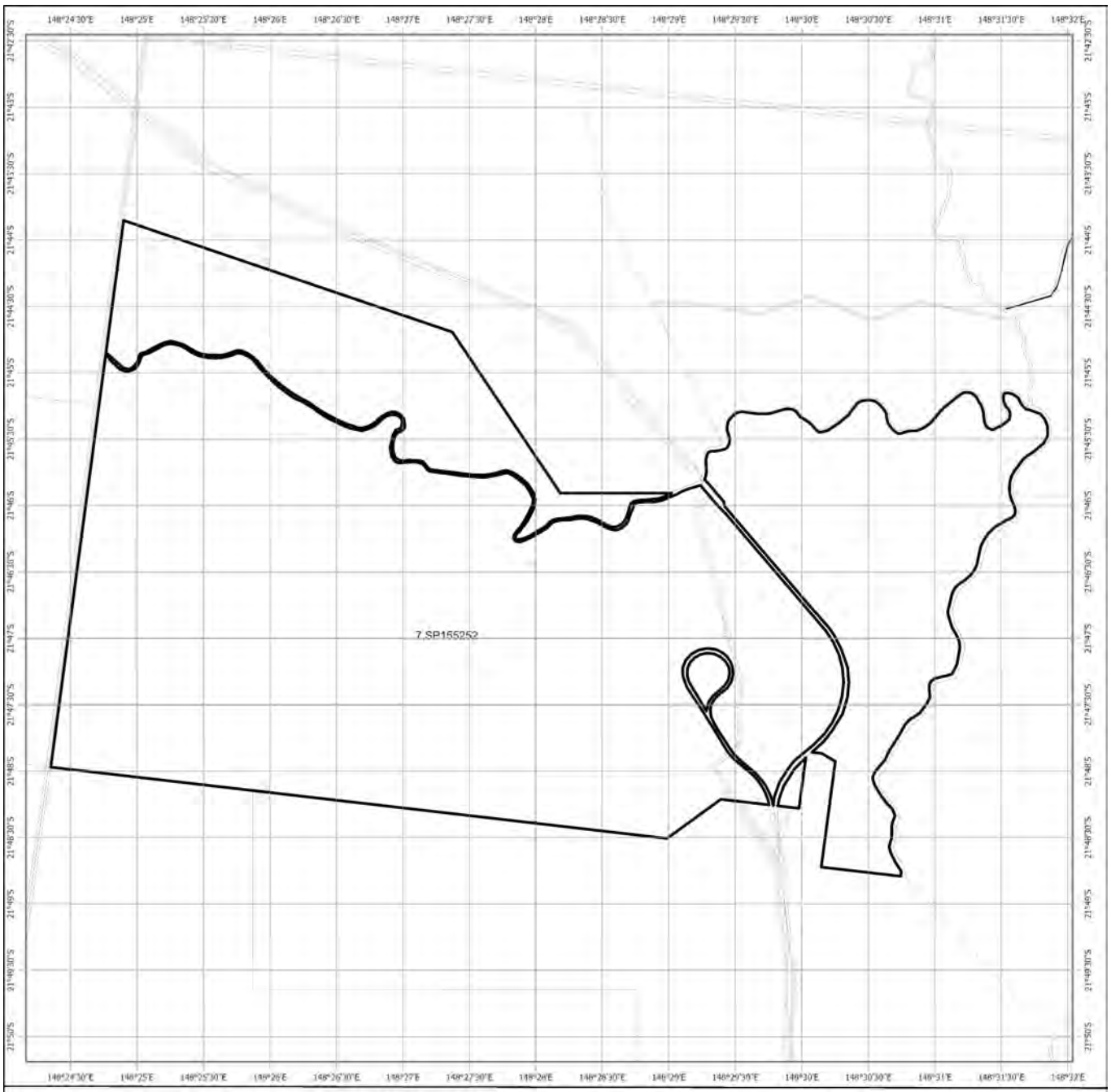
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment, Science and Innovation webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 540 1,080 1,620 2,160 2,700 m

This product is displayed in:
GDA2020

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment, Science and Innovation (DESI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DESI

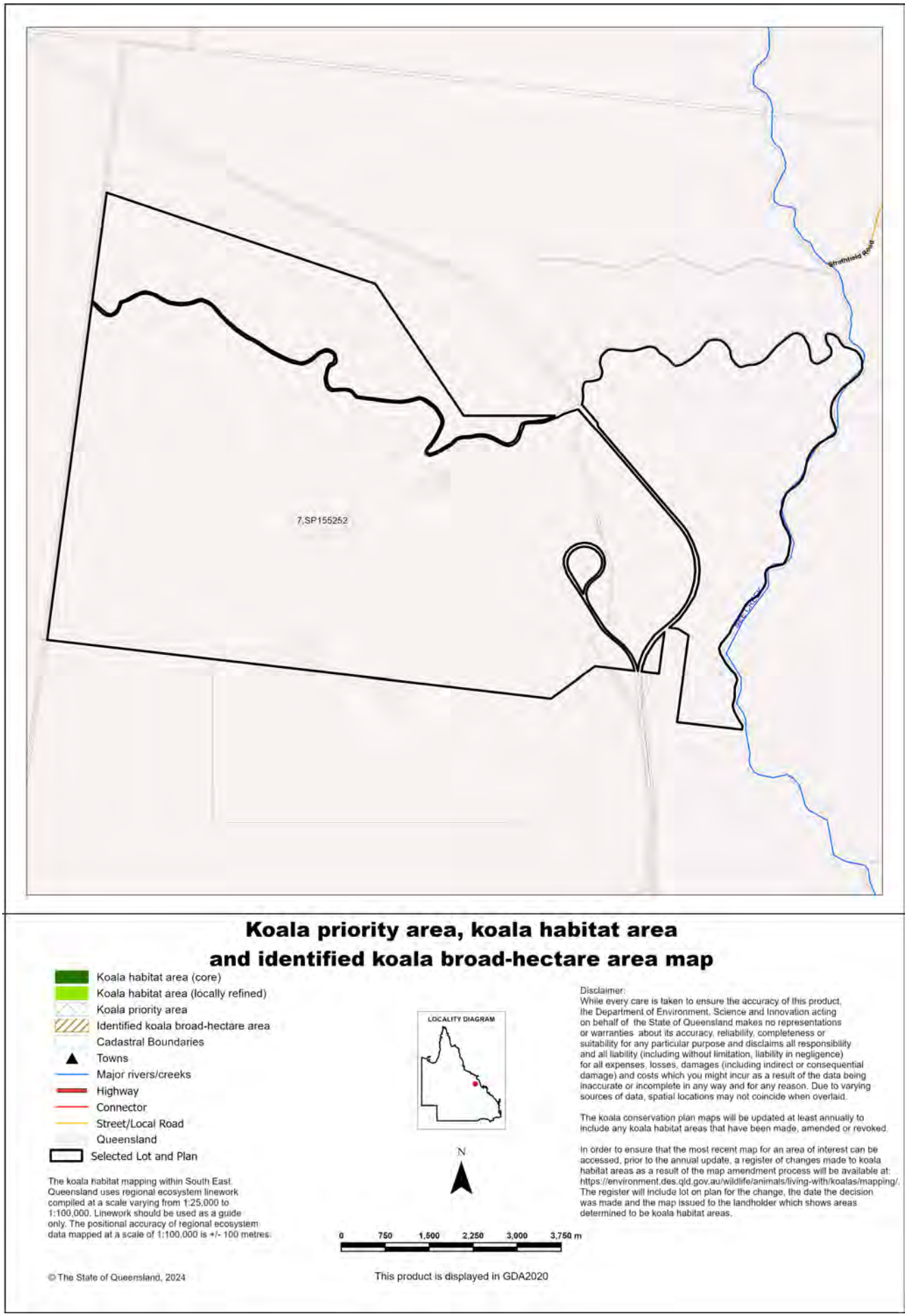
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 7 Plan: SP155252

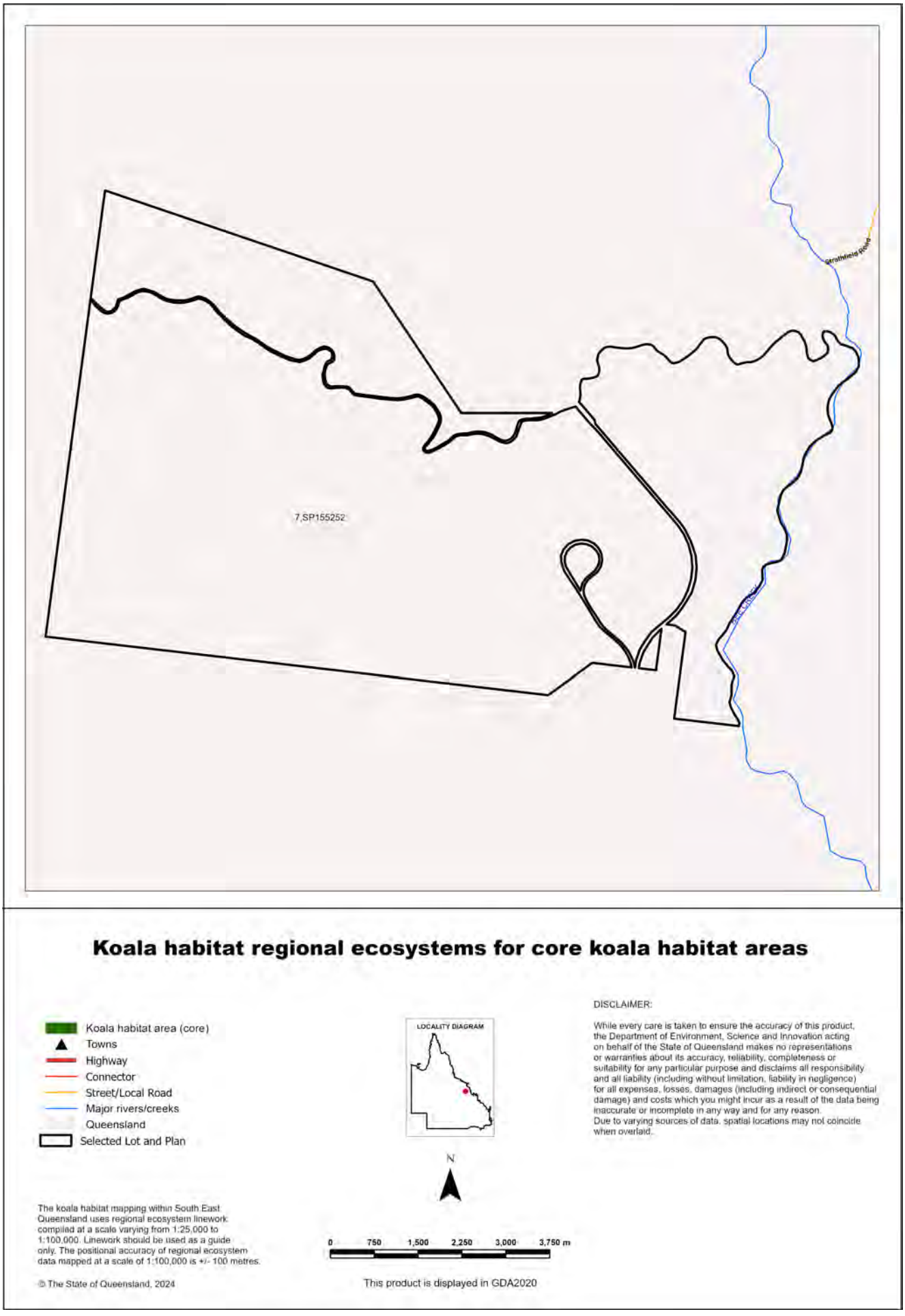
7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au/ www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 https://www.wettropics.gov.au/

resources.QLD.GOV.AU

Vegetation management report

For Lot: 8 Plan: SP155252
8/5/2024

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of Environment, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 8 Plan: SP155252 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
8	SP155252	Freehold	111,087,645
B	SP132683	Easement	207,900
C	SP145152	Easement	42,180
D	SP155252	Easement	38,290
A	SP132683	Easement	35,400
K	SP266885	Easement	240,000

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 8 Plan: SP155252 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 8 Plan: SP155252, in relation to natural and administrative boundaries.

Table 2: Property location details

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

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 8 Plan: SP155252

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category B	5,676.33
Category C	579.50
Category R	489.24
Category X	4,306.94

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property.
Reference number:
2019/004011

2006/001772

2012/004643

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.10.1	Least concern	B	319.60	Corymbia citriodora woodland on coarse-grained sedimentary rocks	Sparse
11.10.1	Least concern	C	5.53	Corymbia citriodora woodland on coarse-grained sedimentary rocks	Sparse
11.10.1	Least concern	R	11.66	Corymbia citriodora woodland on coarse-grained sedimentary rocks	Sparse
11.12.2	Least concern	B	7.94	Eucalyptus melanophloia woodland on igneous rocks	Sparse
11.12.4	Least concern	B	10.64	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.4	Least concern	C	0.67	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.4	Least concern	R	2.07	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.3.1	Endangered	B	25.53	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.1	Endangered	C	7.74	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.1	Endangered	R	32.93	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	B	403.11	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	C	61.43	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	5.22	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	422.31	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	C	4.46	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	8.96	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse

11.3.27	Least concern	B	12.42	Freshwater wetlands	Sparse
11.3.4	Of concern	B	707.48	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	98.38	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	5.89	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.4.2	Of concern	B	70.34	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.2	Of concern	C	17.80	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.9	Endangered	B	389.78	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.4.9	Endangered	C	32.67	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.4.9	Endangered	R	50.90	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.5.3	Least concern	B	2,402.41	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	C	22.62	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.3	Least concern	R	29.10	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.7.2	Least concern	B	29.17	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	Sparse
11.8.11	Of concern	B	91.93	Dichanthium sericeum grassland on Cainozoic igneous rocks	Woody grassland
11.8.11	Of concern	C	19.26	Dichanthium sericeum grassland on Cainozoic igneous rocks	Woody grassland
11.8.11	Of concern	R	23.83	Dichanthium sericeum grassland on Cainozoic igneous rocks	Woody grassland
11.8.5	Least concern	B	214.25	Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Very sparse
11.8.5	Least concern	C	53.37	Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Very sparse
11.8.5	Least concern	R	61.34	Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Very sparse

11.9.1	Endangered	B	71.04	Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks	Mid-dense
11.9.1	Endangered	C	22.01	Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks	Mid-dense
11.9.1	Endangered	R	137.87	Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks	Mid-dense
11.9.2	Least concern	B	163.54	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.2	Least concern	C	214.54	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.2	Least concern	R	39.82	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.5	Endangered	B	31.20	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	C	0.25	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.5	Endangered	R	9.20	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
11.9.9	Least concern	B	303.64	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	C	18.77	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Least concern	R	70.44	Eucalyptus crebra woodland on fine-grained sedimentary rocks	Sparse
non-rem	None	X	4,306.94	None	None

Please note:
1. All area and area derived figures included in this table 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.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 4.2 of this report.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.		Riparian areas, plains and hill/escarpment slopes.
1785	Geophaps scripta scripta	squatter pigeon (southern subspecies)	V	Dry eucalypt woodland (including poplar box, spotted gum, yellow box, acacia and callitris), with sparse short grass, often on sandy areas near to permanent water; grassy eucalypt woodlands. Nest on ground near or under grass tussock, log or low bush.			Gravelly ridges, traprock and river flats.
2455	Petauroides armillatus	central greater glider	E	Tall mature open wet and dry eucalypt forest (Eucalyptus &/or Corymbia spp.) to low open eucalypt woodland; presence of hollow-bearing trees.	Sea level to 1300m.	Usually on soils of relatively high fertility.	

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.8, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.17, 10.3.20, 10.3.22, 10.3.27, 10.3.28, 10.4.2, 10.4.3, 10.4.5, 10.4.8, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.7, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.7.13, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.17, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.
1785	8.2.1, 8.2.7, 8.2.8, 8.2.12, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.13, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.9.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.12.6, 8.12.7, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.9, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.18, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.23, 9.4.1, 9.4.2, 9.4.3, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.16, 9.7.1, 9.7.2, 9.7.3, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.4, 9.8.5, 9.8.6, 9.8.9, 9.8.10, 9.8.11, 9.10.1, 9.10.3, 9.10.6, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.11, 9.11.12, 9.11.13, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.23, 9.11.26, 9.11.28, 9.11.29, 9.11.31, 9.11.32, 9.12.1, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.26, 9.12.28, 9.12.30, 9.12.31, 9.12.33, 9.12.35, 9.12.37, 9.12.39, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.8, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.19, 10.3.20, 10.3.22, 10.3.27, 10.3.28, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.5, 10.4.8, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.7, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.7.13, 10.9.1, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.7, 11.3.8, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.23, 11.3.25, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.5, 11.4.8, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.4, 11.7.6, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.2, 11.9.3, 11.9.7, 11.9.9, 11.9.14, 11.10.1, 11.10.4, 11.10.6, 11.10.7, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.15, 11.11.16, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.17, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.10, 12.2.11, 12.3.3, 12.3.6, 12.3.10, 12.3.12, 12.3.14, 12.3.18, 12.3.19, 12.5.1, 12.5.2, 12.5.4, 12.5.5, 12.5.7, 12.5.8, 12.5.11, 12.5.12, 12.7.1, 12.7.2, 12.8.14, 12.8.16, 12.8.17, 12.8.19, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.12, 12.9-10.13, 12.9-10.25, 12.9-10.26, 12.9-10.28, 12.11.5, 12.11.7, 12.11.8, 12.11.14, 12.11.15, 12.11.20, 12.11.21, 12.11.22, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.7, 12.12.8, 12.12.9, 12.12.12, 12.12.14, 12.12.21, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.27, 13.3.1, 13.3.4, 13.3.7, 13.11.1, 13.11.3, 13.11.4, 13.11.8, 13.12.2, 13.12.3, 13.12.5, 13.12.8, 13.12.9, 13.12.10.
2455	2.10.2, 2.10.3, 2.5.24, 7.3.19, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.5.2, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.35, 7.12.21, 7.12.22, 7.12.24, 7.12.27, 7.12.29, 7.12.30, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.61, 7.12.63, 8.3.2, 8.3.5, 8.3.6, 8.3.8, 8.11.3, 8.11.8, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.20, 8.12.23, 8.12.31, 8.12.32, 9.3.1, 9.3.3, 9.3.8, 9.3.15, 9.3.16, 9.5.5, 9.7.3, 9.8.1, 9.8.4, 9.8.9, 9.11.2, 9.11.4, 9.11.10, 9.11.14, 9.11.16, 9.12.1, 9.12.2, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.22, 9.12.23, 9.12.26, 10.3.13, 11.3.3, 11.3.4, 11.3.7, 11.3.9, 11.3.14, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.29, 11.3.35, 11.3.36, 11.3.38, 11.3.39, 11.4.8, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.8, 11.5.9, 11.5.12, 11.5.20, 11.5.21, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.2, 11.9.9, 11.9.13, 11.10.1, 11.10.2, 11.10.4, 11.10.5, 11.10.7, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.7, 11.11.10, 11.11.15, 11.12.1, 11.12.2, 11.12.3, 11.12.6, 11.12.13, 12.3.2, 12.3.3, 12.3.6, 12.3.7, 12.3.9, 12.3.11, 12.3.14 ,12.3.15 ,12.5.1 ,12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.11, 12.5.12, 12.8.1, 12.8.8, 12.8.10, 12.8.11, 12.8.14, 12.8.16, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.20, 12.9-10.21, 12.9-10.23, 12.9-10.24, 12.9-10.26, 12.9-10.27, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.19, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.20, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.27, 12.12.28, 13.11.3, 13.11.5, 13.11.6, 13.11.8, 13.12.1, 13.12.2

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A (with urban areas masked as per SPP): 1199.67 ha

Class B (with urban areas masked as per SPP): 1.35 ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 8 Plan: SP155252.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

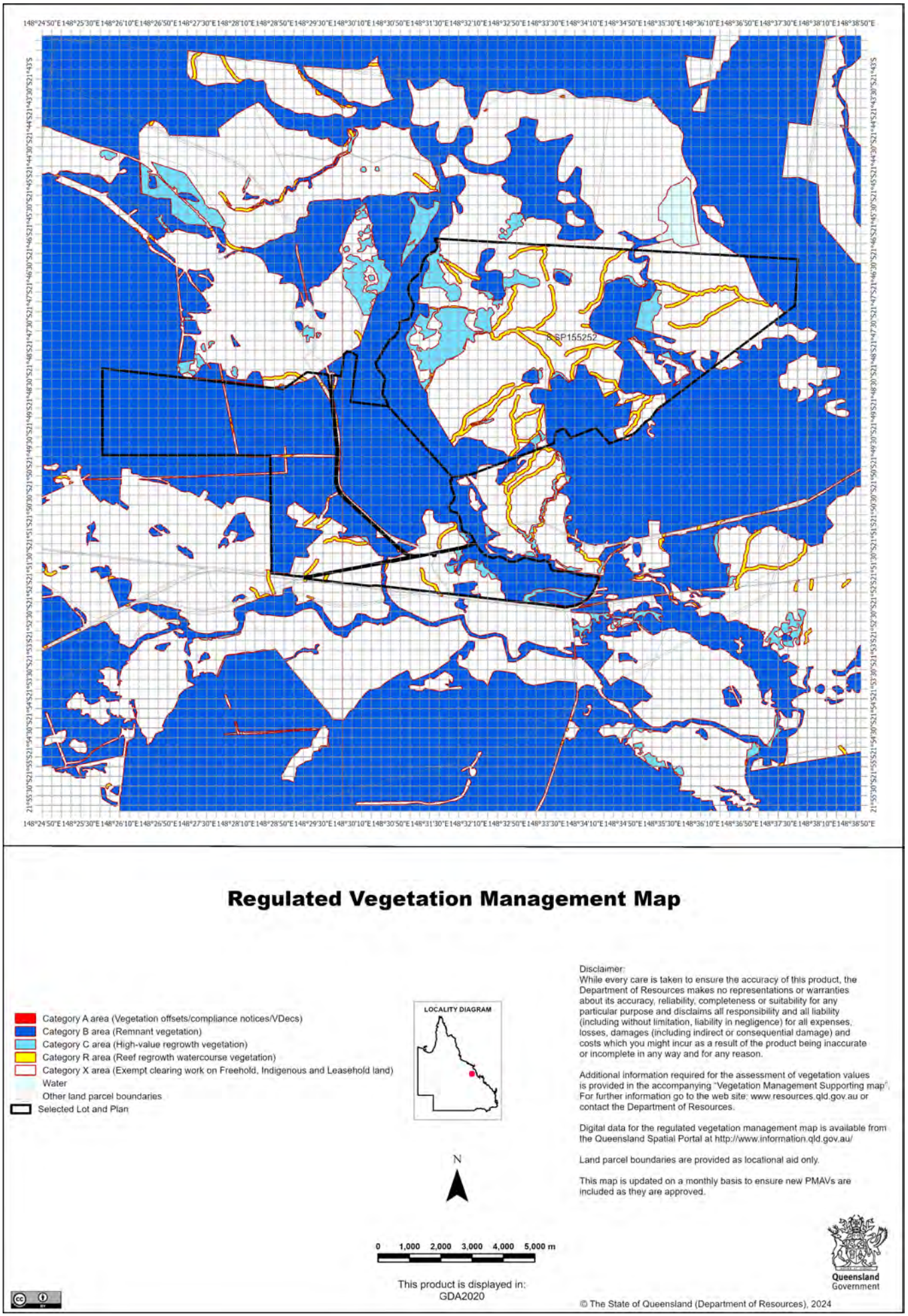
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

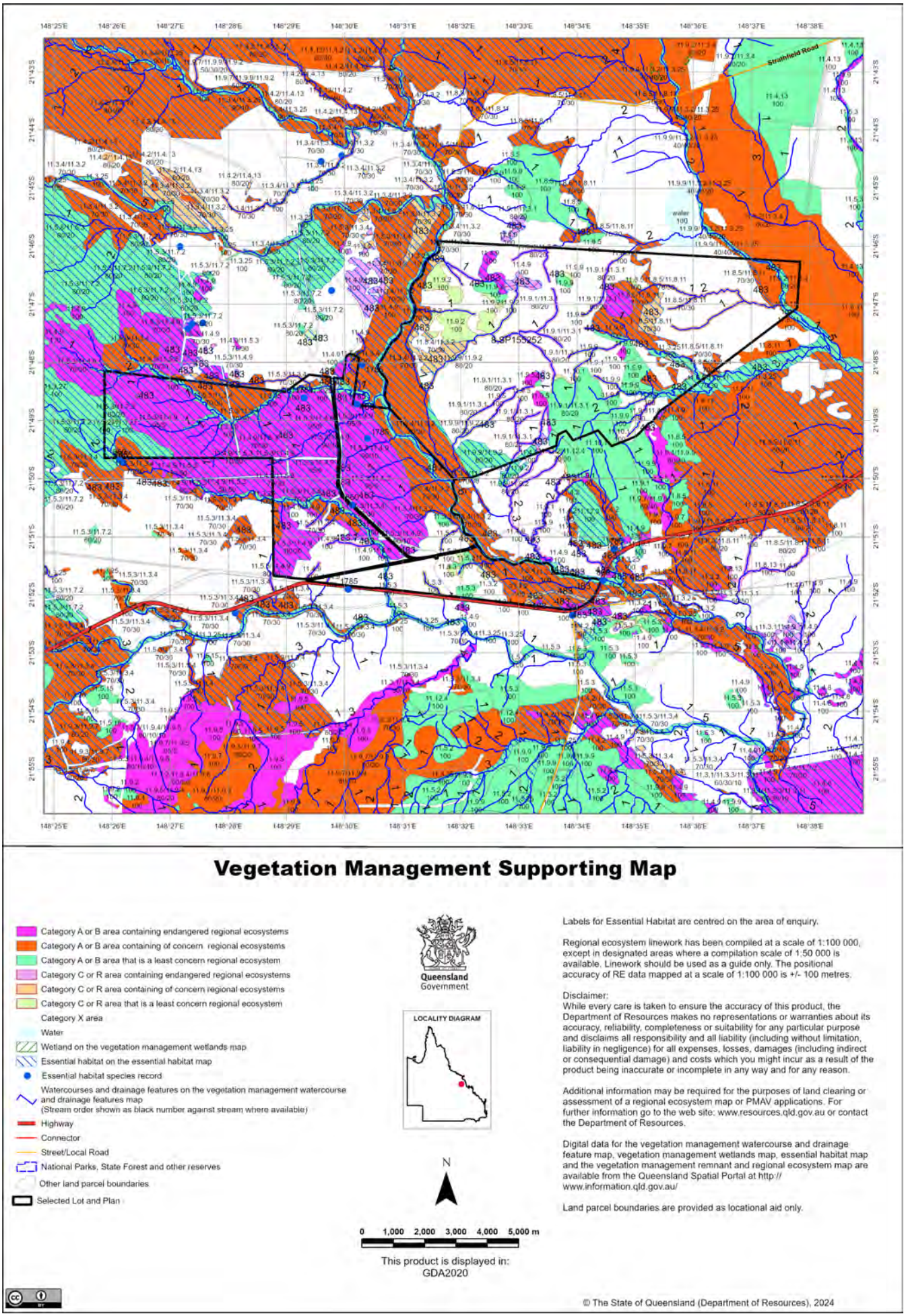
Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

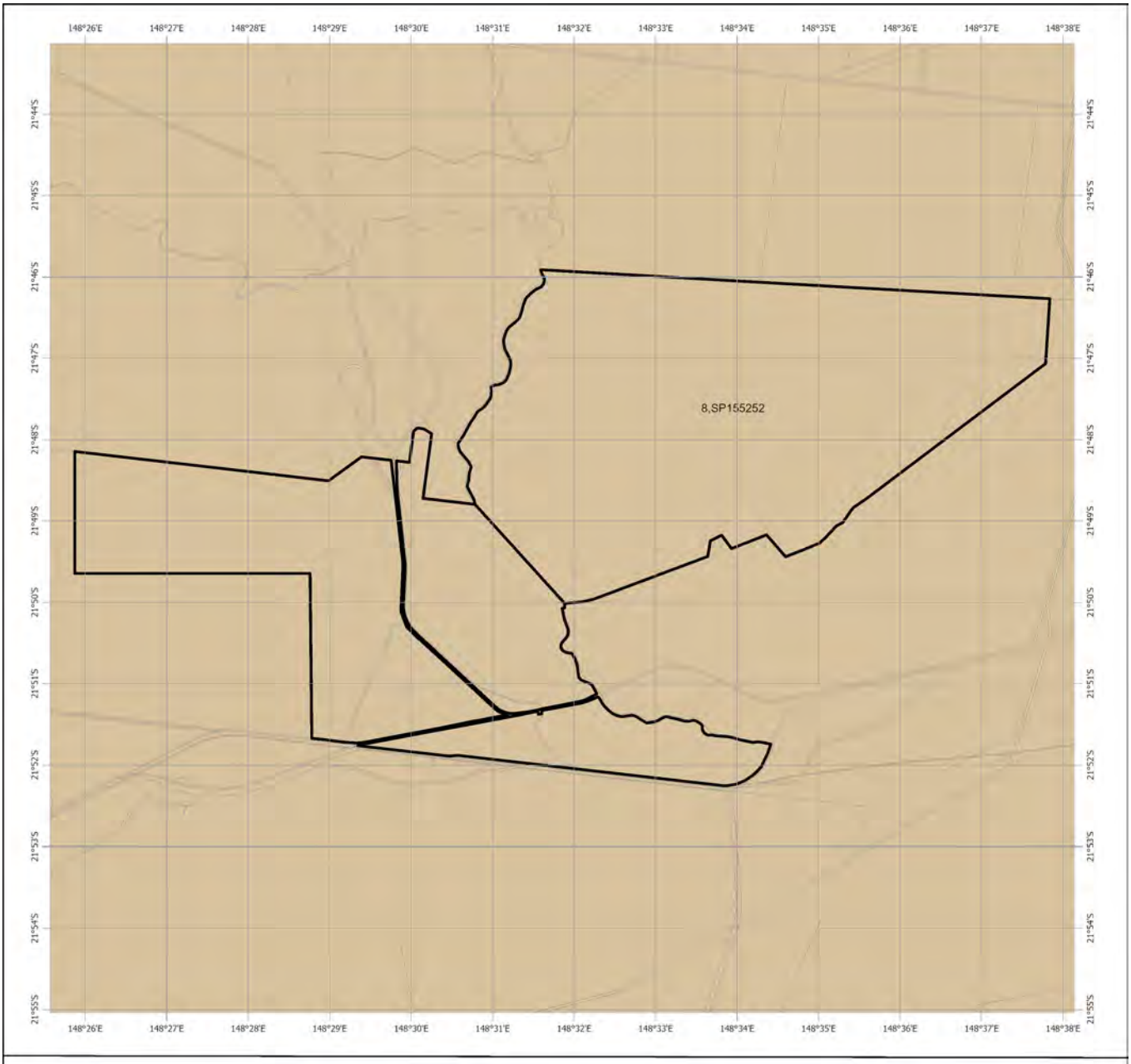
4.1 Regulated vegetation management map



4.2 Vegetation management supporting map



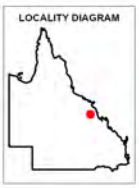
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



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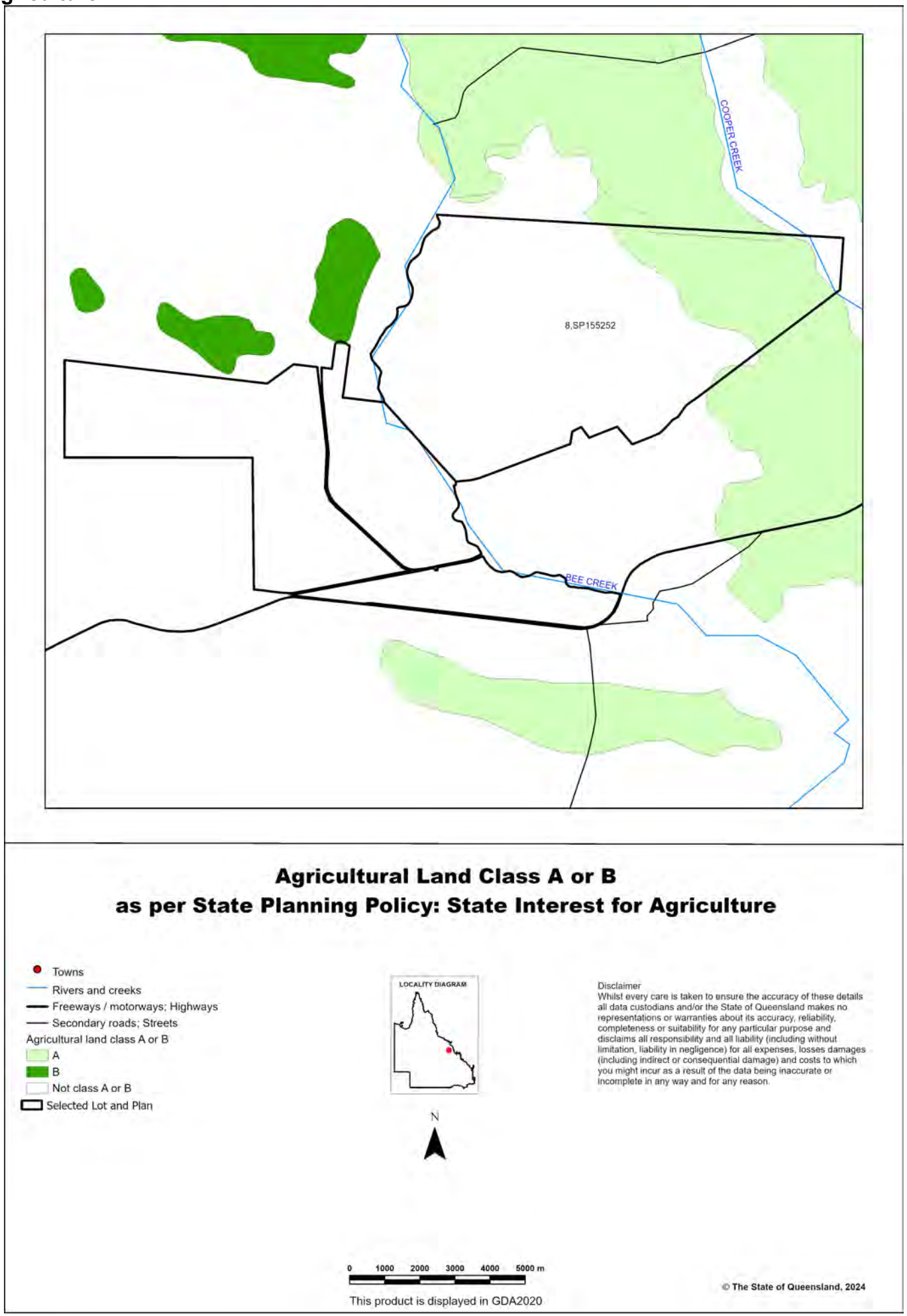
Land parcel boundaries shown are provided as a locational aid only.

4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



5. Protected plants framework (administered by the Department of Environment, Science and Innovation (DESI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DESI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

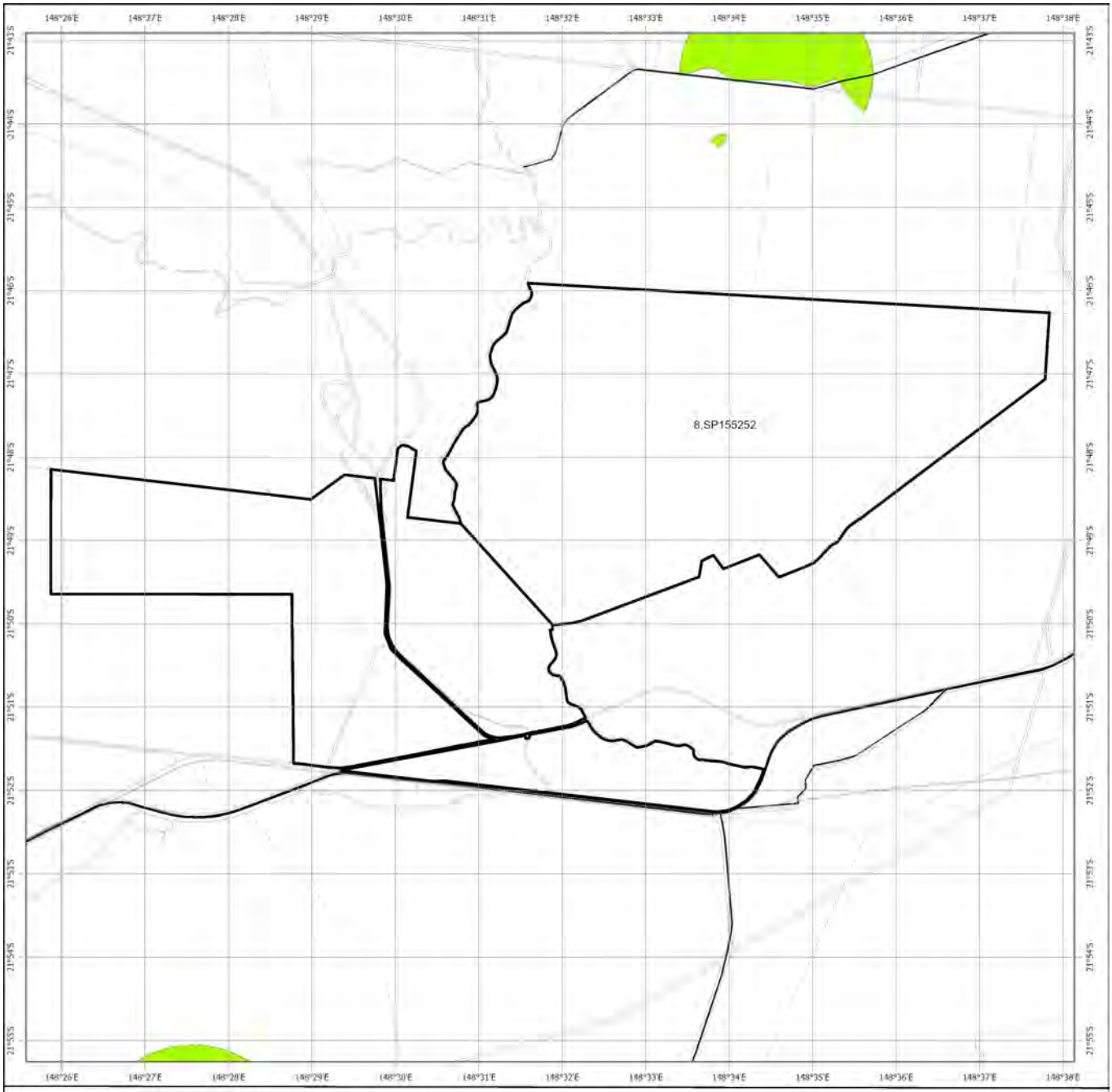
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

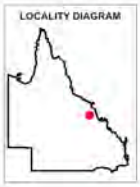
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment, Science and Innovation webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



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This product is displayed in:
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This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment, Science and Innovation (DESI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DESI

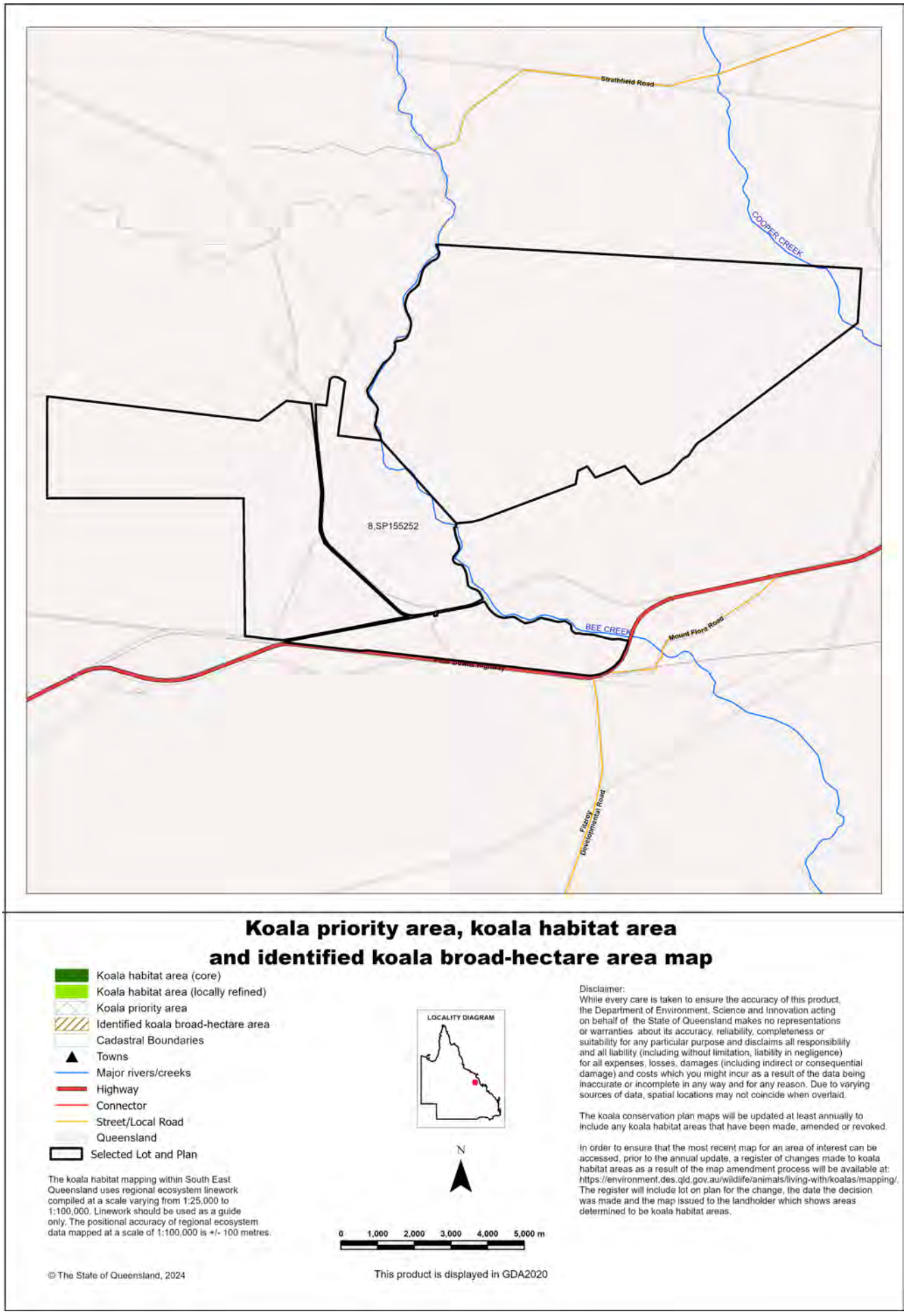
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 8 Plan: SP155252

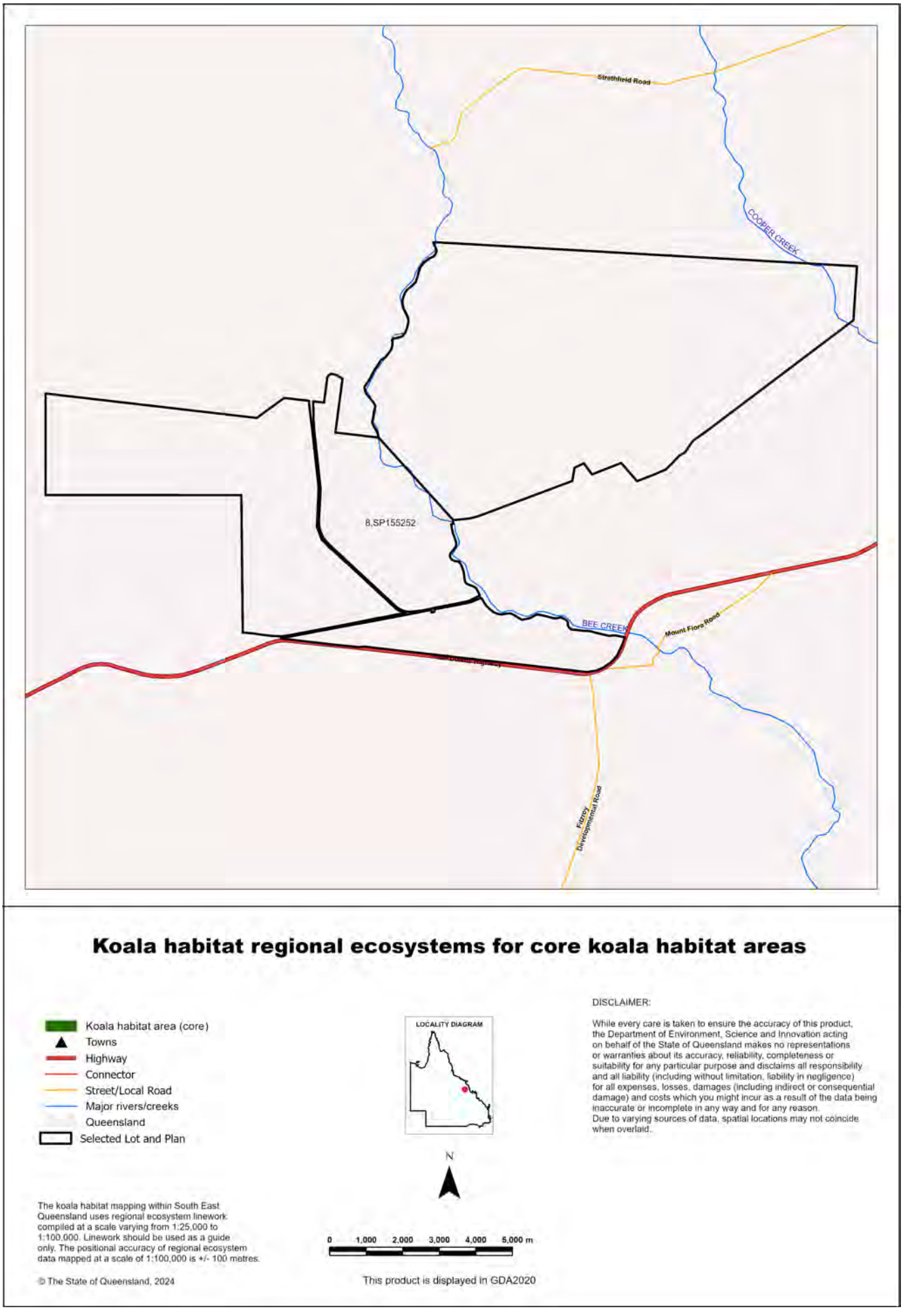
7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



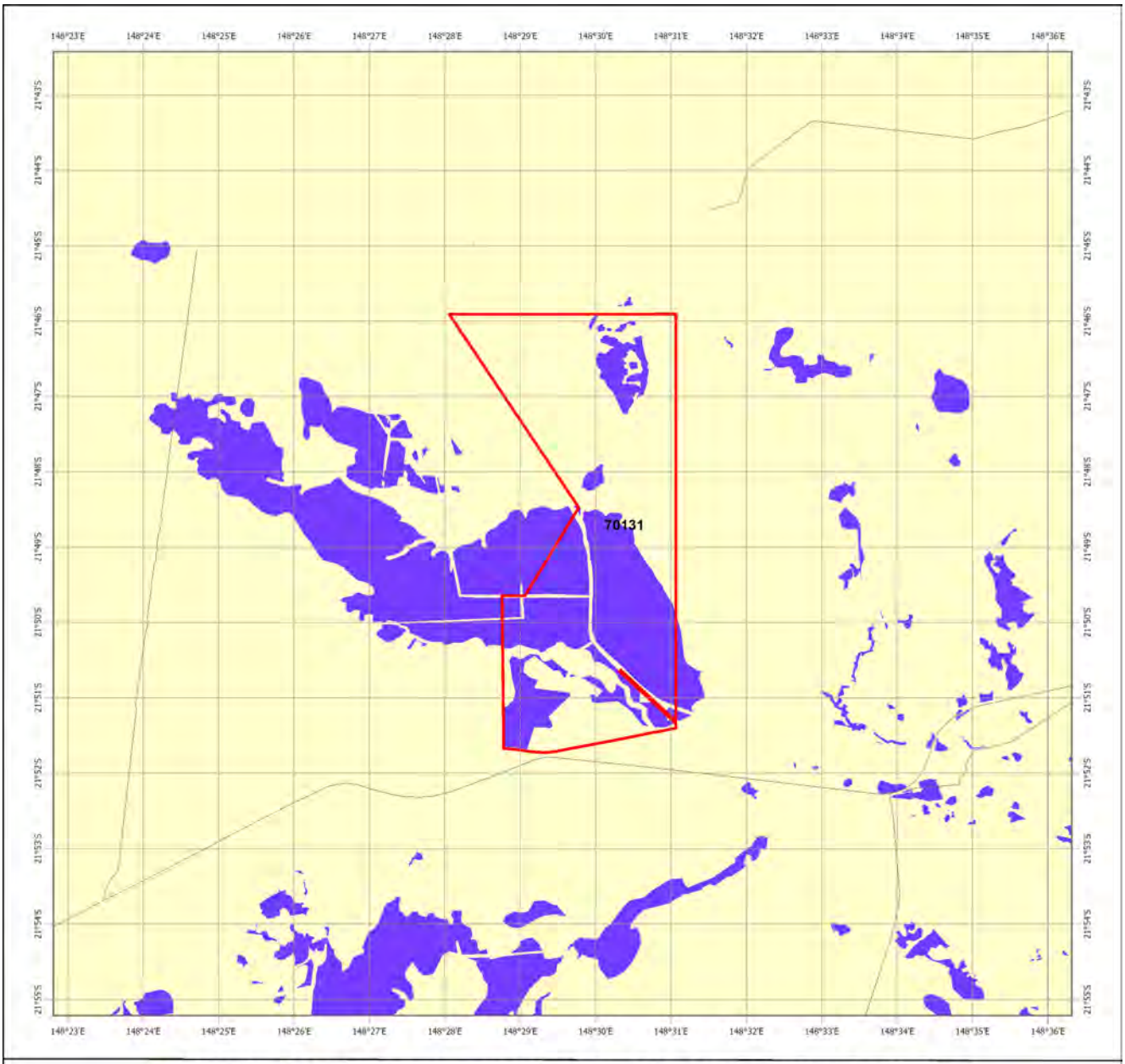
7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au/ www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 https://www.wettropics.gov.au/

Centred on tenure: ML: 70131 Map requested: 05/08/2024 10:06:52



ENVIRONMENTALLY SENSITIVE AREAS - Mining Activities

CATEGORY A
- National Parks
- Conservation Parks
- Forest Reserves
- Special Wildlife Reserve
- Wet Tropics World Heritage Area
- Great Barrier Reef Region
- Marine Parks other than General Use Zones

CATEGORY B
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Seaward Side of Highest Astronomical Tide
- Fish Habitat Areas
- Coordinated Conservation Areas
- Endangered Regional Ecosystems - regrowth and remnant (Biodiversity Status)
- General Use Zones of Marine Parks
- Marine Plants
- Selected Mining Lease (ML)

CATEGORY C
- Nature Refuges
- Resources Reserve
- State Forests
- Timber Reserves
- River Improvement Areas
- Stanbroke DLA
- Coastal Management District
- Dams and Weirs

OTHERS
- Towns
- Roads
- Repealed Wild River Nominated Waterways
- Repealed Wild River Preservation Areas
- Repealed Wild River High Preservation Areas
- Mahogany Glider Habitat
- Directory of Important Wetlands
- Queensland

LOCALITY DIAGRAM

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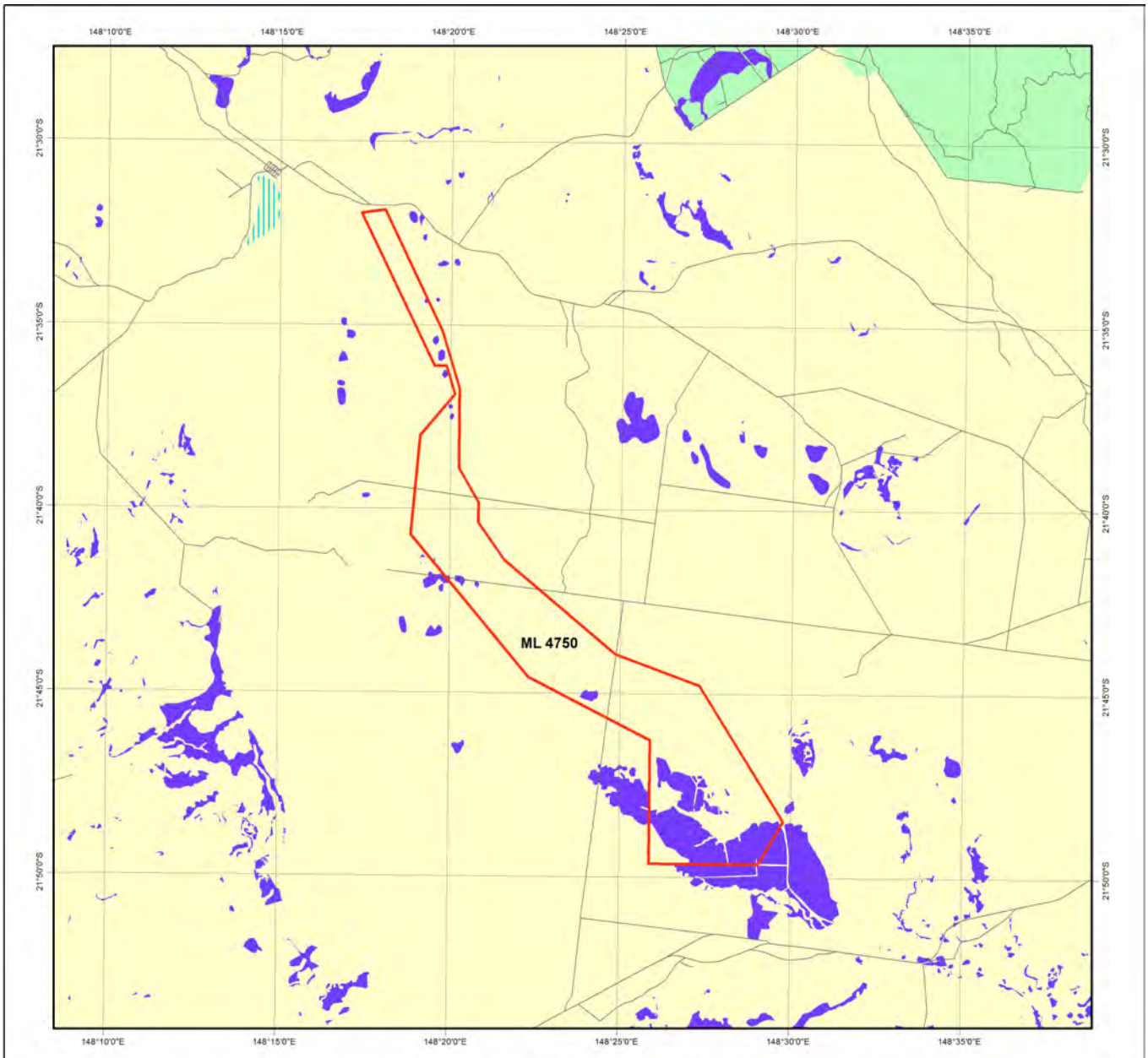
NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

The user should note that some boundaries and indicated values are ambient and may change over time (e.g. regional ecosystem boundaries and conservation status, watercourse mapping etc.).

The user should be aware that due to multiple overlapping themes/ layers present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes/layers are displayed.



ENVIRONMENTALLY SENSITIVE AREAS - Mining Activities

- Selected Mining Lease (ML)

CATEGORY A
- National Parks
- Conservation Parks
- Forest Reserves
- Special Wildlife Reserve
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Area
- Marine Parks other than General Use Zones

CATEGORY B
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Seaward Side of Highest Astronomical Tide
- Fish Habitat Areas
- Coordinated Conservation Areas
- Endangered Regional Ecosystems - regrowth and remnant (Biodiversity Status)
- General Use Zones of Marine Parks
- Marine Plants

CATEGORY C
- Nature Refuges
- Resources Reserve
- State Forests
- Timber Reserves
- River Improvement Areas
- Stanbroke DLA
- Coastal Management District
- Dams and Weirs

OTHERS
- Towns
- Roads
- Repealed Wild River Nominated Waterways
- Repealed Wild River Preservation Areas
- Repealed Wild River High Preservation Areas
- Mahogany Glider Habitat
- Directory of Important Wetlands
- Queensland

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This product is projected into GDA 1994 MGA Zone 55

NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

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Appendix B Likelihood of occurrence assessment

FIELD VERIFIED LIKELIHOOD OF OCCURRENCE ASSESSMENT FOR STUDY AREA

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Mammals						
Dasyurus hallucatus	Northern quoll	E	LC	Habitat features include high relief areas that have shallower soils, boulders and rocky areas for denning, low fire impact and close to permanent water. The species occupies a diversity of habitats across its range including eucalypt forest and woodlands, rainforests, sandy lowlands, and beaches, shrubland, grasslands and desert. 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 high relief, often rugged and dissected but can also include tor fields or caves in low lying areas. Eucalypt forest or woodland habitats usually have a high structural diversity containing large diameter trees, termite mounds or hollow logs for denning purposes.	Potential	Marginal habitat for Northern quoll is identified within land zone 10 areas in the study area (northern). No suitable rocky habitat for denning was recorded Habitat connects to suitable high relief rocky habitat to the northwest and west of the study area. Historical record within 20km and recent record within 50km.
Macroderma gigas	Ghost bat	V	E	The species' current range is discontinuous. Colonies are found in the Pilbara, Kimberley (including several islands), Northern Territory (including Groote Eylandt), the Gulf of Carpentaria, coastal and near coastal eastern Queensland (TSSC 2016). Roost sites include caves, rock crevices and disused mines. This species moves seasonally between several caves and requires a range of cave sites with most breeding sites appearing to have multiple entranced caves. It disperses widely when not breeding but concentrate in a relatively few roost sites when breeding.	Unlikely	Closest species occurrences are approximately 31km north-east of the western and eastern study areas, and no records within 20km of northern study area (DESI 2024). Habitat in the study area not suitable for roosting and outside the species average foraging range from day roosts. (TSSC 2016).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Nyctophilus corbeni	Corben's long-eared bat	V	V	This species can occur in a range of inland woodland vegetation types, including box, ironbark, and cypress pine woodlands. Brigalow woodland and River red gum forests lining watercourses and lakes also provide habitat for the species. Throughout inland Queensland, the species' habitat is dominated by various eucalypt and bloodwood species and is most abundant in vegetation with a distinct canopy and a dense cluttered shrub layer. The species is nearing its north-westerly mapped 'may occur' distribution range as per SPRAT (DoE 2024). The confidence level surrounding the species potential to occur in the project area region is low, however, the precautionary principle has been applied and given the abundance of suitable habitat, as described, the species has the potential to occur.	Unlikely	Closest record 229km south-east of central coordinate in western study area. Marginal suitable habitat present in northern study area, but it is outside of the species known range, with no records within 20km or 50km.
Petauroides minor	Greater glider (northern)	V	V	The species is restricted to northern eastern Australia. Its area of occupancy has extensively decreased mostly due to land clearing. This area is probably continuing to decline due to further clearing, fragmentation impacts, fire, and specific forestry activities. It occurs in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The distribution may be patchy even in suitable habitat.	Unlikely	Identified in PMST. The study area is not located within the known distribution of this species as it is located at least 20 km south of the mapped species or species habitat may occur distribution for the species (DCCEEW, 2024). Greater gliders within the study area are considered to be *Petauroides volans*.
Petauroides volans	Greater glider (central and southern)	E	E	The species is restricted to eastern Australia occurring from the Windsor Tableland in north Queensland through to Central Victoria. Its distribution is often patchy even in suitable habitat. The species is largely restricted to eucalypt forest and woodlands, though appears to prefer forests with a diversity of eucalypt species for forage due to seasonal variation among food trees. Species persistence in an area is often limited by a lack of suitable tree hollows. Species requires an abundance of large hollows in large mature growth trees and more than two live den trees per two hectares of suitable woodland habitat.	Known	Species recorded adjacent to the eastern boundary of the study area during spotlighting surveys undertaken in 2019 and during surveys in 2024.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Petaurus australis australis	Yellow-bellied glider (south-eastern)	V	V	This subspecies occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. Abundance is highly dependent on habitat suitability, which is in turn determined by forest age and floristics. The subspecies shows a preference for large patches of mature old growth forest that provide suitable trees for foraging and shelter	Unlikely	Closest occurrence more than 57km north of central coordinate in western study area (DESI 2024). Survey recorded limited abundance of large eucalyptus trees with large hollows. Marginal suitable habitat.
Phascolarctos cinereus (combined populations of Qld, NSW, and the ACT)	Koala	E	E	This species inhabits a range of temperate, sub-tropical and tropical forests dominated by Eucalyptus spp. Koala habitat is defined as woodlands containing known koala food trees, or shrublands with emergent food trees. Preferred food and shelter trees often occur on fertile clay soils.	Known	Koalas has been recorded on the boundary of the study area (western) during recent field surveys (ELA, 2019). The study area contains suitable habitat for the species in the form of remnant, eucalypt dominated woodlands.
Pteropus poliocephalus	Grey-headed flying-fox	V	LC	This species occurs along the south-east coast of Australia inhabiting a range of different habitats containing flowering and fruiting trees including closed forest, open forest, and woodlands. Demonstrated preference for nectar and pollen from eucalypts, melaleucas, and banksias.	Unlikely	Reported 75km north of central coordinate in western study area. Marginal suitable habitat in western study area. Suitable habitat is present in northern study area but no camps known nearby.
Tachyglossus aculeatus	Short-beaked echidna	–	SL	The short-beaked echidna occurs in all states of Australia where it inhabits a diverse range of habitats such as forests, woodlands, heath, grasslands, and arid environments (ALA 2023). The species thrives provided it has access to an adequate food supply such as termites and ants (e.g. in forested areas with abundant fallen logs filled with termites).	Likely	Recorded approximately 12.5km north of central coordinate in western study area (DESI 2024) and it has been previously recorded within the broader SWC site. Suitable habitat is present within the study site.
Birds						
Actitis hypoleucos	Common sandpiper	Mi	SL	The species is found along coastlines and several areas inland, utilising a wide range of wetland habitats of varying salinity.	Unlikely	No records exist for species within 25 km of study area. Very limited suitable habitat (no saline wetlands) available for species.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Apus pacificus	Fork-tailed swift	Mi	SL	This species is almost exclusively aerial, flying up to 300 m above ground and probably much higher. They are more widespread west of the Great Divide and are commonly found west of the line joining Chinchilla and Hughenden. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland, or saltmarsh. However, they can also be found in grassland and sandplains covered with spinifex, open farmland, inland/coastal sand-dunes, above rainforests, wet sclerophyll forest, open forest, or plantations of exotic pines.	Potential	This species is exclusively aerial when within Australia and may forage or fly above a range of habitats, including habitat within the study area. There are species records within 50 km of the study area.
Calidris acuminata	Sharp-tailed sandpiper	V, Mi	SL	In Queensland the species has been recorded in most regions, being widespread along much of the coast and sparsely scattered inland, particularly in central and south-western regions. It 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. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries, or seashores, also in swamps and creeks lined with mangroves. Sometimes occur on rocky shores and rarely on exposed reefs.	Unlikely	Recorded approximately 99km north-east of the study area. The species is generally associated with the coast, but it can be found in terrestrial inland wetlands and dams. Marginal habitat of this kind is present in the project area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Calidris ferruginea	Curlew sandpiper	CE, Mi	CE	The species mainly occurs on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	Unlikely	There is a number of records approximately 100km north-east (coastal) of the study area. Habitat where the species mostly occurs is not present within the study area.
Calidris melanotos	Pectoral sandpiper	Mi	SL	The species is generally associated with the coast, but it can be found in terrestrial inland wetlands and dams. It prefers shallow fresh to saline wetlands such as coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains, and artificial wetlands.	Unlikely	Most records occur around Cairns with scattered records elsewhere. The closest record is approximately 81km northeast of the study area.
Calyptorhynchus lathami erebus	Glossy black-cockatoo (Northern)	V	LC	This species feeds almost exclusively on seeds of she-oaks. It nests in hollows of living and dead eucalypts.	Unlikely	Recorded approximately 80km north-east of the study area. The species is known to forage on *Casuarina* spp., which are present in some of the vegetation communities identified within the study area. However, the study area is outside the species' current known range.
Cuculus optatus	Oriental cuckoo	Mi	SL	The species is found from the Gulf of Carpentaria and Cape York Peninsula to the Queensland/New South Wales border, including inland areas of eastern Queensland. It inhabits monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, and islands.	Unlikely	Records exist for the species approximately 20 km north-east of the study area central coordinate, dating back to 1991. No suitable habitat in the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Erythrotriorchis radiatus	Red goshawk	E	E	The species' historical distribution has significantly retracted since European settlement and the species now occurs sparsely across approximately 15% of its coastal and near coastal habitat from the Kimberly in Western Australia to northeastern New South Wales. The species prefers a mix of vegetation types, inhabiting tall open forest, woodland, lightly treed savannah, and rainforest fringes in partly cleared parts of eastern Queensland. It is associated with gorge and escarpment country.	Unlikely	A historical record (1992) of the species exists approximately 35km south-east of the study area central coordinate (DESI 2024). However, no suitable breeding or foraging habitat (as defined in the Conservation Advice for the species) is present within the study area.
Falco hypoleucos	Grey falcon	V	V	The species is associated with shrublands, grasslands and wooded watercourses, though occasionally recorded in open coastal woodlands. May also occupy vegetation proximate to wetlands where an abundance of prey, almost exclusively birds, occurs (BirdLife International 2024a).	Unlikely	The species is mostly confined to arid inland (ALA 2023). It is mostly found in arid sparse woodland intersected by tree-lined watercourses and *Triodia* spp. grassland, a habitat that it is limited in the study area. Closest species occurrence is more than 25km west of the study area (ALA 2023).
Gallinago hardwickii	Latham's snipe	V, M	SL	The species occurs in monsoon forests, rainforest edges, leafy trees in paddocks, river flats, roadsides, mangroves, islands. The species inhabits wetlands with low, dense vegetation and grasslands or riparian corridors.	Unlikely	No ALA records of species within proximity to the study area. No suitable habitat (wetlands) occurs within study area.
Geophaps scripta scripta	Squatter pigeon (southern)	V	V	The species favours open forest habitat to sparse open woodlands and scrub that are remnant, regrowth or partly modified, dominated by Eucalyptus, Corymbia, Acacia or *Callitris* spp and within 3km of water bodies. They prefer well-draining, sandy, or loamy soils on gently sloping flat to undulating plains and foothills.	Known	The species was recorded within the study area during field surveys. Suitable breeding, foraging, and dispersal habitat is present within the study area (DoE 2024a).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Grantiella picta	Painted honeyeater	V	V	The species' diet consists of mainly mistletoe fruits (TSSC 2015a). It favours woodlands that contain a high number of mature trees which support an abundance of mistletoe.	Unlikely	The required abundance of mature trees and high density of mistletoe was not observed in the study area. Closest species record is approximately 155 km west of the study area (DESI 2024).
Hirundapus caudacutus	White-throated needletail	V, Mi	V	The species is widespread in eastern and south-eastern Australia and occurs in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. It is almost exclusively aerial, from heights of less than 1m up to more than 1,000m above the ground, and are mostly recorded flying above wooded areas, including open forest and rainforest. It may also be found flying between trees or in clearings, below the canopy, but less commonly recorded flying above woodland and heathland (DCCEEW 2023).	Potential	Closest species occurrence is approximately 47km northwest of the study area (DESI 2024). Suitable open habitats for the species and records within 50km of the study area.
Monarcha melanopsis	Black-faced monarch	Mi	SL	The species is widespread in Queensland from the Torres Strait and Cape York Peninsula, south along the coasts and the eastern slopes of the Great Divide, to the New South Wales border. It favours rainforest habitat, but it is occasionally found in Eucalypt woodlands or scrub dominated by Brigalow when migrating.	Unlikely	Closest species record is approximately 41km north-west of the study area (DESI 2024). Species favours rainforest habitat that is not present in the study area.
Motacilla flava	Yellow wagtail	Mi	SL	The species occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, to sewage farms.	Unlikely	Closest species record is approximately 240km south-east of the study area (DESI 2024). Limited suitable habitat occurs within study area.
Myiagra cyanoleuca	Satin flycatcher	Mi	SL	The species is widespread yet scattered in eastern Australia. It mainly inhabits eucalypt forests, often near wetlands or watercourses.	Unlikely	Closest species record is approximately 27km south-east of the study area (DESI 2024). Limited suitable habitat occurs within study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Neochmia ruficauda ruficauda	Star finch (eastern)	E	E	The species is only found in central Queensland. Based on the small number of accepted records, the distribution of the Star Finch (eastern) is believed to extend north to Bowen, west to beyond Winton and, based on recent records, south to near Wowan. It is possible that the distribution extends farther north to Mount Surprise and the Cloncurry-Mount Isa region (DESI 2024). It occurs mostly in grasslands and grassy woodlands that are located close to waterways, but also in cleared or suburban areas such as along roadsides and in towns (DCCEEW 2023).	Unlikely	Closest species record is approximately 70km south-east of the study area (DESI 2024). Habitat in the study area not suitable (DCCEEW 2023).
Pandion haliaetus cristatus	Eastern osprey	Mi	–	The species is found and breeds along all coastal areas of Queensland. Occasionally it travels inland along major rivers, particularly in northern Australia. Can occur in central Australia between May and December during years of average or above-average rainfall when fish are abundant in inland waterways.	Unlikely	Closest species record is approximately 80km north-east of the study area (DESI 2024). No currently suitable habitat observed.
Poephila cincta cincta	Southern black-throated finch	E	E	This species is locally common at two general locations: in the Townsville region, at a few sites around Townsville and Charters Towers, and at scattered sites in central-eastern Queensland (DCCEEW 2023). The species is believed to exhibit sedentary behaviour (TSSC 2005). It is found mostly in grassy, open woodlands and forests, typically dominated by Eucalyptus, Corymbia and Melaleuca, and occasionally in tussock grasslands or other habitats, namely along or near watercourses, or in the vicinity of water. Most recent records of the species from south of the tropics have been in riparian habitat. It is thought to require a mosaic of different habitats in which seed can be found during the wet season (DCCEEW 2023).	Unlikely	There is an undated ALA record to the north of SWC, however, species records are generally concentrated further north. Quality riparian grassland habitat with access to seeds and water preferred by the species (DCCEEW 2023) was not identified within the study area.
Rhipidura rufifrons	Rufous fantail	Mi	SL	The species is found in coastal and near coastal districts of northern and eastern Australia. In east Australia, it usually inhabits wet sclerophyll forests usually with a dense shrubby understorey often including ferns. It can also be found in subtropical/temperate rainforests and occasionally in drier sclerophyll forests during	Unlikely	Closest species record is approximately 27km south-east of the study area (DESI 2024). No suitable habitat in the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
				migration. In the north it occurs in tropical and monsoon rainforests, including semi-evergreen mesophyll vine forests, semi-deciduous vine thickets or thickets of Melaleuca. The species is occasionally found in secondary regrowth, following logging or disturbance in forests or rainforests.		
Rostratula australis	Australian painted snipe	E	E	The species generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.	Unlikely	The closest species record is approximately 73km south-west of the study area (DESI 2024). Habitat in the study area not suitable (DCCEEW 2023).
Stagonopleura guttata	Diamond firetail	V	V	This species is endemic to south-eastern Australia, extending from central Queensland to the Eyre Peninsula in South Australia. It is predominantly found in grassy eucalypt woodlands, including Box gum woodlands and snow gum woodlands (ALA 2023).	Unlikely	No records of species present within 50km of study area (ALA, 2024). The nearest occurrence is estimated to be approximately 308 km to the west. The study area is outside the species known distribution (BirdLife International 2024b).
Symposiachrus trivirgatus	Spectacled monarch	Mi	SL	This species occurs in regions such as Australia, Indonesia, and Papua New Guinea. It thrives in various environments including moist lowland forests in subtropical or tropical areas, mangrove forests of similar climates, and moist montane forests in subtropical or tropical zones (ALA 2023).	Unlikely	The closest record for this species is approximately 30km south-east of the study area (DESI 2024). The study area provides no suitable habitat (tropical rainforests, mangroves) for the species.
Tringa nebularia	Greenshank	E, Mi	SL	The species occurs in the gulf country, but it is also found inland in Queensland near Dalby as well as South-east Queensland. It is found in all types of wetlands (permanent and ephemeral), including swamps, lakes, dams, rivers, creeks, waterholes, inundated floodplains, and claypans.	Unlikely	The closest record for this species approximately 80km north-east of the study area (DESI 2024). Very limited suitable habitat recorded in the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Tyto novaehollandiae kimberli	Masked owl (northern)	V	V	The species occurs in coastal and upland areas which support sclerophyll forest and woodland. Habitat often occurs near ecotones with open areas, such as grassland, heath, or cane fields and typically grassy or with a mosaic of sparse and dense groundcover (TSSC 2015b).	Unlikely	Closest species occurrence is approximately 200km north of the study area (DESI 2024) and study area is outside species known range (coastal and upland areas).
Reptiles						
Acanthophis antarcticus	Common death adder	–	V	The species is found from central Queensland through New South Wales to the southern parts of South Australia and Western Australia (DESI 2024). This mostly nocturnal species (although it may be active during the day) occurs in a wide variety of well-drained habitats, including rainforests and wet sclerophyll forests, woodland, shrublands, grasslands and coastal heathlands, preferring sites where it burrows into sand or leaf litter, or hide under overhanging foliage. The importance of these habitats to this species is not known.	Unlikely	Two closest species occurrences are approximately 40km south and northwest of the study area. The study area provides no suitable habitat for the species.
Crocodylus porosus	Estuarine crocodile	Mi	V	The species is found in coastal brackish mangrove swamps, river deltas, and freshwater rivers from Broome, Western Australia through the entire Northern Territory coast to Rockhampton, Queensland (ALA 2023).	Unlikely	The closest record for this species approximately 70km northeast of the study area (DESI 2024). No suitable habitat recorded in the study area.
Denisonia maculata	Ornamental snake	V	V	This species only occurs in Brigalow Belt North and parts of the Brigalow Belt South, namely within the drainage system of the Fitzroy and Dawson rivers (DCCEEW 2023). It favours habitats is favoured by its main prey - frogs. The species is known to prefer woodlands and open forests associated with moist areas, particularly gilgais mounds and depressions. This species is likely to occur in brigalow (Acacia harpophylla), gidgee (Acacia cambagei), blackwood (Acacia argyrodendron) or coolibah (Eucalyptus coolabah) dominated vegetation communities, or pure grassland associated with gilgais (Brigalow Belt Reptiles Workshop 2010).	Likely	Species has been recorded at SWC south of the study area (northern) during recent field surveys (ELA, 2019). It was not recorded during the current field survey. However, suitable habitat within the study area is identified as Brigalow dominated woodlands with suitable microhabitat features (gilgais, soil cracks, abundant litter).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Egernia rugosa	Yakka skink	V	V	The species is endemic to Queensland where it is scattered with isolated populations occurring throughout subhumid areas in the interior of Queensland from St George to Cape York. 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 Bioregions (TSSN 2008). It favours rocky outcrops, sand plain areas and dense ground vegetation, in association with open dry sclerophyll forest (ironbark) or woodland, brigalow forest and open shrub land. The species has also been found in lancewood forest on coarse gritty soils in the vicinity of low ranges, foothills, and undulating terrain with good drainage (Cogger 2000; DCCWWE 2023).	Unlikely	No suitable habitat (rocky outcrops, sand plain areas and dense ground vegetation) for the species is present within the study area. Closest species record is approximately 177 km south-east of the study area (ALA 2024).
Elseya albagula	White-throated snapping turtle	CE	CE	The species occurs in the Fitzroy, Mary and Burnett Rivers and associated smaller drainages in Southeast Queensland (TSSC 2014).	Unlikely	Closest species record is approximately 72km south-east of the study area, at Connors River (DESI 2024). Habitat in the study area not suitable (DoE 2024b).
Furina dunmalli	Dunmall's snake	V	V	This species occurs in open forest, particularly A. harpophylla (brigalow) forest and woodland growing on floodplains of deep-cracking black clay and clay loam soils. It is found in rocky outcrops, sandy plane areas and dense ground vegetation, in association with open dry sclerophyll forest (ironbark) or woodland, brigalow forest and open shrub land.	Unlikely	Closest species record is approximately 134km south-west of the study area (DESI 2024). Limited suitable habitat in the study area.
Hemiaspis damelii	Grey snake	E	E	The species occurs from rom southern New South Wales (NSW) to South-east Queensland where it has a wider and more dispersed distribution, with most records along the Macintyre and Condamine Rivers and associated floodplains of the southern Brigalow Belt from Goondiwindi and Dalby west to Glenmorgan, on the Darling Downs and western Lockyer Valley, near Rockhampton on the central Queensland coast, and on the Darling Riverine Plains	Unlikely	Closest species record is approximately 128km south-east of the study area (DESI 2024). Limited suitable habitat in the study area (DCCEEW 2023).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
				near Currawinya in South-western Queensland. It occurs in the brigalow (Acacia harpophylla) and belah (Casuarina cristata) woodlands on heavy, dark brown to black cracking clay soils, particularly in association with water bodies, areas with small gullies and ditches, and floodplain environments where this species shelters beneath logs, rocks, and soil cracks.		
Lerista allanae	Retro slider	E	E	The species is found in the undulating, black soil downs of the central Brigalow Belt bioregion, in the root systems of grass tussocks on black soils, rich brown surface soils and associated leaf litter. The soils in which the species is found are quite loose, which probably plays an important role in the species' habitat preference.	Unlikely	There are no ALA records of the species within proximity to study area. Habitat suitability is limited to areas of friable basalt soils which were not identified within the study area.
Rheodytes leukops	Fitzroy River turtle	V	E	This species is scattered within the drainage system of the Fitzroy and Dawson Rivers in Queensland (DESI 2024). It occurs on floodplains, undulating clay pans and along the margins of swamps, lakes, and watercourses. It is also found 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 (DCCEEW 2023).	Unlikely	No ALA records of the species within proximity to study area. Habitat in the study area not suitable (DCCEEW 2023).
Amphibians						
Taudactylus eungellensis	Eungella dayfrog	E	E	The species is endemic to the ranges west of Mackay, mid-eastern Queensland, from Clarke Range in the north to Finch Hatton Gorge and Credition in the south at altitudes between 200 and 1000 m. It is found along small creeks in rainforest as well as wet sclerophyll forest (DCCEEW 2023).	Unlikely	Closest species record is 70km north of the study area (ALA 2023). Habitat in the study is not suitable.
Adelotus brevis	Tusked frog	–	V	The species is found from Eungella National Park in Queensland to Ourimbah in New South Wales (Hines et al 1999). This ground-dwelling species is associated with dams, flooded grassland and creeks in rainforest, sclerophyll forest and woodland (Cogger 2000).	Unlikely	The study site is outside of the species northern distribution. There are no records within 20km and recent records exist within 50km, from Eungella National Park.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Flora						
Arthraxon hispidus	Hairy-joint grass	V	V	This species is scattered locations throughout Queensland and on the northern tablelands and north coast of New South Wales. It occurs in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps, and in woodland. Found growing around freshwater springs on coastal foreshore dunes, in shaded small gullies, on creek banks, and on sandy alluvium in creek beds in open forest, and with bog mosses in mound springs in South-east Queensland (DESI 2024).	Unlikely	Closest species record is approximately 48.2 km south of the study area (DESI 2024). The study area may provide marginally suitable habitat for the species, but it falls outside its main range in the species distribution map (DESI 2024).
Bertya opponens	–	V	LC	This species is sparsely distributed, and it is found as far north as near Charters Towers, in north-east Queensland, southwards to Cobar and Coffs Harbour, New South Wales. It occurs in a variety of community types including mixed shrubland, lancewood woodland, mallee woodland, eucalypt/Acacia open forest with shrubby understorey, eucalypt/callitris open woodland and semi-evergreen vine-thicket. The soils are recorded as generally shallow sandy loams or red earths associated mostly with sandstone, but also with rhyolite, shale, and metasediments.	Unlikely	Closest species record is approximately 300km south of the study area (DESI 2024). The study area habitat is not suitable.
Bertya pedicellata	–	–	NT	The species is endemic to central and south-east Queensland. It occurs on rocky hillsides in eucalypt forest or woodland, Acacia woodland or shrubland and open heathland or vine thicket communities. Soils are recorded mostly as skeletal to shallow sandy, sandy clay or clay loams overlaying rhyolite, trachyte or sandstone substrates.	Unlikely	This species has four records within 20km of the study area in WO. The closest record is approximately 10 km south-west of the Project area (DESI 2024). However, the species has only been documented in areas south of the study area, and the specific habitat requirements (rocky hillsides with skeletal soils) have not been identified within the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Capparis humistrata	–	–	E	This species is endemic to central-eastern Queensland, between Marlborough and Bouldercombe. It is also recorded further north near Dingo in central Queensland. It grows in eucalypt woodland with a shrubby understorey, on stony hard ridges and serpentinite soil. It also occurs on the margins of brigalow forest on sandy soil.	Unlikely	The closest species record is a 1998 isolated record 13.5km away from the study area.
Coleus eungellaensis	–	–	V	The species is endemic to Queensland and occurs on granite outcrops above 700m altitude in the Eungella region, and it favours the borders of notophyll vineforests.	Unlikely	Closest species occurrence is 48km northeast of the study area. There is no suitable habitat in the study area, namely granite outcrops and preferred vegetation community.
Cycas ophiolitica	Marlborough blue	E	E	The species inhabits eucalypt open forest and woodland communities with a grassy understorey. They occur on hill tops or steep slopes, at altitudes of 80-620m above sea level. It grows on shallow, stony, red clay loams or sandy soils. (Halford 1995).	Unlikely	Closest species record is 127km south-east of the study area. The northern distribution limit of the species is situated at a considerable distance to the study area, which also does not contain suitable habitat for the species.
Denhamia megacarpa	Large-fruited denhamia	E	E	The species is known from three subpopulations in eastern central Queensland, the Junee Tableland near Middlemount, and an outlying subpopulation at Newlands west of Mackay.	Unlikely	Closest species record is approximately 113km south-east of the study area (DESI 2024). Restricted occurrence and no suitable habitat within the study area.
Dichanthium queenslandicum	King bluegrass	E	V	This species is found from near Dalby north to about 90km north of Hughenden and west as far as Clermont. The main concentration of populations in central Queensland in the Emerald region. It is mostly confined to natural grass land on heavy black clay soils. It has been recorded in tussock grasslands mainly in association with other species of bluegrasses (*Dichanthium* spp. and *Bothriochloa* spp.) as well as with other grasses restricted to this soil type.	Potential	Suitable natural grassland habitat for this species was identified in the northern study area. Closest species record is 16km north-east of the study area (DESI 2024).

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Dichanthium setosum	Bluegrass	V	LC	In Queensland, this species occurs from Toowoomba in the south to the Lynd Junction in the north, with isolated collections from the Palmer River on the Cape and Lawn Hill NP near the Northern Territory border. It is found in heavy soils (predominantly cracking clays or alluvium, often in gilgais) in woodland or open woodland usually dominated by Acacia (brigalow) and/or Eucalyptus species (DESI 2024).	Potential	Potential habitat for the species is identified as natural grasslands on cracking clays (RE11.3.21). Closest record is approximately 46km north of the study area (DESI 2024).
Digitaria porrecta	Finger panic grass	–	NT	The species is found in Queensland's Nebo district, the Central Highlands between Springsure and Rolleston, and from Jandowae south to Warwick. It occurs in grasslands on extensive basaltic plains, and in undulating woodlands and open forests with basaltic geology (Leigh et al 1984).	Potential	There is potential suitable habitat for the species identified as natural grasslands on cracking clays (RE 11.3.21).
Eucalyptus raveretiana	Black ironbox	V	LC	Species has a wide distribution in coastal and sub-coastal areas of Queensland. Usually grows along watercourses, namely permanent ones, and sometimes river flats or open woodland. Known population south of the study area along Walker Creek.	Potential	There are records of the species along Walker Creek (approximately 6km north-east of the study area [western]). However, Walker Creek is a large, regionally significant watercourse and the watercourses that intersect the study area are much smaller tributaries which do not support riparian habitat suitable for Black ironbox.
Macropteranthes leiocaulis	–	–	NT	The species is a tree endemic to eastern Queensland from Mingela Bluff near Townsville to the Binjour Plateau near Mundubbera (CSIRO 2020), where it has been recorded in deciduous vine thickets, semi-evergreen vine thickets and Araucarian microphyll vine forests on red euchrozems or sandstones talus (Wang 1996).	Unlikely	There is no suitable vine thicket habitat present within the survey area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Omphalea celata	–	V	V	The species is known from three sites in Queensland, near Eungella, Bowen, and north-west of Nebo. It is known to occur within dry rainforest and vine thicket communities.	Unlikely	Closest record is approximately 39km north of the study area (DESI 2024). Restricted occurrence and no suitable habitat within the study area.
Ozothamnus eriocephalus	–	V	V	The species is endemic to Queensland and is known from the Bowen and Mackay area of central Queensland. It is known from a range of habitat types, including the margins of notophyll vine forest, margins of gallery forest, microphyll vine forest, tall open *Eucalyptus andrewsii*, *E. resinifera* forest with an understorey of *Allocasuarina littoralis*; tall open forest with *E. drepanophylla*, *E. acmenoides*, *C. intermedia* and *C. citriodora*; in open eucalypt forest and on rocky ridges within Eucalyptus spp. and *Acacia* spp. scrub. *O. eriocephalus* grows from moderate to high elevations ranging from 380 to 950m. It occurs on skeletal sandy or gravelly soils or occasionally deeper red-brown clay loams derived from granites and sandstones.	Unlikely	There are occurrences of the species 34km northwest of the study area, however, no suitable habitat (rainforest) is present in the study area.
Phlegmariurus tetrastichoides	–	V	V	Queensland (north-east) endemic epiphyte which is found from Mount Finnigan to the Clarke Range, west of Mackay. The species occurs in upland notophyll vine forest (Field et al 2008)	Unlikely	There is no suitable vine forest habitat present within the study area.
Polianthion minutiflorum	–	V	V	This species occurs in Queensland from Redcliffe Vale, about 110km west of Mackay to Kingaroy, covering approximately 800km. It has been recorded in forest and woodland on sandstone.	Unlikely	Closest record is approximately 72km north of the study area (DESI 2024). There is no suitable habitat within the study area.
Samadera bidwillii	Quassia	V	V	Found from Scawfell Island, east of Mackay, to as far south as Bauple and west to Biloela. The species is distributed within Byfield National Park, Goomboorian National Park, Mount Bauple National Park, Mount Walsh National Park, South Cumberland National Park, Byfield State Forest, Cordalba State Forest Tiaro State Forest, Tuan State Forest, Young State Forest 3, and Callide Timber Reserve.	Unlikely	Closest record is approximately 181km south-east of the study area (DESI 2024). No suitable habitat within the study area.

Scientific name	Common name	EPBC Act status[1]	NC Act status[1]	Habitat description	Likelihood of occurrence assessment	Justification
Solanum elachophyllum	–	–	E	The species is endemic to the central subcoastal part of Queensland, from Middlemount to Theodore (Bean, 2004). It grows on fertile cracking-clay soils in open forest of *Eucalyptus thozetiana*, *Acacia harpophylla*, with understorey of *Geijera parviflora*, *Casuarina cristata*, *Macropteranthes leichhardtii*, *Eucalyptus cambageana*, or woodland of *E. crebra* and *Eucalyptus tenuipes* (Bean 2004).	Potential	There is potential suitable Brigalow woodland habitat (RE 11.3.1, 11.4.8, 11.4.9 and 11.9.5) within the study area.
Solanum graniticum	Granite nightshade	E	E	This species is endemic to Queensland and occurs in Gloucester Island (near Bowen), and adjacent parts of the mainland, as well as at Eungella Dam. It is found in open eucalypt woodland on hillsides with shallow soil derived from granite or granodiorite. The species is associated with *Eucalyptus drepanophylla* and *Corymbia erythrophloia*.	Unlikely	Closest record is approximately 76 km north of the study area (DESI 2024). There is no suitable habitat within the study area.

1CE – Critically Endangered, E – Endangered, V – Vulnerable, NT – Near Threatened, SL – Special Least Concern, LC – Least Concern, Mi – Migratory

FIELD VERIFIED LIKELIHOOD OF OCCURRENCE ASSESSMENT (TEC) FOR STUDY AREA

TEC	EPBC status	Description	Likelihood of occurrence
Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered	In Queensland, the Brigalow TEC is found predominantly within the Brigalow Belt North, Brigalow Belt South, Darling Riverine Plains and Southeast Queensland bioregions, with smaller amounts in the Mitchell Grass Downs, Mulga Lands and Einasleigh Uplands bioregions (SPRAT, 2013). The soils associated with this TEC are usually deep gilgaied clays, sedentary clays, alluvial clays, miscellaneous deep clays, and loamy red soils. In Queensland, the soils are predominantly cracking clays where Brigalow is dominant, but texture contrast soils are common where Eucalyptus species are co-dominant. The vegetation composition and structure vary. In the tree layer, the vegetation is usually dominated by *Acacia harpophylla* (Brigalow) with or without *Casuarina cristata* (Belah), and with or without Eucalyptus trees which may be scattered or form an emergent layer that is taller than the Brigalow canopy. All 16 of the regional ecosystems (REs) that comprise the listed Brigalow TEC in Queensland are listed as Endangered under the Vegetation Management Act 1999 (Qld): 6.4.2, 11.3.1, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.5.16, 11.9.1, 11.9.5, 11.9.6, 11.11.14, 11.12.21, 12.8.23, 12.9-10.6, 12.12.26.	Known
Broad-leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland	Endangered	The Broad leaf tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland ecological community represents occurrences of woodland where *M. viridiflora* is dominant in the canopy and a diversity of grasses, sedges and forbs occupy the ground layer. This TEC occurs in the Wet Tropics and Central Mackay Coast bioregions, and corresponds with RE 7.3.8a, 7.3.8b, 7.3.8c, 7.3.8d, 7.5.4g, 8.3.2, 8.5.2a, 8.5.2c and 8.5.6.	Unlikely
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	This TEC occurs from just north-west of Townsville in Queensland to central northern NSW, mostly within the Brigalow Belt North and South bioregions ((Interim Biogeographic Regionalisation for Australia (IBRA) Version 7). In Queensland, this TEC is most common on undulating plains on fine grained sedimentary rocks (frequently shale) and on basalt hills and plains, though also occurring less frequently on coastal dunes, Quaternary alluvium, Tertiary clay plains, old loamy and sandy plains, or hills and lowlands on metamorphic rocks. In Queensland, it may have a shrub understorey, with common species such as *Acalypha eremorum* (soft acalypha), *Alectryon diversifolius* (scrub boonaree), *Carissa spinarum* (currant bush), or *Exocarpos latifolius.* Common vines include *Clematicissus opaca*, *Cissus oblonga*, *Parsonsia lanceolata* and *Tylophora* spp. This TEC is matched by REs: 11.2.3, 11.3.11, 11.4.1, 11.8.13, 11.9.4, and 11.11.18.	Unlikely

TEC	EPBC status	Description	Likelihood of occurrence
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	This TEC is widely distributed and mostly found west of the Great Dividing Range, between north of Cowra in NSW and south of Charters Towers in Queensland, where it also occurs west of Ipswich and east of Longreach. This woodland is frequently found close to ephemeral watercourses and depressions in gently undulating to flat terrain and occasionally in more hilly country. It is commonly associated with alluvial back plains, higher terraces, and levees along rivers (Queensland). This TEC is usually associated with clay, clay-loam, loam, and sandy-loam soils. The vegetation ranges from a grassy woodland to grassy open woodland structure with occasional open forest structure with an overstorey dominated by *Eucalyptus populnea* (Poplar box). This TEC is frequently present in a landscape that has not been highly modified. This TEC is best matched by REs: 11.3.2, 11.3.17, 11.4.7, 11.4.12, and 12.3.10.	Known
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin	Endangered	This TEC is endemic to Queensland and occurs within the Brigalow Belt North and Brigalow Belt South. The ecological community mostly occurs within the Fitzroy River Basin, but its distribution does extend part way into adjoining catchments. It is recorded on flat ground or gently undulating rises. Soils have formed either *in situ* on the fresh basalt or on fine-grained sedimentary rocks or where this material has been transported to form extensive alluvial plains. The ecological community contains a variety of wildflowers such as daisies, lilies, and orchids, occupying the spaces between tussocks. Shrubs are typically a very minor component of the grassland but in some small areas shrubs like *Acacia farnesiana* (mimosa), can be quite thick. The tree canopy layer is typically absent but may comprise scattered trees (e.g. paddock trees) to less than 10% projective crown cover. This TEC is best matched by REs: 11.3.21, 11.3.24, 11.4.4, 11.4.11, 11.8.11, 11.9.3, 11.9.12, and 11.11.17.	Known

Appendix C Flora and fauna species lists

FLORA SPECIES

Scientific name	Common name
Acacia flavescens	Toother wattle
Acacia harpophylla	Brigalow
Acacia leiocalyx	Black wattle
Acacia salicina	Sally wattle / Doolan
Alectryon diversifolius	Holly bush
Allocasuarina luehmannii	Bulloak
Alyxia ruscifolia	Chain fruit
Alphitonia excelsa	Soap tree
Alphitonia petriei	Pink ash
Apophyllum anomalum	Broom bush
Archidendropsis basaltica	Dead finish
Aristida calycina	Dark wiregrass
Aristida latifolia	Feathertop speargrass
Aristida leptopoda	White speargrass
Aristida personata	Purple wiregrass
Aristida sp.	–
Atalaya hemiglauca	Whitewood
Bothriochloa bladhii ssp. bladhii	Forest bluegrass
Bothriochloa decipiens	Pitted bluegrass
Bothriochloa erianthoides	Satin-top grass
*Bothriochloa pertusa**	Indian bluegrass
Bothriochloa sp.	–
Brachychiton australis	Broad-leaved bottle tree
Breynia oblongifolia	Coffee bush
Bursaria incana	Mock orange
Callitris glaucophylla	White cypress pine
Capparis lasiantha	Nepine
Capparis loranthifolia	Narrowleaf bumble
Carissa ovata	Currant bush, conkerberry
Cassia lanceolata	–
Casuarina cristata	Belah
Casuarina cunninghamiana	River she-oak
*Cenchrus ciliaris**	Buffel grass

Scientific name	Common name
Chloris divaricata	Slender chloris
Chloris sp.	–
Citrus glauca	Desert lime
*Clitoria ternatea**	Blue pea
Commelina lanceolata	Queensland wandering sailor
Corymbia clarksoniana	Clarkson's bloodwood
Corymbia dallachiana	Dallachy's gum
Corymbia erythrophloia	Red bloodwood
Corymbia tessellaris	Moreton Bay ash
*Crotalaria pallida**	Streaked rattlepod
Cymbidium canaliculatum	Black orchid
Cymbopogon refractus	Barbed-wire grass
Cyanthillium cinereum	Woolly vernonia
Cyperus sp.	Sedge
Dactyloctenium radulans	Button grass
Denhamia oleaster	Stiff denhamia
*Dichanthium aristatum**	Angleton grass
Dichanthium sericeum	Queensland bluegrass
Digitaria brownie	Cotton panic grass
Dinebra decipiens	Slender canegrass
Diospyros geminata	Scaly ebony
Diospyros humilis	Queensland ebony
Einadia nutans	Climbing saltbush
Enchylaena tomentosa	Ruby saltbush
Enneapogon lindleyanus	Canetop nineawn
Eremophila mitchellii	False sandalwood, budda
Eriachne ciliata	Slender wanderrie grass
Eriachne mucronata	Mountain wanderrie grass
Eriachne obtuse	Northern wanderrie grass
Eragrostis sororia	Woodland lovegrass
Erythroxylum australe	Cocaine tree
Erythrina vespertilio	Batwing coral tree
Eucalyptus brownii	Reid river box
Eucalyptus camaldulensis	River red gum
Eucalyptus crebra	Narrow-leaved ironbark
Eucalyptus orgadophila	Mountain coolibah

Scientific name	Common name
Eucalyptus platyphylla	Poplar gum
Eucalyptus populnea	Poplar box
Eucalyptus tereticornis	Forest red gum / Queensland bluegum
Eulalia aurea	Water grass
Eustrephus latifolius	Wombat berry
Evolvulus alsinoides	Slender dwarf morning-glory / Baby blue eyes
Exocarpos latifolius	Sandalwood
Flindersia dissosperma	Scrub leopardwood
Geijera parviflora	Wilga
Geijera salicifolia	Brush wilga
*Gomphocarpus physocarpus**	Balloon cotton bush
Grevillea sp.	Grevillea
Grevillea striata	Beefwood
Grewia latifolia	Dog's balls, dysentery plant
*Harrisia martini**	Harrisia cactus
Heteropogon contortus	Black spear grass
Heteropogon triticeus	Giant spear grass
Hibiscus heterophyllus	Native hibiscus
Hibiscus sturtii	Sturt's hibiscus
Ipomea plebeia	Bell vine
Lagunaria queenslandica	Pyramid tree
*Lantana camara**	Lantana
Lomandra multiflora	Mat-rush
Lysiphyllum carronii	Queensland ebony, ebony tree
Malvastrum americanum	Spiked mallow
Melaleuca nervosa	Yellow-barked paperbark
*Melinis repens**	Red natal grass
Neptunia gracilis	Native sensitive plant
Notelaea microcarpa	Native olive
Ocimum caryophyllinum	Bush tea-leaf
*Opuntia stricta**	Prickly pear
Owenia acidula	Emu apple
Panicum decompositum	Native millet
Parsonsia lanceolata	Northern silkpod
*Parthenium hysterophorus**	Parthenium
Paspalidium caespitosum	Brigalow grass

Scientific name	Common name
Petalostigma pubescens	Quinine bush
Phebalium glandulosum	Desert phebalium
Phyllanthus maderaspatensis	Spurge
Pittosporum angustifolium	Weeping pittosporum
Pittosporum spinescens	Wallaby apple
Pleiogynium timoriense	Burdekin plum
Polymeria ambigua	Creeping polymeria
Polymeria calycina	Pink bindweed
Portulaca oleracea	Purslane
Pseuderanthemum variabile	Pastel flower
Psydrax odorata	Lamboto
Senna occidentalis	Coffee senna
Sesbania cannabina	Sesbania pea
*Sida cordifolia**	Flannel weed
Sida hackettiana	Spiked sida
Sida sp.	Flannel weed
Spermacoce brachystema	–
Sporobolus caroli	Fairy grass
Sporobolus scabridus	–
*Stylosanthes hamata**	Caribbean stylo
*Stylosanthes guianensis**	Stylo
*Stylosanthes scabra**	Shrubby stylo
Tephrosia virginiana	Goat's rue
Terminalia oblongata	Yellow-wood
Thellungia advena	Coolibah grass
Themeda triandra	Kangaroo grass
*Urochloa mosambicensis**	Sabi grass
Vachellia nilotica	Prickly acacia
Vigna vexillata	Wild cow pea
Wahlenbergia gracilis	Australian bluebell

* exotic species

FAUNA OPPORTUNISTIC OBSERVATIONS

Scientific name	Common name
Aprosmictus erythropterus	Red-winged parrot
Aquila audax	Wedge-tailed eagle
Ardeotis australis	Australian bustard
Aythya australis	Hardhead duck
*Canis familiaris**	Dog
*Bos taurus**	Cattle
Centropus phasianinus	Pheasant coucal
Corvus orru	Torresian crow
Dacelo novaeguineae	Laughing kookaburra
Diporiphora sp	Nobbi dragon
Dromaius novaehollandiae	Emu
*Felis catus**	Cat (feral)
Geophaps scripta scripta	Squatter pigeon (southern)
Gehyra dubia	Dubious dtella
Grallina cyanoleuca	Magpie-lark
Haliastur sphenurus	Whistling kite
Malurus melanocephalus	Red-backed fairy-wren
Microcarbo melanoleucos	Little pied cormorant
Petauroides volans	Greater glider
Phalacrocorax carbo	Great cormorant
Phaps chalcoptera	Common bronzewing
Platycercus adscitus	Pale-headed rosella
Platyplectrum ornatum	Ornate burrowing frog
Pomatostomus temporalis	Grey-crowned babbler
Struthidea cinerea	Apostlebird
*Sus scrofa**	Wild boar
Trichoglossus moluccanus	Rainbow lorikeet
Wallabia bicolor	Swamp wallaby

*non-native species

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