Whitehaven

Blackwater North Extension Project

Appendix D
Terrestrial Ecological Assessment



Blackwater North Extension Project - Terrestrial Ecological Assessment

9 April 2026

Whitehaven Blackwater Pty Ltd
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Contents

Definitions vi

Abbreviations viii

Executive Summary xi

1 Introduction 1
- 1.1 Purpose 1
- 1.2 Project background 1
- 1.3 Scope of the assessment 5

2 Existing environment 6
- 2.1 Study Area overview 6
- 2.2 Regional context 6
- 2.3 Climate 6
- 2.4 Topography 7
- 2.5 Hydrology 8
- 2.6 Geology 8
- 2.7 Land use 8
- 2.8 Previous surveys 9

3 Methods 13
- 3.1 Desktop assessment 13
- 3.2 Field assessment 13
- 3.3 Habitat quality scoring 52
- 3.4 Likelihood of occurrence 56

4 Results 57
- 4.1 Flora 57
- 4.2 Fauna 83
- 4.3 Ecological function 127
- 4.4 Habitat quality assessments 131

5 Environmentally sensitive areas 132

6 MNES and MSES summary 134
- 6.1 Summary of MNES 134
- 6.2 Summary of MSES 143

7 Impacts and mitigation 154
- 7.1 Native vegetation clearing 154
- 7.2 Fauna habitat removal 156
- 7.3 Introduction and spread of weeds and pests 159
- 7.4 Modification of hydrology 161
- 7.5 Proliferation of noise, light and dust 162
- 7.6 Bushfire event 164

7.7 Cumulative impacts 164

8 Significant impact assessments 170

8.1 MNES significant impact assessment 170

8.2 MSES significant residual impact assessment 170

9 Biodiversity offsets 172

10 Conclusion 174

11 References 175

List of Tables

Table 1: Geology and land zones within the Study Area 8
Table 2: Survey team and timing 14
Table 3: Summary of field survey timing and conditions 15
Table 4: Brigalow TEC assessment methodology 20
Table 5: Poplar box TEC condition thresholds 22
Table 6: Flora species targeted during meander flora surveys 24
Table 7: E2M 2025 Survey effort summary 30
Table 8: Survey effort against survey guidelines 31
Table 9: Site-based attributes assessment criteria 52
Table 10: Site context criteria and scoring 54
Table 11: Species stocking rate scoring 55
Table 12: Supplementary scoring matrix for role of importance of species population 56
Table 13: Likelihood of threatened and migratory species to occur in the Study Area 56
Table 14: Ground-truthed regional ecosystems within the Study Area and Disturbance Footprint 58
Table 15: Summary of potentially occurring TECs occurring in the Study Area 73
Table 16: Pest flora within the Study Area 80
Table 17: Broad fauna habitat and their associated REs 83
Table 18: Summary of threatened fauna habitat within the Study Area and Disturbance Footprint 102
Table 19: Pest fauna within the Study Area 125
Table 20: Survey effort per assessment unit for habitat quality assessment sites 131
Table 21: Ground-truthed Category B ESAs within the Study Area 132
Table 22: MNES identified within the Study Area 134
Table 23: MSES ground-truthed regulated vegetation 143
Table 24: MSES protected wildlife habitat within the Study Area 144
Table 25: Summary of direct impact to ground-truthed vegetation communities 154
Table 26: Threatened flora and TECs impacted by the Project 155
Table 27: Threatened and migratory fauna habitat impacted by the Project 156
Table 28: Approved EPBC Act Referrals within 30 km of the Project 165
Table 29: MNES and MSES regional habitat associations 167
Table 30: Proportion of regional habitat to be affected by cumulative impacts 168
Table 31: Summary of habitat quality for MNES and MSES likely to have a significant residual impact 172

List of Figures

Figure 1: Regional Location 3
Figure 2: Proposed General Arrangement 4
Figure 3: Average monthly rainfall and variability for the Blackwater area between 2014 and 2024 (BoM, 2025) 7
Figure 4: Average monthly temperatures for the area between 2014 and 2024 (BoM, 2025) 7
Figure 5: Previous threatened and migratory species records within the Study Area 10
Figure 6: Flora survey sites 18
Figure 7: Fauna survey sites 27
Figure 8: Ground-truthed vegetation communities (A-G) within the Study Area 66
Figure 9: Brigalow Threatened Ecological Community habitat within the Study Area 76
Figure 10: *Solanum elachophyllum* habitat and records within the Study Area 79
Figure 11: Potential Groundwater Dependent Ecosystems 82
Figure 12: Fauna habitat types within the Study Area (A-G) 84
Figure 13: Ornamental snake habitat and records within the Study Area 104
Figure 14: Australian painted snipe habitat and records within the Study Area 108
Figure 15: Latham's snipe habitat and records within the Study Area 110
Figure 16: Squatter pigeon (southern) habitat and records within the Study Area 112
Figure 17: White-throated needletail habitat and records within the Study Area 114
Figure 18: Koala habitat and records within the Study Area 116
Figure 19: Short-beaked echidna habitat within the Study Area 118
Figure 20: Fork-tailed swift habitat and records within the Study Area 121
Figure 21: Glossy ibis habitat and records within the Study Area 123
Figure 22: Watercourses and wetlands within the Study Area 128
Figure 23: State and regional biodiversity corridors 130
Figure 24: Environmentally Sensitive Areas (ESAs) 133
Figure 25: Field verified MNES (A-G) within the Study Area 136
Figure 26: Field verified MSES (A-G) within the Study Area 146

List of Plates

Plate 1: Remnant Brigalow TEC within the Study Area
Plate 2: Young regrowth areas not consistent with Brigalow TEC within Study Area
Plate 3: Non-native grasses dominating remnant area of RE 11.3.2
Plate 4: *Solanum elachophyllum* observed within the Study Area
Plate 5: A dense patch of pest flora species *Bryophyllum delagoense* (Mother of millions), *Harrisia martinii* (Harrisia cactus), and *Parthenium hysterophorus*
Plate 6: Rubber vine *Cryptostegia grandiflora* encroachment
Plate 7: Habitat 1: *Eucalyptus coolabah* +/ - brigalow open-forest
Plate 8: Habitat 2a: Brigalow +/- *Eucalyptus* spp. Woodland
Plate 9: Habitat 2b: High value brigalow regrowth / disturbed brigalow +/- *Eucalyptus* spp. Woodland
Plate 10: Habitat 2c: Brigalow regrowth (<3m tall)
Plate 11: Habitat 3a: *Eucalyptus* spp. Woodland

Plate 12: Habitat 3b: High value regrowth/disturbed *Eucalyptus* spp. Woodland
Plate 13: Habitat 4: Freshwater wetland with fringing Eucalyptus spp.
Plate 14: Habitat 5: Pastureland without gilgai
Plate 15: Habitat 6: Pastureland with gilgai
Plate 16: Habitat 7: Dams
Plate 17: Well developed gilgai within suitable Ornamental snake habitat
Plate 18: Shallow gilgai with limited soil cracks
Plate 19: Well developed gilgai within suitable Australian painted snipe foraging habitat
Plate 20: Dam providing suitable foraging habitat
Plate 21: Remnant Eucalyptus spp. Woodland with high cover of exotic pasture species
Plate 22: Semi-permanent water available within RE 11.3.27
Plate 23: Feral pig (*Sus scrofa*) wallow
Plate 24: Cane toad (*Rhinella marina*) identified on remote camera
Plate 25: Wild dog (*Canis lupus familiaris*) tracks

Appendices

Appendix A Desktop search results
Appendix B Likelihood of occurrence
Appendix C Flora and fauna species list
Appendix D MNES Significant Residual Impact Assessments
Appendix E MSES Significant Residual Impact Assessments
Appendix F Vegetation community descriptions

Definitions

Term	Definition
Broad vegetation group	A pragmatic, higher level grouping of regional ecosystems and vegetation communities that provide an overview of the vegetation across Queensland (Neldner et al., 2025). They describe major ecological patterns and relationships across Queensland, independent of bioregions and land zones, and facilitate comparisons with vegetation in other States and internationally.
Disturbance Footprint	The approximately 2,316.58 ha (rounded to 2,317 ha) area in which Whitehaven plans to develop infrastructure and conduct mining operation for the Project.
Environmentally sensitive area	Environmentally sensitive areas as described in the Queensland *Environmental Protection Regulation 2019*.
Groundwater dependent ecosystem	Ecosystems that require access to groundwater to meet all or some of their water requirements on a permanent or intermittent basis for maintenance of the ecosystem (Richardson et al., 2011).
High-value regrowth	Vegetation communities that conform with the definition under the VM Act and referenced by Neldner et al. (2025). Specifically, this comprises native vegetation regrowth that is greater than 15 years old and meets the minimum cover requirements specified by Neldner et al. (2025).
Non-remnant vegetation	All vegetation that is not mapped as remnant vegetation. May include regrowth, heavily thinned or logged and significantly disturbed vegetation that fails to meet the structural and/or floristic characteristics of remnant vegetation. It also includes urban and cropping land (Neldner et al., 2025).
Regional ecosystem	A vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil (Neldner et al., 2025). Regional ecosystems are described in the Regional Ecosystem Description Database, produced by the Queensland Herbarium.
Remnant vegetation	A regional ecosystem that has not undergone recent clearing. It is defined under the Queensland *Vegetation Management Act 1999* as: forming the predominant canopy of the vegetation— (i) covering more than 50% of the undisturbed predominant canopy; and (ii) averaging more than 70% of the vegetation's undisturbed height; and (iii) composed of species characteristic of the vegetation's undisturbed predominant canopy.
The Project	The extension to current mining activities associated with Environmental Authority (EA) EPML00717813, i.e. the Blackwater Mine North Extension Project.
Threatened Ecological Community	An ecological community is a naturally occurring group of native plants, animals and other organisms that are interacting in a unique habitat. Its structure, composition and distribution are determined by environmental factors such as soil type, position in the landscape, altitude, climate and water availability. Threatened ecological communities are listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Term	Definition
Threatened species	A threatened species is any plant or animal species that is at risk of extinction. Species listed as extinct (EX), extinct in the wild (XW), critically endangered (CE), endangered (E), vulnerable (V) or conservation dependent (CD) under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* or extinct (EX), extinct in the wild (XW), critically endangered (CE), endangered (E), vulnerable (V) under the Queensland *Nature Conservation Act 1992*.
Study Area	An area located in Mining leases (ML) 1759 and ML 1762 covering approximately 6,907.49 ha in which E2M have undertaken the terrestrial ecological assessment.
Vegetation community	An area of vegetation which is relatively uniform with respect to structure and floristic composition (Neldner et al., 2025).
Wet season survey	The wet season ecological assessment conducted in March 2025 by E2M targeting ecological matters suitable for wet season conditions.

Abbreviations

Abbreviation	Description
ALA	Atlas of Living Australia
AU	Assessment unit
Biosecurity Act	Queensland *Biosecurity Act 2014*
BoM	Bureau of Meteorology
Bonn	Convention on the Conservation of Migratory Species of Wild Animals/Bonn Convention
Brigalow TEC	Brigalow (*Acacia harpophylla* dominant and co-dominant) Threatened Ecological Community
BVGs	Broad Vegetation Groups
BWM	Blackwater Mine
CAMBA	China-Australia Migratory Bird Agreement
CHPP	Coal handling and preparation plant
DAF	Department of Agriculture and Fisheries
DAWE	Former Commonwealth Department of Agriculture, Water and the Environment (now DCCEEW)
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DEE	Former Commonwealth Department of the Environment and Energy (now DCCEEW)
DEHP	Former Queensland Department of Environment and Heritage Protection (now DETSI)
DES	Former Queensland Department of Science (now DETSI)
DETSI	Queensland Department of Environment, Tourism and Science and Innovation
DEWHA	Former Commonwealth Department of the Environment, Water, Heritage and the Arts (now DCCEEW)
DotE	Former Commonwealth Department of the Environment (now DCCEEW)
DNRMMRRD	Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development
DSEWPaC	Former Commonwealth Department of Sustainability, Environment, Water, Population and Communities (now DCCEEW)
E2M	E2M Pty Ltd
EA	Environmental Authority
EMM	EMM Pty Ltd
EO Act	Queensland *Environmental Offsets Act 2014*
EO Policy	The Environmental Offsets Policy 2022 Version 1.12
EO Regulation	Queensland *Environmental Offsets Regulation 2014*

Abbreviation	Description
EP Act	Queensland *Environment Protection Act* 1994
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EP Regulation	Queensland *Environmental Protection Regulation 2019*
ESA	Environmentally Sensitive Areas
GBRMP	Great Barrier Reef Marine Park
GMMP	Groundwater Monitoring and Management Program
GDE	Groundwater dependent ecosystem
HEC	High Ecological Significance
HEV	High Ecological Value
IBRA	Interim Biogeographic Regionalisation of Australia
IUCN	Internation Union for Conservation of Nature
JAMBA	Japan-Australia Migratory Bird Agreement
KoRV	Koala retrovirus
LGA	Local Government Area
LIKT	Locally important Koala tree
MHQA	Modified Habitat Quality Guide
ML	Mining lease
MNES	Matters of National Environmental Significance
MNES SIA Guidelines	*EPBC Act Matters of National Environmental Significance: Significant Impact Guidelines 1.1*
MSES SRI Guideline	*Queensland Environmental Offsets Policy – Significant Residual Impact Guideline*
MSES	Matters of State Environmental Significance
NC Act	Queensland *Nature Conservation Act 1992*
NRM	Natural Resource Management
OAG	Offset assessment guide
PEM	Prescribed Environmental Matter
PMST	Protected Matters Search Tool
Poplar box TEC	Poplar box Grassy Woodland on Alluvial Plains Threatened Ecological Community
RE	Regional ecosystem
REDD	Regional Ecosystem Description Database
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
ROM	Run-of-mine

Abbreviation	Description
SA	Surface Area
SAT	Koala spot assessment technique
SEVT TEC	Semi Evergreen Vine Thicket Threatened Ecological Community of the Brigalow Belt (North and South) and Nandewar Bioregions
SO	Stream Order
SPRAT	Species Profile and Threats Database
SRI Guideline	*Queensland Environmental Offsets Policy: Significant Impact Guideline*
TCP	Thermal coal plant
TEC	Threatened ecological community
TSSC	Threatened Species Scientific Committee
VM Act	Queensland *Vegetation Management Act 1999*
Whitehaven	Whitehaven Coal Ltd
Whitehaven Blackwater	Whitehaven Blackwater Pty Ltd
WoNS	Weeds of National significance

Executive Summary

E2M Pty Ltd (E2M) was engaged by Whitehaven Blackwater Pty Ltd (Whitehaven Blackwater) to conduct a desktop assessment and field surveys to validate and characterise ecological values of interest to the proposed extension of the existing Blackwater Mine (BWM) south-west of the town of Blackwater, hereby referred to as the Project. The purpose of the assessment was to identify and evaluate terrestrial Matters of National Environmental Significance (MNES), Matters of State Environmental Significance (MSES) and Environmentally Sensitive Areas (ESAs) that have potential to be impacted by the Project. This report summarises the desktop and subsequent field assessments undertaken by E2M within the Study Area as well as the results from previous field surveys conducted by EMM Pty Ltd (EMM).

The Study Area is located on approximately 6,907.49 hectares (ha) of predominately gently undulating to flat landscape. It has a long history of cattle grazing and the environment has been subject to past clearance and modification. The majority of the Study Area consists of improved/disturbed pasture dominated by non-native grasses and *Acacia harpophylla* (Brigalow) regrowth shrublands. These areas have been subject to livestock impacts, pasture improvement and weed encroachment.

The initial EMM surveys occurred between 2018 and 2020 and identified a number of MNES and MSES for consideration to the Project. Further surveys conducted by E2M occurred throughout 2025 included a wet season survey (flora and fauna) in March, late wet season surveys (habitat quality) in April and May and a dry season survey (flora and fauna) in September and October. Initial desktop findings and previous field results from EMM surveys revealed a number of environmental matters known, likely or possibly occurring within the Study Area, including both threatened and/or migratory species and ecological communities listed under State and Commonwealth legislation. Further, E2M field surveys re-confirmed the presence of *Solanum elachophyllum*, Brigalow Threatened Ecological Community (TEC), Fork-tailed swift and regional ecosystems (RE) listed as endangered and vulnerable under the Queensland (QLD) *Nature Conservation Act 1992* (NC Act).

Terrestrial ecological matters known to occur in the Study Area include:

- Eight MNES, including:
  - One TEC, namely Brigalow (*Acacia harpophylla* dominant and co-dominant) (Brigalow TEC) listed as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
  - Five threatened fauna species listed under the EPBC Act:
    - Australian painted snipe (*Rostratula australis*) listed as endangered under the EPBC Act;
    - Koala (*Phascolarctos cinereus*) listed as endangered under the EPBC Act;
    - Latham's snipe (*Gallinago hardwickii*) listed as vulnerable under the EPBC Act;
    - Ornamental snake (*Denisonia maculata*) listed as vulnerable under the EPBC Act; and
    - Squatter pigeon (southern) (*Geophaps scripta scripta*) listed as vulnerable under the EPBC Act.
  - Migratory fauna species listed under the EPBC Act:
    - Fork-tailed swift (*Apus pacificus)*; and
    - Latham's snipe (*Gallinago hardwickii*).
- 16 MSES, including:
  - Regulated Vegetation including:
    - RE 11.3.1 listed as endangered under the *Vegetation Management Act 1999* (VM Act) and the Biodiversity Status.

- RE 11.4.9 listed as endangered under the VM Act and the Biodiversity Status.
- RE 11.9.5 listed as endangered under the VM Act and the Biodiversity Status.
- RE 11.3.2 listed as of concern under the VM Act.
- RE 11.3.3 listed as of concern under the VM Act.
- REs within a defined distance of a watercourse, including:
  - RE 11.3.1;
  - RE 11.3.2;
  - RE 11.3.3;
  - RE 11.3.6; and
  - RE 11.3.27.

- Protected wildlife habitat as defined in the QLD *Environmental Offsets Regulation 2014* (EO Regulation) for:
  - One threatened flora species, *Solanum elachophyllum* listed as endangered under the NC Act; and
  - Five threatened fauna species listed under the NC Act (as per EPBC threatened fauna listed species above).
- MSES Connectivity Areas comprising remnant vegetation, including State-significant and/or regionally important corridors linking areas of fauna habitat.
- ESAs, including three endangered REs classified as Category B ESAs.

Terrestrial ecological matters considered likely or possibly occurring within the Study Area include:

- MNES including:
  - Glossy ibis (*Plegadis falcinellus*); and
  - White-throated needletail (*Hirundapus caudacutus*).
- MNES and MSES including:
- South-eastern Glossy black-cockatoo (*Calyptorhynchus lathami lathami*);
- Painted honeyeater (*Grantiella picta*); and
  - Sharp-tailed sandpiper (*Calidris acuminata*).
- MSES including:
  - Short-beaked echidna (*Tachyglossus aculeatus*).

The majority (97.65 percent; 2,262.07 ha) of the Disturbance Footprint (2,316.58 ha rounded to 2,317 ha) has been historically cleared and is characterised as non-remnant. The Project would require the progressive removal of 3.93 ha of remnant vegetation and 39.78 ha of high value regrowth vegetation.

While the Project would avoid, mitigate, and manage environmental impacts associated with construction and operation, residual impacts on conservation significant matters will still occur. Assessment of residual impacts against relevant guidelines determine the Project is likely to result in a significant impact on:

- One MNES: Brigalow TEC.
- Two MSES:
  - Regulated vegetation, comprising endangered RE 11.3.1; and
  - Protected wildlife habitat for *Solanum elachophyllum*.

Habitat quality scoring has been undertaken for those MNES and MSES matters that are likely to be significantly impacted by the Project in line with the State and Commonwealth guidelines. Residual impacts on these matters would be offset in accordance the *EPBC Act Environmental Offsets Policy* and *Queensland Environmental Offsets Policy*.

1 Introduction

1.1 Purpose

This terrestrial ecological assessment was prepared by E2M Pty Ltd (E2M) for the Blackwater North Extension Project (the Project) as part of a major Environmental Authority (EA) amendment application and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) referral.

1.2 Project background

The Blackwater Mine (BWM) is an existing, open cut metallurgical coal mine located approximately 20 kilometres (km) south-west of Blackwater in the Bowen Basin, Queensland (Figure 1).

The BWM has been in operation since 1967 and operates in accordance with, amongst other authorisations, EA EPML00717813, granted under the QLD *Environmental Protection Act 1994* (EP Act).

The BWM is a joint venture between Whitehaven (70 percent [%]), Nippon Steel Corporation (20%) and JFE Steel Corporation (10%). Whitehaven Blackwater Pty Ltd (Whitehaven Blackwater), a wholly owned subsidiary of Whitehaven Coal Ltd (Whitehaven), is the operator of BWM.

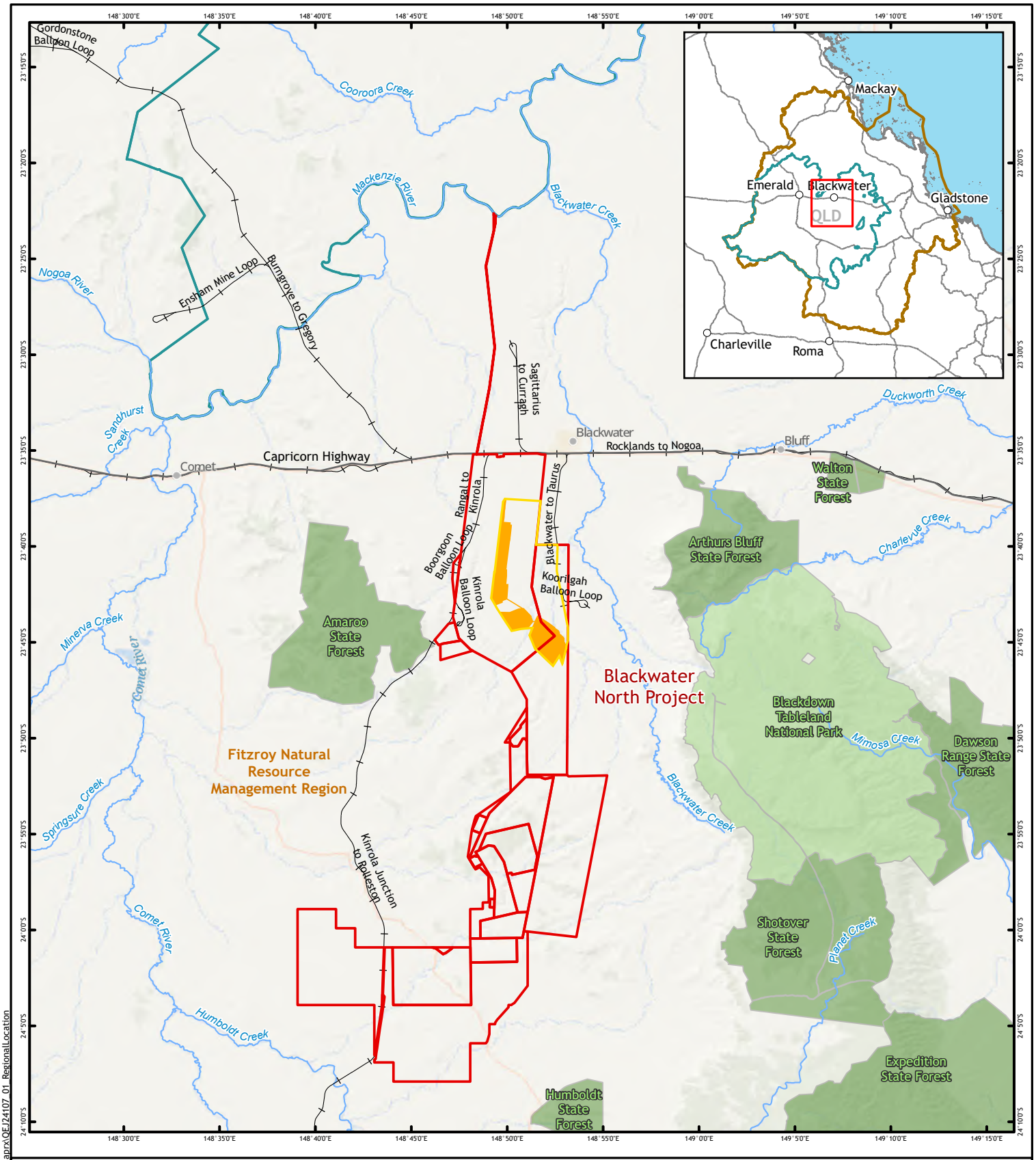
The existing BWM comprises a series of open-cut mining pits along an approximate 80 km long strike length. The BWM extracts coal using drill and blast methods, draglines, dozers and truck and shovel fleets for overburden removal and haulage. Existing infrastructure at BWM includes two rail spurs and balloon loops from the Bauhinia Railway Line, a coal handling and preparation plant (CHPP), thermal coal plant (TCP), product stockpiles, run-of-mine (ROM) coal stockpiles, tailings storage facility, in-pit spoil (i.e. overburden) dumps, train-load out facilities, water management infrastructure and other supporting infrastructure (e.g. haul roads, access roads, laydown areas, electricity transmission lines, workshops and offices).

Whitehaven Blackwater proposes to develop the Project, which would extend the current open cut mining development at the BWM to within Surface Area (SA) 7 on Mining Lease (ML) 1762 and SA 10 on ML 1759 (Figure 1 and Figure 2). The Project is expected to optimise mining operations at BWM allowing ongoing employment and economic benefits from the BWM to the local area, region and State of Queensland.

The Project would include the following activities:

- extension of open cut operations into SA 7 on ML1762 and SA 10 on ML1759 to allow mining of additional coal reserves to approximately 2055;
- extraction of an additional 200 million tonnes (Mt) (approximately) of ROM coal;
- continued extraction of up to 19 Mtpa of ROM coal;
- continued use of existing BWM infrastructure (e.g. CHPP, TCP, ROM and product coal stockpiles,
- train load-out, water management, tailings management and other supporting infrastructure);
- construction and operation of new water management and water storage infrastructure in support of extended mining operations;
- development of waste rock emplacement areas;
- continued co-disposal of coarse rejects with waste rock and disposal of tailings into an approved tailings storage facility or in-pit void;
- construction of semi-permanent tailings cells to be utilised for the disposal of fine rejects;

- progressive rehabilitation of the Project;
- ongoing exploration activities in the Project area; and
- other associated infrastructure, equipment and activities.



Legend

- Railway
- Road
- Watercourse
- Study Area
- Blackwater Mining Lease
- Disturbance Footprint
- NRM Region
- Isaac Regional Council
- **Protected Area**
- National Park
- State Forest

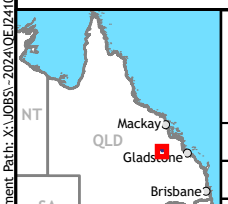
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Kilometres

Coordinate System: GDA2020



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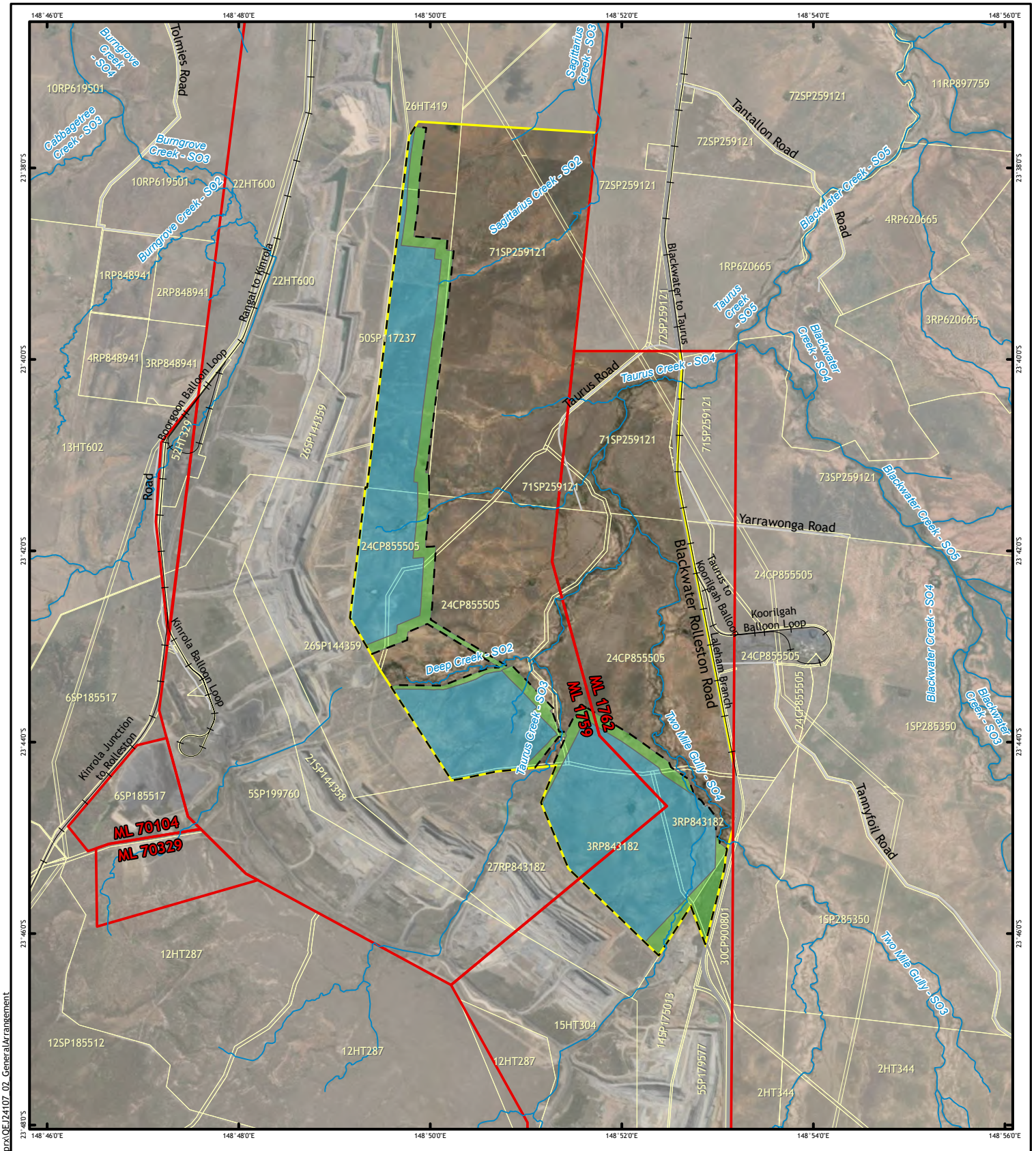
FIGURE 1: REGIONAL LOCATION

Blackwater North Ecological Assessment
Whitehaven Coal

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1 of 1	QEJ24107	1

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Proposed Open Cut Extension
- Proposed Infrastructure Area
- Cadastre

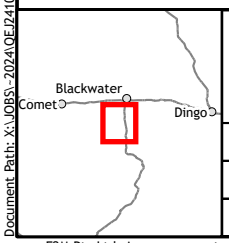
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FIGURE 2: PROPOSED GENERAL ARRANGEMENT

Blackwater North Ecological Assessment
Whitehaven Coal

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1 of 1	QEJ24107	1

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1.3 Scope of the assessment

The Study Area covers 6,907.49 hectares (ha) and is located within ML 1759 (SA10) and ML 1762 (SA 7). The Study Area (Figure 2) has been designed to encompass the disturbance footprint extending from the existing mine to the Blackwater - Rolleston Rail corridor. The Project's Disturbance Footprint covers a 2,316.41 ha subset of the Project's ML 1759 and ML 1762.

This report documents the terrestrial ecological values in the vicinity of the Project and provides an assessment of the potential impacts of the Project on terrestrial ecology. Specifically, it provides:

- a desktop review of relevant background information and available environmental databases;
- flora surveys to verify the extent, composition, condition and conservation values of:
  - Regional Ecosystems (REs) in accordance with Neldner *et al*. (2025);
  - potential Threatened Ecological Communities (TECs) protected under the EPBC Act; and
  - Environmentally Sensitive Areas (ESAs) identified under the EP Act.
- fauna surveys to identify fauna species assemblages and habitat types (including threatened species);
- targeted surveys for conservation significant flora and fauna species identified under the EPBC Act and QLD *Nature Conservation Act 1992* (NC Act);
- habitat quality assessments in accordance with the *Guide to determining terrestrial habitat quality (version 1.2)* (Department of Environment and Heritage Protection [DEHP], 2017) for environmental offsets;
- occurrence of Weeds of National Significance (WoNS) (Australian Weeds Committee, 2012) and restricted biosecurity matter under the Queensland *Biosecurity Act 2014* (Biosecurity Act);
- an assessment of the potential indirect, direct and cumulative impacts of the Project on terrestrial ecology (including threatened species and communities); and
- a description of recommended avoidance and mitigation measures and management plans to minimise impacts to terrestrial ecology.

2 Existing environment

2.1 Study Area overview

The Study Area is located approximately 4.5 km southeast of the town of Blackwater and extends south for approximately 17.5 km, covering approximately 6,907.49 ha. The Study Area is bounded by the approved mining areas at BWM to the west, and Ardurad Road and Blackwater Rolleston Road to the east. The Study Area comprises of mix of non-remnant pasture primarily used for cattle grazing, with occasional patches of remnant and regrowth vegetation primarily associated with drainage lines and watercourses.

2.2 Regional context

The Project is located within the Central Highlands Local Government Area (LGA). This LGA comprises an area of approximately 59,834 square kilometres (km^2). It also occurs within the Brigalow Belt bioregion, which encompasses approximately 216,000 km^2 of central Queensland, extending from Townsville in the north to Narrabri in New South Wales in the south (Sattler & Williams, 1999). Brigalow forests and woodlands growing on clay soils are one of the major vegetation types that characterise the region (Sattler & Williams, 1999). While historically brigalow vegetation covered up to six million ha of the bioregion in Queensland, extensive broad scale clearing, predominantly for agriculture, has greatly reduced the extent of this community throughout the bioregion (Sattler & Williams, 1999). In addition to remnant brigalow vegetation, other ecosystems that typify the bioregion include eucalypt forest and woodlands, grasslands, dry rainforest, cypress pine woodland and riparian communities (Sattler & Williams, 1999).

The Interim Biogeographic Regionalisation of Australia (IBRA) divides the Brigalow Belt bioregion into the Brigalow Belt North and Brigalow Belt South (Sattler & Williams, 1999). The geology of the Brigalow Belt North bioregion, in which the Project is located, is characterised by Permian volcanics and Permian-Triassic sediments, Carboniferous and Devonian sediments and volcanics and Cambrian/Ordovician rocks (and associated Tertiary deposits) (Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development [DNRMMRRD], 2025a).

The Study Area lies within the Isaac – Comet Downs biogeographic subregion of the Brigalow Belt bioregion. While areas within and directly surrounding the Study Area are predominately cleared for agricultural use, large areas of remnant vegetation still occur in the nearby surrounding landscape as part of Amaroo State Forest 4.5 km to the west, Arthurs Bluff State Forest 8.5 km to the east and Blackdown Tableland National Park 11.5 km to the southeast.

2.3 Climate

The Study Area is characterised by a sub-tropical, semi-arid climate with high rainfall variability (Bureau of Meteorology [BoM], 2025). The average annual rainfall for the Blackwater area is approximately 546 millimetres (mm) and is predominantly seasonal, characterised by wet summers and dry winters (Figure 3)[1]. The average monthly temperatures range between a maximum of 34.8 degrees Celsius (°C) and a minimum of 9.5 °C recorded during December and July respectively (Figure 4)[1].

[1] Meteorological data was collected from Queensland Government weather data for the central coordinates of the project (-23.58,148.89) (BoM, 2025).

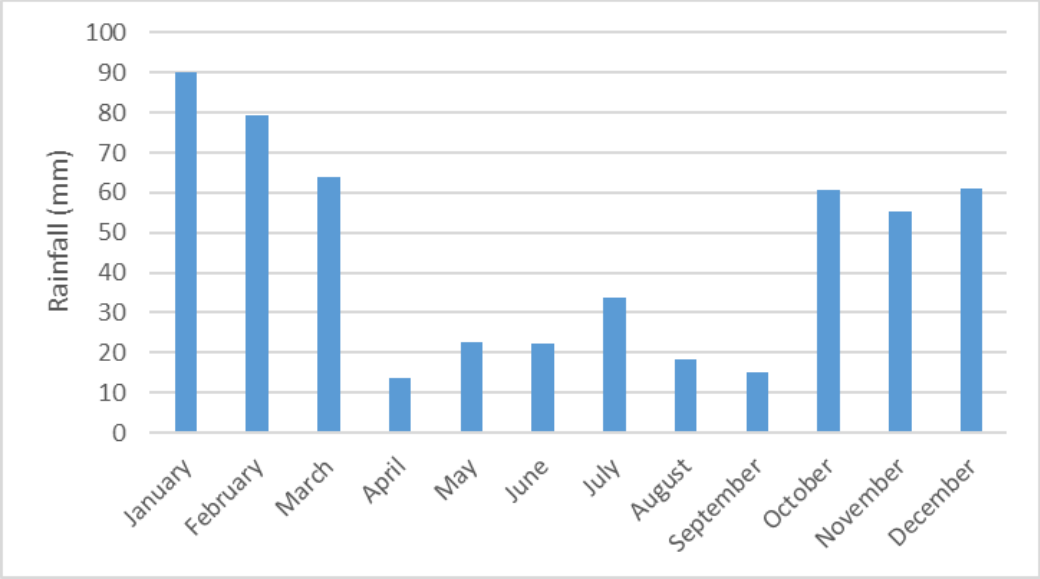


Figure 3: Average monthly rainfall and variability for the Blackwater area between 2014 and 2024 (BoM, 2025)

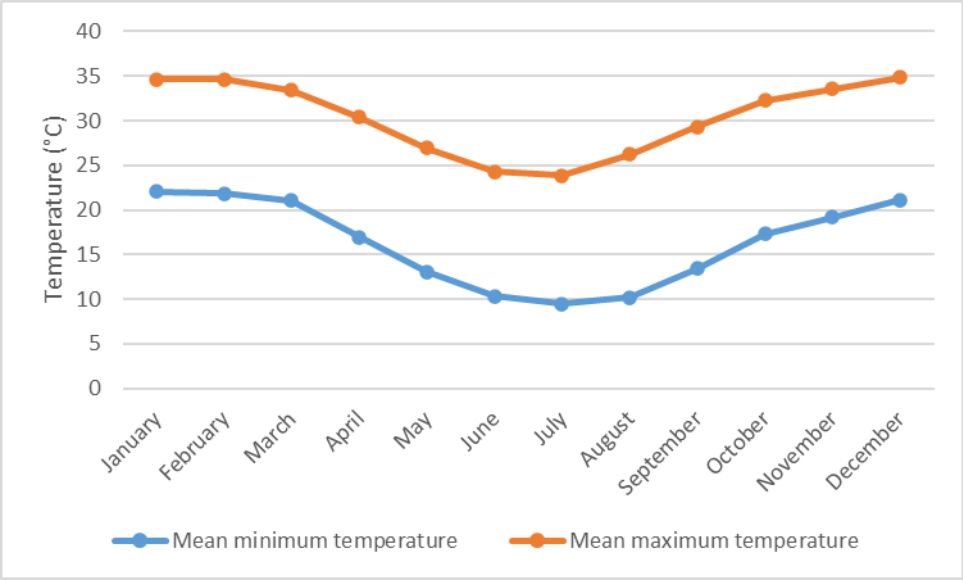


Figure 4: Average monthly temperatures for the area between 2014 and 2024 (BoM, 2025)

2.4 Topography

The Study Area has gently undulating topography, and ranges from approximately 200 m above Australian Height Datum through the centre of the Study Area to 230 metres (m) in the southern and western extents of the Study Area (Queensland Government, 2026).

2.5 Hydrology

The Study Area is intersected by several moderate watercourses, including:

- Taurus Creek in the east (stream order [SO] 4);
- Two Mile Gully in the southeast (SO 4);
- Deep Creek in the southwest (SO 2); and
- Sagittarius Creek in the north (SO 2).

Permanent water sources, such as dams, troughs and bores, are scattered throughout the Study Area.

2.6 Geology

The Geological Survey of Queensland (2024) Detailed Surface Geology Mapping and GeoScience Australia (2023) 1:100,000 geology mapping identified four geological units mapped within the Study Area (Table 1). Based on these mapped geological units, five potential land zones, as described by Wilson & Taylor (2012), may be present including:

- Land Zone 3;
- Land Zone 4;
- Land zone 5;
- Land zone 9; and
- Land Zone 10.

Table 1: Geology and land zones within the Study Area

Geological Unit	Description	Land Zone
Pwj	Late Permian - Calcareous sandstone, calcareous shale, mudstone, coal, concretionary limestone.	9 /10
Rr	Early Triassic / Middle Triassic - Lithic sandstone, pebbly lithic sandstone, green to reddish brown mudstone and minor volcanilithic pebble conglomerate.	9 /10
TQa	Late Tertiary / Quaternary – Locally red-brown mottled, poorly consolidated sand, silty clay, minor gravel; high-level alluvial deposits (generally related to present stream valleys but commonly dissected).	4 / 5
Qa	Quaternary – Quaternary alluvium containing clay, silt, sand and gravel.	3

2.7 Land use

The traditional industries of the Central Highlands region have been primarily beef and mutton, agriculture, timber, and substantial mining development (Bourne et al., 1993). Agriculture is a further emerging industry with agricultural technologies being a particular focus (Central Highlands Development Corporation, 2023). Mining is still the dominant industry in the region, with more residents working in mining than in any other industry. The regional economy is underpinned by a substantial coal deposit that facilitates more than a quarter of Queensland's total coal production (Central Highlands Development Corporation, 2023). The primary land use within the Study Area consists predominately of cattle grazing.

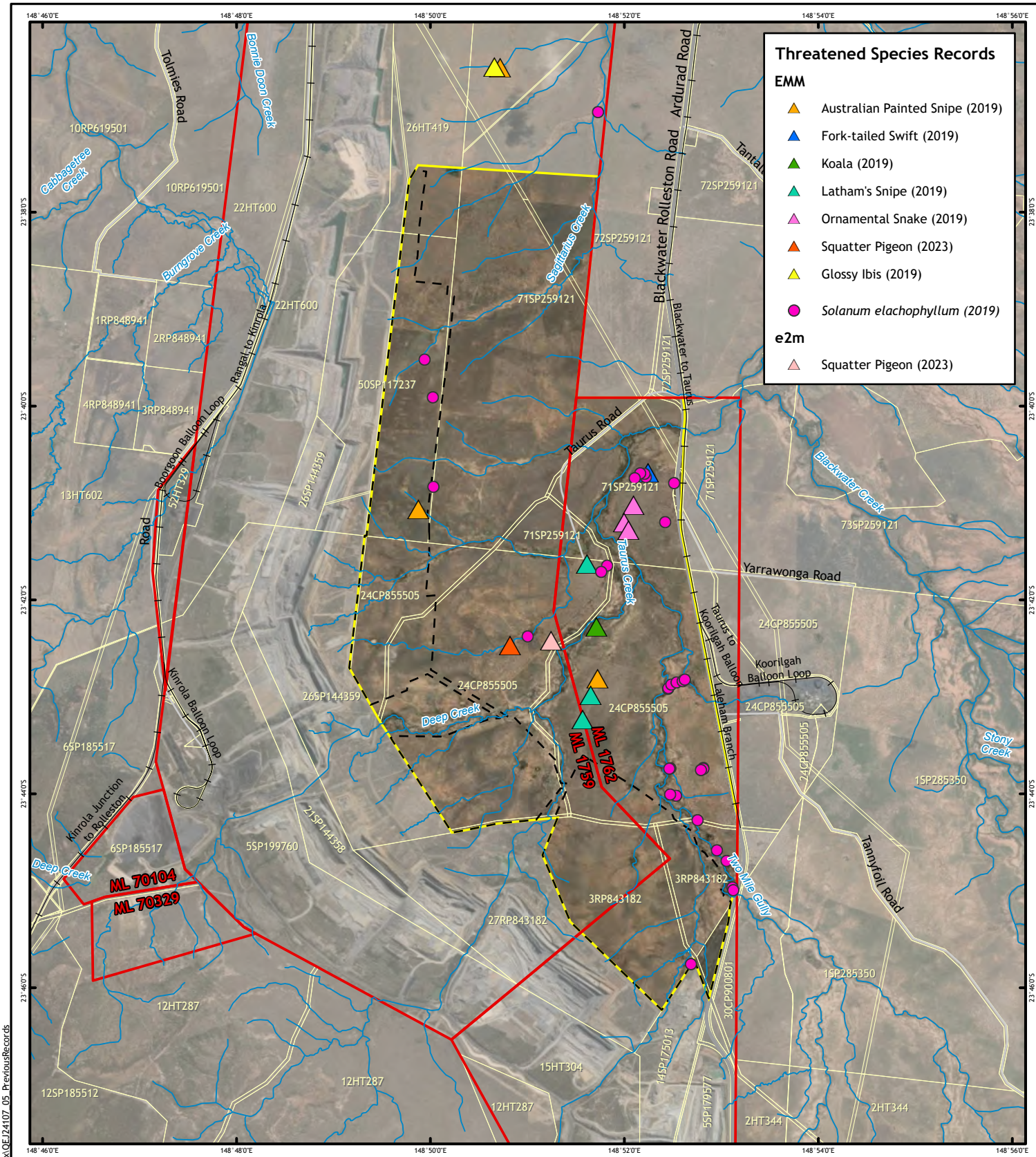
2.8 Previous surveys

Seasonal ecological surveys were commissioned by BM Alliance Coal Operations Pty Ltd and conducted by EMM Pty Ltd (EMM) (EMM, 2023a, 2023b) between 2018 and 2020, for the purpose of preparing a *Terrestrial Ecology Matters of State Environmental Significance Assessment* report (EMM, 2023b) and *Terrestrial Ecology Matters of National Environmental Significance Assessment* report (EMM, 2023a). Additionally, e2m and EMM also conducted supplementary surveys in 2023, as part of the previous assessment.Previous locations of conservation significant flora and fauna species records are depicted in Figure 5.

2.8.1 Flora surveys

Flora surveys were undertaken by EMM over three seasons at several locations across the Study Area. Summer season surveys were undertaken over five days in December 2018. The surveys focused on RE and TEC assessments whilst including threatened flora surveys and habitat assessments. Rainfall for this period were 59 mm in November, and 89 mm in October, with a mean temperature range of 21.7 °C – 34.8 °C. Autumn (post-wet) season flora surveys were undertaken in April 2019 with 62 mm of rain recorded in January, 14.6 mm in February and 179.6 mm in March. Temperatures during this survey period ranged between 14.8 °C and 30.3 °C. Spring (pre-wet) season surveys were conducted in September and October 2019, as well as early summer between 3 – 8 December 2018. 89.6mm of rain was recorded in October 2018, 59.0 mm in November 2018, and 56.6 mm in December 2018. Very little rainfall was recorded up to spring of 2019 with 1.4 mm of rain in August 2019, 0.0 mm in September 2019 and 8.2 mm in October 2019. Temperatures ranged between 24.4°C and 40.7°C during the December surveys (EMM, 2023a).

One TEC listed under the EPBC Act was recorded, namely the Brigalow (*Acacia harpophylla* [*A. harpophylla*] dominant and co-dominant) TEC, listed as Endangered. No Matters of National Environmental Significance (MNES) threatened flora species were identified as occurring within the Study Area or considered likely to occur, although one Matter of State Environmental Significance (MSES) listed threatened flora species, *Solanum elachophyllum*, was identified within the Study Area. The species was detected at 27 separate locations across the Study Area, most frequently on clay or loamy soils in fragmented non-remnant vegetation associated with *A. harpophylla, Lysiphyllum hookeri* and/or *Archidendropsis basaltica* (and mostly outside the proposed Disturbance Footprint – Figure 5). No other MSES flora species were considered likely to occur within the Study Area.



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

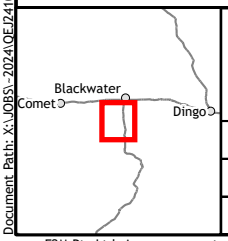
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0 2.5 5

Kilometres

Coordinate System: GDA2020



Notes:
Topographic: © ESRI 2025
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1	Issued for Use	PR	CO	09/04/2026

FIGURE 5: PREVIOUS THREATENED AND MIGRATORY SPECIES RECORDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
1 of 1	QEJ24107	1

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2.8.2 Fauna surveys

Fauna surveys were undertaken by four EMM field ecologists during the Autumn season (March 2019 and April 2019) and Spring (September 2019 and October 2019). The Autumn (post-wet) surveys were completed over a period of 12 days, undertaken on 18 – 24th March 2019 (diurnal surveys) and 11 – 15th April 2019 (nocturnal surveys and diurnal surveys). The Spring (pre-wet) surveys were completed over a 13-day period, from 29th September – 4th October 2019 (diurnal surveys) and 15th October – 21st October 2019 (nocturnal surveys). Supplementary Ornamental Snake and Australian painted snipe surveys were undertaken in areas of gilgai over three nights in March 2020 (EMM, 2023a).

EMM (EMM, 2023a, 2023b) confirmed the presence of five threatened EPBC Act listed species, including:

- Australian painted snipe (*Rostratula australis*) was observed on three occasions within or in proximity to the Study Area, once within cleared gilgai habitat and another two within dams observed in gilgai areas. While dams may provide more permanent foraging opportunities and ephemeral wetland habitat provide periodical foraging opportunities, no suitable breeding habitat identified within the Study Area.
- The Squatter pigeon (southern) (G*eophaps scripta scripta*) was recorded in the Study Area on two occasions during supplementary ecology surveys (undertaken by e2m and EMM) commissioned in June-August 2023, in the vicinity of two dams around Taurus Road (2 km outside the proposed Disturbance Footprint - Figure 5). Despite not being observed in over 600 hours of earlier baseline surveys, the species was found in a fragmented, degraded habitat dominated by Buffel grass, which is not ideal for the species.
- The Ornamental snake (*Denisonia maculata*) was recorded in gilgai areas between Taurus Creek and the Blackwater-Rolleston Road (4 km outside the proposed Disturbance Footprint – Figure 5). The species was found near each other over three nights of searching in March 2020, but the species appears to be scarce in the Study Area. Habitat degradation, including heavy disturbances and isolation of gilgai areas, likely reduces the species' presence.
- Koala (*Phascolarctos cinereus*) was recorded through indirect signs on three occasions. Koala scratches were recorded on *Eucalyptus tereticornis* on two occasions along Taurus Creek. Additionally, Koala scat was recorded along a tributary of Taurus Creek in the central portion of the Study Area. The Koala's status in the Study Area is likely limited to transient individuals, and the Study Area does not appear to support a permanent population.
- Latham's snipe (*Gallinago hardwickii*) was recorded at three locations across the Study Area in ephemeral gilgai habitat, which the species is likely to utilise periodically for foraging.

In addition to the Latham's snipe, EMM (EMM, 2023a) confirmed the presence of two additional migratory EPBC Act listed species:

- Glossy ibis (*Plegadis falcinellus*) was recorded once during autumn surveys on a dam in the north of the Study Area.
- Fork-tailed swift (*Apus pacificus*) was recorded on a single occasion with six individuals observed flying above the Study Area.

2.8.3 Fauna habitat surveys

EMM conducted habitat assessments across 165 sites during the survey period, where they analysed sites to determine suitable habitat presence for threatened species. This included 41 general habitat assessments during the Autumn flora survey period, and 11 during the Spring flora survey period. An additional 83 supplementary assessments were completed in June 2023, and a further in September 2023

(EMM, 2023a, 2023b). EMM's habitat assessments involved identification of the following micro-habitat attributes:

- presence of fallen logs, leaf litter, rocks;
- vegetation groundcover;
- presence of cracking soils;
- presence of rocky overhangs, caves, decorticating bark;
- foraging resources such as native grasses, preferred food trees for Koalas etc;
- available water sources;
- animal breeding places (hollow-bearing trees, dens, nests);
- presence and abundance of weeds; and
- signs of pest animals.

3 Methods

The terrestrial ecological values of the Study Area were evaluated through desktop and field assessments that were conducted in accordance with the relevant Commonwealth and State Government survey guidelines. The following sections detail the methods employed to conduct both the desktop and the field assessments as well as the survey effort undertaken.

3.1 Desktop assessment

A desktop assessment was undertaken to identify potential MNES within the Study Area prior to field surveys and to inform the likelihood of occurrence assessment (Appendix A). The assessment included a review of the following:

- Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) EPBC Act Protected Matters Search Tool (PMST) (DCCEEW, 2025a);
- Queensland Department of the Environment, Tourism, Science and Innovation (DETSI) WildNet Database (DETSI, 2025a);
- DETSI Protected Plants Flora Survey Trigger Map (DETSI, 2025b);
- DNRMMRRD- Regulated Vegetation Management Map and Vegetation Management Supporting Map, including essential habitat, watercourse and wetland mapping (DNRMMRRD, 2025a);
- DETSI remnant REs and pre-clear mapping (Version 13) and associated Regional Ecosystem Description Database (REDD) (Version 13) (Queensland Herbarium, 2023) definitions;
- Atlas of Living Australia (ALA) species search (ALA, 2025);
- GeoScience Australia 1:100,000 drainage network of Queensland (Geoscience Australia, 2023);
- DNRMMRRD, Detailed Surface Geology Map (DNRMMRRD, 2025b);
- Bureau of Meteorology (BoM) Groundwater Dependent Ecosystem (GDE) Atlas search (BoM, 2026);
- Latest available aerial photography;
- A review of historical aerial photography to determine high value regrowth vegetation (DNRMMRRD, 2025c); and
- Previous ecological assessments (including associated field data) undertaken within the Study Area, including:
  - *Blackwater Terrestrial Ecology Survey Report: Flora and fauna seasonal surveys* (EMM, 2020);
  - *Blackwater Mine—North Extension Project: Terrestrial Ecology Matters of National Environmental Significance Assessment* (EMM, 2023a); and
  - *Blackwater Mine—North Extension Project: Terrestrial Matters of State Environmental Significance Assessment* (EMM, 2023b).

Where desktop sources required a search extent, a 20 km buffer to the approximate centre of the Study Area (-23.6759, 148.8496) was applied. Results of the desktop assessments are provided in Appendix A.

3.2 Field assessment

Field surveys were conducted to identify and characterise the presence, extent and condition of terrestrial ecological values within the Study Area. The methods and timing of surveys followed applicable Commonwealth and State Government survey guidelines, conservation advice, and recovery plans:

- Survey guidelines for Australia's threatened birds (Department of the Environment, Water, Heritage and the Arts [DEWHA], 2010a);

- Survey guidelines for Australia's threatened bats (DEWHA, 2010b);
- Survey guidelines for Australia's threatened reptiles (Department of Sustainability, Environment, Water, Population and Communities [DSEWPaC], 2011a);
- Survey guidelines for Ornamental snake, released in November 2025 following the completion of field surveys (DCCEEW, 2025b);
- Survey guidelines for Australia's threatened mammals (DSEWPaC, 2011b);
- Terrestrial vertebrate fauna survey guidelines for Queensland (Eyre et al., 2022);
- Flora Survey Guidelines – Protected Plants (DETSI, 2025c); and
- Conservation Advice and Recovery Plans for listed threatened species under the EPBC Act, where relevant.

3.2.1 Survey team, timing and conditions

A summary of the survey team and timing for the four ecological surveys is provided in Table 2, with additional information on the survey conditions provided in the following sections.

Table 2: Survey team and timing

Survey Event	Survey Dates	Field Team
Wet Season (flora and fauna survey)	10/03/25 – 19/03/25	• Eamon Amsters (BSc): Professional Ecologist – 5 years' experience • Jeff Heatlie (BSc): Professional Ecologist – 5 years' experience • Tess Ramm (BSc): Professional Ecologist – 2 years' experience • Elizabeth Smith (BSc): Professional Ecologist – 2 years' experience
Late Wet Season (habitat quality survey)	14/04/25 – 17/04/25	• Chays Ogston (BSc -Hons): Principal Ecologist – 12 years' experience • Kaylee Pitt (BSc): Graduate Ecologist – 1.5 years' experience
	19/05/25 – 23/05/25	• Eamon Amsters (BSc): Professional Ecologist – 5 years' experience • Tess Ramm (BSc): Professional Ecologist – 2 years' experience
Dry Season (fauna survey)	23/09/25 – 26/09/25	• Chays Ogston (BSc -Hons): Principal Ecologist – 12 years' experience • Tess Ramm (BSc): Professional Ecologist – 2 years' experience
	29/09/25 – 03/10/25	• Matt Keir (BSc -Hons): Senior Ecologist – 4.5 years' experience • Ash Megginson (BSc): Graduate Ecologist – 0.5 years' experience

3.2.1.1 Wet season (flora and fauna survey) survey conditions

The wet season flora and fauna survey was timed to comply with optimal survey timing for the Brigalow Belt bioregion as detailed in the Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (Eyre et al., 2022). This guideline recommends an autumn (March to mid-May) survey to capture conditions and characteristics of a late wet season period. Conditions during the survey (10 to 19 March 2025) were consistent with historical average temperatures and rainfall at Blackwater (Section 2.3). The Blackwater region had received 52.8 mm from the beginning of March to the end of the survey period (Queensland Government, 2025). Temperatures during the survey period ranged from an average minimum temperature of 21.2 °C to an average maximum temperature of 30.5 °C (Table 3) (Queensland Government, 2025).

3.2.1.2 Late wet season (habitat quality surveys) survey conditions

Late wet season surveys (habitat quality surveys) were conducted during suitable flowering and seeding conditions for perennial and annual flora species. Conditions during the surveys (13-17 April and 19-23 May 2025) were characteristic of a typical late wet season, where the dry season approaches, and these temperature and rainfall begin to fall. Although rainfall was higher than expected this late in the season (by about 50mm) (Queensland Government, 2025), temperatures were consistent with historical averages in April and May at Blackwater (Section 2.3).

3.2.1.3 Dry season (fauna survey) survey conditions

Dry season fauna surveys were conducted during optimal survey periods for targeted fauna species. Conditions during the surveys (23 – 26 September and 30 September – 3 October 2025) were characteristic of dry season conditions, where conditions were warm and dry. Maximum and minimum temperatures were typical of the historical averages. Although rainfall was higher than expected this late in the season (by about 50mm) (Queensland Government, 2025), temperatures were consistent with historical averages in April and May at Blackwater (Section 2.3).

Table 3: Summary of field survey timing and conditions

Survey Event	Dates (inclusive)	Total Days / Nights	Climate Conditions			
			Min. Temp. (°C)	Max. Temp (°C)	Rainfall (mm) (prior[1])	Rainfall (mm) (during)
Wet Season (flora and fauna)	10-19 March 2025	5 days 6 nights	19.8	31.7	14.8	67.6
Late Wet Season (habitat quality)	13-17 April 2025	4 days	14.8	29.5	111.6	0
	19-23 May 2025	5 days	23.7	28.0	19.6	0
Dry Season (flora and fauna)	23-26 September 2025	4 days 1 night	8.6	30.7	0	13.0
	30 September – 3 October 2025	4 days 3 nights	14.2	38.3	13.0	0

[1] Rainfall totals include the 30 days prior to the survey period (BoM, 2025).

3.2.2 Flora surveys

Flora survey methods undertaken across the Study Area are detailed in the following sections, with location of flora survey techniques depicted in Figure 6.

3.2.2.1 Regional ecosystems

Ground-truthing and validating vegetation community mapping within the Study Area was conducted in accordance with the *Methodology for surveying and mapping of regional ecosystems and vegetation communities in Queensland* (Neldner et al., 2025). A total of nine tertiary and 136 quaternary vegetation assessments were undertaken across the Study Area (Figure 6). Parameters recorded as part of tertiary surveys included:

- flora species composition;
- relative abundance;
- vegetation structure (height, cover and density of each stratum);
- soil and substrate characteristics (e.g. litter, rock, bare ground); and
- disturbance factors (e.g. evidence of fire, grazing, weed invasion or other environmental pressures).

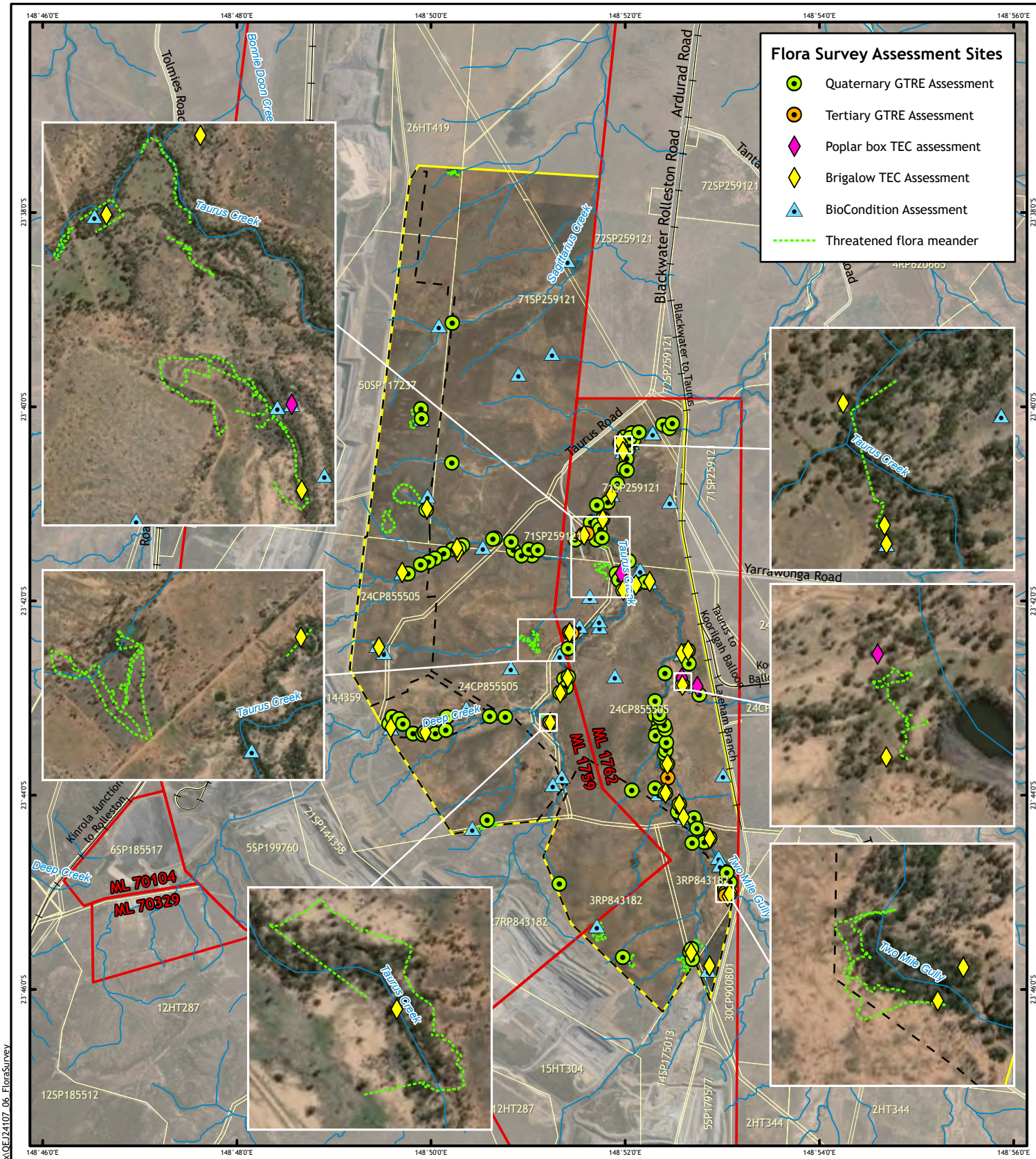
Quaternary surveys are a rapid assessment used to verify RE based on the structure, composition and condition of the ecologically dominant layer. Parameters recorded include:

- species present;
- remnant vegetation cover;
- RE map unit;
- structural code;
- ecologically dominant layer species;
- ecologically dominant layer height (in m);
- ecologically dominant layer cover (in %); and
- land zone.

Vegetation was categorised into three classes based on RE description, vegetation structure and condition. These categories included:

- **Remnant vegetation** - communities that conform with the definition under the Queensland *Vegetation Management Act 1999* (VM Act) and referenced by Neldner et al. (2025). Specifically, this comprises vegetation, part of which forms the predominant canopy of the vegetation:
  - covering more than 50% of the undisturbed predominant canopy;
  - averaging more than 70% of the vegetation's undisturbed height; and
  - composed of species characteristic of the vegetation's undisturbed predominant canopy.
- **High value regrowth** – vegetation communities that conform with the definition under the VM Act and referenced by Neldner et al. (2025). Specifically, this comprises native vegetation regrowth that is greater than 15 years old and meets the minimum cover requirements specified by Neldner et al. (2025).

- **Non-remnant** – all areas that are not mapped as remnant vegetation or high value regrowth. This includes vegetation communities that have been historically cleared/disturbed or heavily modified and areas that have a significant woody component but fails to meet the structural and/or floristic characteristics and/or time since clearing requirements of remnant vegetation or high value regrowth (Neldner et al., 2025). This vegetation category also includes areas of young woody regrowth vegetation, whereby vegetation has been historically cleared within the last 15 years or has been maintained as such from continual land management.



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

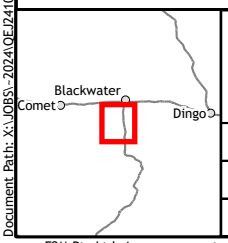
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Kilometres

Coordinate System: GDA2020



Notes:
Topographic: © ESRI 2025
Cadastre: © DNRMMRRD 2025
Ordered Drainage: © DNRMMRRD 2025
Mining Lease: © DNRMMRRD 2025

Rev	Description	Drawn	Approved	Date
1	Issued for Use	PR	CO	02/04/2026

FIGURE 6: FLORA SURVEY SITES

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
1 of 1	QEJ24107	1

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3.2.2.2 Threatened ecological communities

Where a RE analogous with a TEC was identified, a TEC assessment was undertaken to determine whether the key diagnostic characteristics and condition thresholds for TECs listed under the EPBC Act were met. The assessment criteria, including specific condition thresholds and diagnostic characteristics, were drawn from the 'Approved Listing Advice' documents for each TEC identified during the desktop review. The following sections outline the field assessments undertaken to assess condition thresholds for TECs with analogous REs identified within the Study Area. While additional TECs were identified as potentially occurring within the Study Area during desktop assessment, no analogous REs were confirmed within the Study Area during surveys (refer to Section 4.1.1).

3.2.2.2.1 Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC assessment

To determine whether a vegetation community meets the condition requirements of the Brigalow TEC (Department of the Environment [DotE], 2013a), vegetation communities containing Brigalow were assessed against the minimum thresholds for patch size and weed encroachment. Each vegetation community was also assessed on whether Brigalow (*Acacia harpophylla*) was the dominant or co-dominant species within the tree layer.

Brigalow TEC is limited to patches that meet the following key diagnostic characteristics and condition thresholds (DotE, 2013a):

Key diagnostic characteristics

A patch must include the following key diagnostic characteristics to be considered the Brigalow ecological community:

> *1) The presence of Acacia harpophylla as one of the most abundant tree species in the patch. A. harpophylla is either dominant in the tree layer, or co-dominant with other species (notably Casuarina cristata (Belah), other species of Acacia, or species of Eucalyptus).*
>
> *AND*
>
> *2a) In Queensland (Qld) - the patch is in one of the following Qld bioregions (including outliers) and it meets the description of one of 16 Qld REs determined at the time of the national listing of the Brigalow ecological community under the EPBC Act. The 16 REs are, as described by the* Queensland Herbarium (2013)*:*
>
> *In the Qld Brigalow Belt Bioregion – REs 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 and 11.12.21;*
>
> *OR*
>
> *2c) The vegetation in the patch is brigalow regrowth with species composition and structural elements broadly typical of one of the identified Qld REs or New South Wales (NSW) vegetation communities (although species density may be reduced). This can be assumed to be the case where it has been at least 15 years since it was last comprehensively cleared (not just thinned); unless direct evidence proves otherwise.*

Condition thresholds

A patch must meet the following condition thresholds to be considered the Brigalow ecological community:

> *3) The patch is 0.5 ha or more in size;*
>
> *AND*

4) Exotic perennial plants comprise less than 50% of the total vegetation cover of the patch, as assessed over a minimum sample area of 0.5 ha (100 m by 50 m), that is representative of the patch.

Regarding Point 4, Brigalow TEC assessments involved a combination of desktop and field-based assessments to determine if vegetation within the Study Area met the condition thresholds for the Brigalow TEC specified in the Approved Conservation Advice (DotE, 2013a). Field surveys included targeted assessment of patch size (≥0.5ha), canopy cover and height, canopy composition (dominance or co-dominance of *A. harpophylla*) and non-native cover across all vegetation strata. Specific assessment methodologies for condition thresholds are specified in Table 4.

In total 24 Brigalow TEC assessments were undertaken across the Study Area (Figure 6).

Table 4: Brigalow TEC assessment methodology

Criteria/Threshold	TEC Assessment Methodology
Key diagnostic criteria	
Acacia harpophylla is either dominant in the tree layer, or co-dominant with other species.	Assessed in accordance with Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland (Neldner et al., 2025).
The patch is analogous with one of the prescribed 16 REs within the appropriate bioregion, including Queensland Brigalow Belt Bioregion, Southeast Queensland Bioregion or Queensland Mulga Lands Bioregion. OR The vegetation in the patch is brigalow regrowth with species composition and structural elements broadly typical of one of the identified Queensland REs (i.e. has not been cleared for 15yrs.	• Analogous REs: Ground-truthed REs compared against 16 prescribed REs. • Species composition and structural elements: Structural condition (e.g. cover and height) assessed prescribed RE descriptions, and age of regrowth assessed against historical aerial imagery.
Condition thresholds	
The patch is 0.5 ha or more in size. AND Exotic perennial plants comprise less than 50% of the total vegetation cover of the patch, as assessed over a minimum sample area of 0.5 ha, that is representative of the patch.	• Patch size: assessed spatially, inclusive of where patches extend outside of the Study Area. • Exotic cover: % cover of exotic perennial plants was assessed within each stratum across a 50x100 m plot. Specifically, the total % cover of exotic perennial across all strata was compared against the total vegetation cover across all strata.

3.2.2.2.2 Poplar box grassy woodland on alluvial plains TEC assessment

The Poplar box TEC is associated with REs 11.3.2, 11.3.17, 11.4.7 and 11.4.12 within the Brigalow Belt and Darling Riverine Plains bioregions (Department of the Environment and Energy (DEE), 2019a). These REs form the primary vegetation communities considered representative of the TEC, subject to meeting specific condition thresholds. Poplar box TEC is limited to patches that meet the following key diagnostic characteristics and condition thresholds (DEE, 2019a):

Key diagnostic characteristics

- Location and physical environment:
  - Occurs in the Brigalow Belt North, Brigalow Belt South, Southeast Queensland, Cobar Peneplains, Darling Riverine Plains, New South Wales Southwestern Slopes, Riverina and Murray Darling Depression IBRA bioregions.

- Associated with ancient and recent depositional alluvial plains with clay, clay-loam, loam and sandy loam, typically duplex soils or sodosols. This includes areas that may not be part of currently defined floodplains.

- Structure:
  - A grassy woodland to grassy open woodland with a tree crown cover of 10% or more at patch scale.
  - A tree canopy must be present that shows these features:
    - Canopy tree species capable of reaching 10 m or more in height;
      - *Eucalyptus populnea* (Poplar box) must be present in the canopy and is the dominant tree species; and
    - Where hybrids of Poplar box with other *Eucalyptus* spp. are present, they should be counted as part of the *Eucalyptus populnea* component of the tree canopy when assessing the previous criterion.
  - Mid layer (1-10 m) crown cover of shrubs to small trees is low, about 30% or less. A ground layer (<1 m) mostly dominated across a patch by native grasses, other herbs and occasionally chenopods (during extended dry periods), ranging from sparse to thick (in response to canopy development, soil moisture, disturbance and/or management history).
  - A ground layer (<1 m) mostly dominated across a patch by native grasses, other herbs and occasionally chenopods (during extended dry periods), ranging from sparse to thick (in response to canopy development, soil moisture, disturbance and/or management history).
  - A list of diagnostic native plant species and some of the key native fauna that make up the ecological community is provided in Appendix A of the Approved Conservation Advice (DEE, 2019a); although particular species may be abundant or rare, or not necessarily present, at every location.

Condition thresholds

The ecological community that is protected under national environment law comprises patches that meet the key diagnostic characteristics (above) and at least the minimum condition thresholds (Moderate and High condition categories A, B, or C) set out in Table 5.

Poplar box TEC assessments involved a desktop review and targeted field assessment to determine whether vegetation within the Study Area met the criteria for the Poplar box TEC. Assessments focused on confirming the presence and dominance of Eucalyptus populnea in the canopy, patch size (≥2 ha), and evaluating the condition thresholds including native species richness, ground cover composition, and weed invasion. Field surveys included floristic plots, canopy cover estimates, and identification of key indicator species. Areas of regrowth and disturbance were also assessed to determine if they met the EPBC-defined condition classes (e.g. high or low condition thresholds). Specific assessment methodologies for condition thresholds are specified in Table 5. In total three Poplar box TEC assessments were undertaken across the Study Area (Figure 6).

Table 5: Poplar box TEC condition thresholds

Category and Rationale	Native Cover and Diversity Thresholds	Minimum Patch Size Thresholds*	TEC Assessment Methodology
Class A Highest Quality			
Category A1. Little to no perennial weeds and diverse native understorey	The crown cover of canopy trees in the patch is ≥10% AND ≥ 90% of perennial vegetation cover in the ground layer** is native AND ≥ 30 native plant species per patch in the ground layer	≥ 1 ha	• Patch size: assessed spatially, inclusive of where patches extend outside of the Study Area. • Crown cover: assessed as per *BioCondition Assessment Manual (V2.2)* tree canopy cover method. Specifically, utilising canopy intercept over a 100 m transect. • Perennial vegetation cover: assessed as per *BioCondition Assessment Manual (V2.2)* native perennial grass cover method. Specifically, average of five 1 x 1 m quadrats assessed at 10m intervals on alternating sides of a 50m transect. • Native plant species richness: random meander throughout patch to quantify number of native ground layer species.
Category A2. A large patch with low perennial weeds and diverse native understorey	The crown cover of canopy trees in the patch is ≥10% AND ≥70% of perennial vegetation cover in the ground layer** is native AND ≥ 30 native plant spp. per patch in the ground layer	≥ 5 ha	
Class B Good Quality			
Category B. A large patch with good quality native understorey or with mature trees	The crown cover of canopy trees in the patch is ≥10% AND ≥ 50% of perennial vegetation cover in ground layer** is native AND EITHER ≥ 20 perennial native plant species per patch in the ground layer OR ≥ 10 mature trees+ per ha with ≥ 30cm dbh*** (and/or hollows)	≥ 5 ha	• Patch size: As above. • Crown cover: As above. • Perennial vegetation cover: As above. • Native plant species richness: As above. • Mature trees / hollows: assessed as per *BioCondition Assessment Manual (V2.2)* large tree method. Specifically, number of trees ≥ 30cm dbh and/or containing hollows was quantified across a 100 x 50m (0.5 ha) plot and multiplied to 1ha.

Category and Rationale	Native Cover and Diversity Thresholds	Minimum Patch Size Thresholds*	TEC Assessment Methodology
Class C Moderate Quality			
Category C A large patch with low native cover but retains good native understorey diversity and habitat features of mature trees	The crown cover of canopy trees in the patch is ≥10% AND If < 50% of perennial vegetation cover in ground layer** is native, then the patch must have: ≥ 20 native plant spp. per patch in the ground layer AND ≥ 10 mature trees+ per ha with ≥ 30cm dbh*** (and/or hollows) AND smaller trees+, saplings or seedlings suggestive of periodic recruitment	≥ 5 ha	• Patch size: As above. • Crown cover: As above. • Perennial vegetation cover: As above. • Native plant species richness: As above. • Mature trees / hollows: As above. • Smaller trees (recruitment): assessed as per *BioCondition Assessment Manual (V2.2)* recruitment method. Specifically, presence of *Eucalyptus populnea* saplings <5cm dbh was assessed across a 100 x 50m (0.5 ha) plot.

* **Minimum patch size thresholds** apply to patches of various shapes but, a minimum patch width threshold applies to linear remnants, such as along roadsides or former travelling stock routes. These are explained in the next section on 'Defining a patch'.

** **Perennial native vegetation cover in the ground layer** (i.e. below the tree canopy) includes vascular plant species of the ground layer with a life-cycle of more than two growing seasons. The ground layer includes grasses and herbs (i.e. forbs) and some low shrubs (woody plants ≤ 1 m high). Measurement of perennial ground layer vegetation cover excludes annuals, cryptogams (i.e. mosses, lichens and related flora), leaf litter or exposed soil.

*** **dbh** (diameter at breast height) refers to the tree diameter measured at 1.3 m above the ground.

+ **Trees -** Refers to *Eucalyptus populnea* (Poplar box) and/or hybrids of Poplar box with other Eucalyptus species (for instance Coolabah).

3.2.2.3 Threatened flora

Based on desktop assessment outputs (ALA, PMST, WildNet) (ALA, 2025; DCCEEW, 2025a; DETSI, 2025a) and RE mapping, threatened flora species were identified as possibly occurring within the Study Area and were specifically targeted during field surveys (Table 6). The random meander technique (refer to (Cropper, 1993)) was used to survey the potentially occurring threatened flora throughout the Study Area (Figure 6). The random meander technique involves traversing potential habitat within the Study Area and searching for flora species that may not have been located using more structured search methods. This technique is particularly suitable for locating species that typically occur at very low densities or that may be distributed in isolated clumps. Targeted surveys for threatened species using the Cropper (1993) random survey technique were undertaken for possibly occurring species identified from the desktop assessment where potential habitat was identified within the Study Area.

Though a count of individuals is usually an appropriate survey metric, in the case of two of the threatened target *Solanum* species, it was not suitable due to the nature with which these plants grow. *Solanum elachophyllum* and *S. dissectum* have been shown to form underground suckers that connect stems together, thereby making it difficult to determine the number of individuals within a given area (Fensham et al., 2019). For these species a stem count method was utilised, consistent with the approach taken by Fensham et al. (2019).

Across the Study Area 32 random meanders covering approximately 20.54 km were conducted targeting threatened plants. Additionally, six plots were undertaken to estimate population of recorded threatened flora within the Study Area.

Table 6: Flora species targeted during meander flora surveys

Species	NC Status	EPBC Status
Bertya opponens	Least concern	Vulnerable
Solanum adenophorum	Endangered	Not listed
Solanum dissectum	Endangered	Endangered
Solanum elachophyllum	Endangered	Not listed

3.2.2.4 Pest flora

The presence of pest flora species were recorded within the Study Area as part of tertiary and quaternary assessments, BioCondition surveys and while undertaking foot traverses. Pest flora species recorded include those listed under the Biosecurity Act (Department of Agriculture and Fisheries (DAF), 2023) as restricted or prohibited invasive plants, triggering General Biosecurity Obligation for landholders and proponents to manage and prevent their spread. In addition, other species not listed under the Biosecurity Act, but in which may negatively affect native plant communities were recorded. This includes species listed as WoNS (Centre for Invasive Species Solutions, 2025) requiring priority management due to their invasive nature and ecological impacts.

3.2.2.5 Opportunistic observations

Flora species observed that were not recorded via other survey methods, were also collected as opportunistic observations. This included those species observed while driving or walking between survey sites.

3.2.3 Fauna surveys

Fauna surveys involved a combination of targeted surveys and habitat suitability assessments (Figure 7) to determine likely presence/absence of target species. Fauna survey techniques undertaken during field surveys are detailed in the following sections and based on the following guidelines:

- Survey guidelines for Australia's threatened birds (DEWHA, 2010a);
- Survey guidelines for Australia's threatened bats (DEWHA, 2010b);
- Survey guidelines for Australia's threatened reptiles (DSEWPaC, 2011a);
- Survey guidelines for Australia's threatened mammals (DSEWPaC, 2011b);
- Terrestrial vertebrate fauna survey guidelines for Queensland (Eyre et al., 2022); and
- Conservation Advice and Recovery Plants for listed threatened species under the EPBC Act, where relevant.

3.2.3.1 Habitat suitability assessments

Habitat suitability assessments were undertaken throughout the Study Area to identify the presence of habitat features that may support target fauna. Specifically, the following features were assessed:

- the presence and condition of watercourses, wetlands, or artificial waterbodies (e.g., dams), including relative permanency of water;
- abundance of Locally Important Koala Tree (LIKTs) species and ancillary shelter species as identified by Youngentob et al. (2021);
- presence and abundance of feed tree species (e.g. known feed tree species for Greater glider);
- presence and abundance of native grasses and forbs;
- abundance of hollow bearing trees and logs;
- abundance of coarse woody debris and leaf litter;
- soil crack abundance and depth; and
- evidence of existing threats, including:

- presence and abundance of feral species (i.e. wild dogs, feral cats, European foxes etc.);
- woody weed encroachment;
- presence and abundance of barbed wire fencing;
- presence and abundance of cattle;
- extent and severity of habitat fragmentation; and
- bushfire risk (i.e. high fuel loads, fire-prone species).

Habitat suitability assessments were completed at 48 sites across the Study Area (Figure 7). The outcomes of these habitat assessments were used to map species habitat and direct targeted fauna survey effort for threatened fauna. Habitat quality surveys are described in Section 3.2.5.

3.2.3.2 Motion detection cameras

A combination of baited and non-baited camera traps were deployed to assist with the detection of target fauna (e.g. Squatter pigeon (southern) and Australian painted snipe) and pest fauna species that may pose a threat to native species (e.g. wild dogs, feral cats and foxes). Camera traps were deployed at six locations for a minimum of five nights within the Study Area during the wet season survey, totalling 32 nights, and at four locations for a minimum of ten consecutive nights during the dry season survey (Figure 7). As described in Section 2.8, the Squatter pigeon (southern) and Australian painted snipe are known to be present.

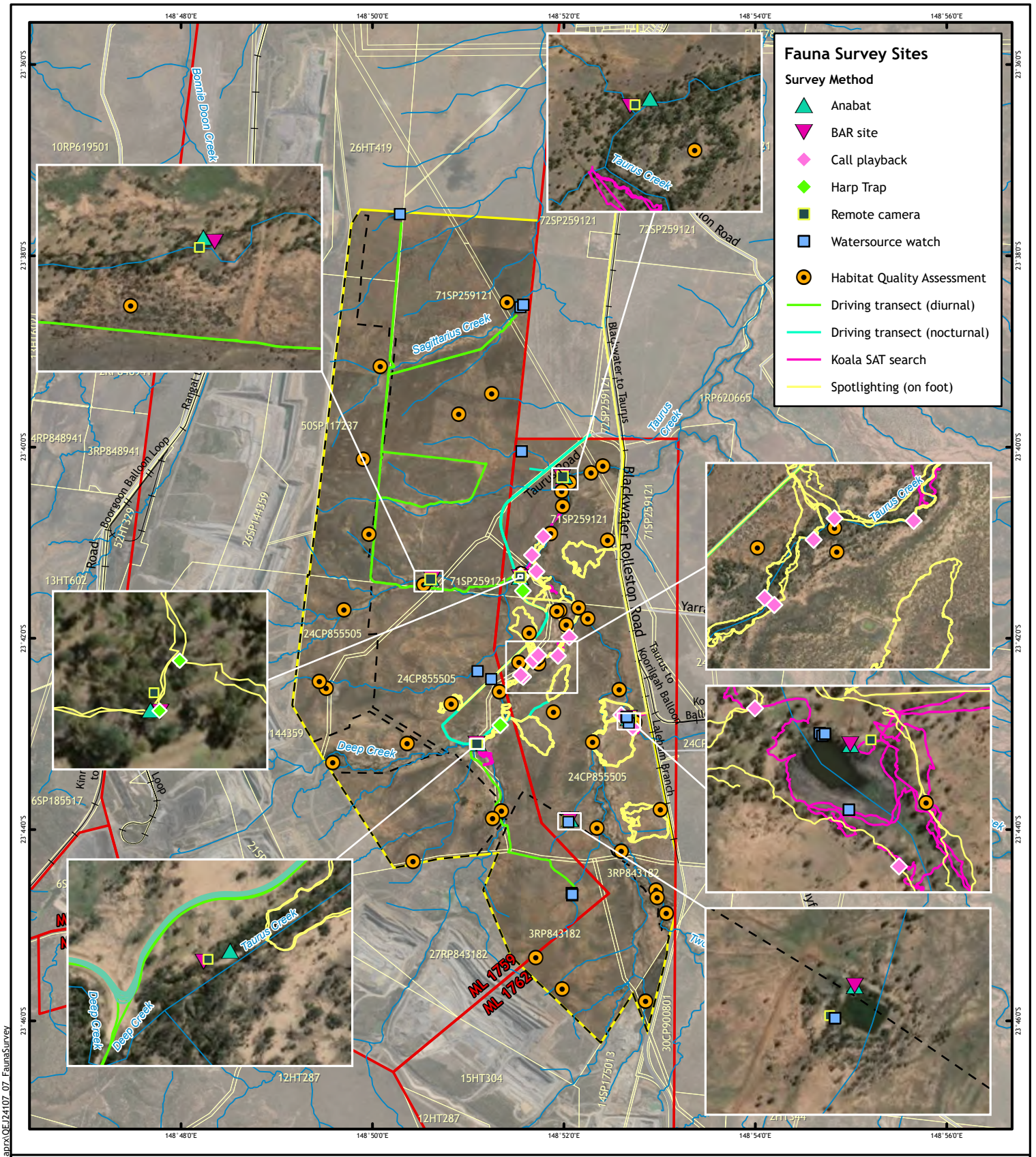
3.2.3.3 Harp trapping

Harp trapping was undertaken during the late wet season to target Corben's long-eared bat (*Nyctophilus corbeni*) in accordance with the *Survey guidelines for Australia's threatened bats* (DEWHA, 2010b). Harp traps were set at locations considered likely to be used by the species (e.g. flyways and water sources) and all bat species caught were identified and recorded. Traps were set at four locations over a minimum of four consecutive nights, totalling 16 trap nights during the wet season survey at four locations. Survey locations are depicted in Figure 7.

3.2.3.4 Ultrasonic recorders

Ultrasonic recorders (Anabats) were deployed within the Study Area, to detect potential presence of threatened microbats. Similarly to harp traps, Anabats were deployed in areas likely to contain microbats (e.g. flyways and water sources). Devices were set at six locations over a minimum of five consecutive nights, totalling 32 trap nights during the wet season survey (Sites BAT fl 1, BAT fl 2, E2M022, E2M023, E2M024 and E2M025), and three locations over a minimum of ten consecutive nights (Sites E2M09, E2M010 and E2M012), totalling 30 trap nights during the dry season survey at the locations depicted in Figure 7.

Anabat detector data was first analysed by E2M (Eamon Amsters) with any possible detections of potentially occurring target fauna (i.e. *Nyctophilus corbeni* and *Chalinolobus dwyeri*) vetted by Greg Ford (Balance! Environmental).



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

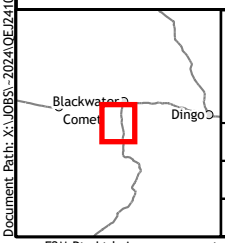
N

Scale 1:100,000 (A4)

0 2.5 5

Kilometres

Coordinate System: GDA2020



Notes:
Topographic: © ESRI 2025
Cadastre: © DNRMMRRD 2025
Ordered Drainage: © DNRMMRRD 2025
Mining Lease: © DNRMMRRD 2025

Rev	Description	Drawn	Approved	Date
1	Issued for Use	PR	CO	02/04/2026

FIGURE 7: FAUNA SURVEY SITES

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
1 of 1	QEJ24107	1

Document Path: X:\JOBS\-2024\QEJ24107\GIS\PRO\QEJ24107_EA.aprx\QEJ24107_07_FaunaSurvey

E2M Pty Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map.

3.2.3.5 Nocturnal spotlighting

Nocturnal spotlighting surveys targeting Ornamental snake, Greater glider (southern) and Koala were undertaken within suitable habitat by two ecologists equipped with a handheld torch/spotlight and head torches. Nocturnal spotlighting surveys were conducted for a minimum of 3 hours per night, traversing areas of suitable habitat on foot. Call playback targeting the key threatened species was undertaken during these surveys. Spotlighting surveys were undertaken across four nights during the wet season survey and four nights during the dry season survey, totalling 17 person hours. Location of spotlighting transects are depicted in Figure 7 .

3.2.3.6 Diurnal water source watches

Water source watches including flushing surveys were conducted at suitable water sources across the Study Area. Surveys involved either stationary visual assessments or flushing surveys for a minimum of 30 minutes either early morning or late afternoon. Water source watches were undertaken during the wet season totalling 16 person hours (across nine sites) and 22.25 person hours during the dry season (across seven sites), totalling 38.25 person hours of water source watches. Location of water source watches are depicted in Figure 7.

3.2.3.7 Koala spot assessment technique and scratch surveys

The Koala spot assessment technique (SAT) (Phillips & Callaghan, 2011) involves systematically search for Koala scats under trees of preferred Koala food species and an appropriate size (at least 10 centimetres (cm) diameter at breast height) in a given area. More specifically, scats are searched for within a 1 m radius of the base of a central tree and its nearest 29 neighbouring trees. SAT surveys were combined with bark scratch surveys and were undertaken at 14 locations, ten during the wet season and four during the dry season (Figure 7). The bark scratch surveys involved inspecting the lower trunks (0-2 m height) of preferred and secondary food trees for evidence of claw marks consistent with Koala use. Trees were examined for vertical scratches with fresh or weathered characteristics. These surveys were conducted within potential Koala habitat and areas of preferred Eucalypt species.

3.2.4 Threatened species habitat mapping

Habitat for each relevant threatened species was mapped based on using a combination of desktop analysis and field validation. The initial desktop assessment utilised species distribution data from the EPBC PMST, Queensland Wildlife Online, RE mapping, topography, and known habitat preferences as outlined in the species profiles and conservation advice (EPBC Listing Advice, Recovery Plans, Species Profile and Threats Database (SPRAT) profiles).

Potential habitat was then refined during field surveys by ground-truthing vegetation communities, verifying the presence of key habitat features, and assessing condition and connectivity. Species-specific criteria such as presence of suitable food sources, breeding habitat, and microclimate were considered for each species. Only those areas meeting the known ecological requirements of each species were mapped as potential suitable habitat. Areas that were too degraded, fragmented, or lacked essential habitat components were excluded.

The results and mapped habitat extents for each relevant threatened species are summarised in Section 4.2.3. Species-specific mapping rationale, likelihood of occurrence, and supporting field observations are also discussed.

3.2.5 Habitat quality surveys

Habitat quality was calculated differently for MNES and MSES matters. Specifically, MSES habitat quality was undertaken in accordance with the *Guide to determining terrestrial habitat quality: Methods for assessing habitat quality (version 1.3)* (Department of Environment and Science [DES], 2020), while MNES and dual-listed (both MNES and MSES) Prescribed Environmental Matters (PEMs) were assessed in accordance with the Commonwealth Government *Modified Habitat Quality Assessment (MHQA)* method, which uses methods detailed within the *Guide to determining terrestrial habitat quality* (Version 1.2) (DEHP, 2017) (habitat quality guide). The MHQA method assesses key requirements in accordance with the EPBC *Act Environmental Offsets Policy 2022* (EO Policy). The MHQA method involves the collection of data relating to three key attributes, namely:

- Site condition;
- Site context; and
- Specie stocking rate.

In determining habitat quality scores, habitat areas were first delineated into Assessment Units (AUs). An AU refers to an area or a group of areas within the matter area (i.e. the Offset Area or Impact Area) that is homogenous in vegetation community classification (i.e. RE) and broad condition state (i.e. remnant, regrowth, non-remnant). Each AU reflects a particular community with similar structure, function and quality of habitat. Sampling sites were then selected for each AU and relevant attribute data was collected at each sampling site.

A Trimble TDC600 Global Positioning System device was used to record the location of mid-point (50 m mark) of each assessment site. Further detail regarding data collected for each of the three attributes is provided in the following sections.

Detailed description of habitat quality scoring methodology is presented in Section 3.3.

3.2.6 Survey effort

The following section summarises the ecological survey effort that has occurred within the Study Area during the E2M 2025 surveys (refer to Table 7). The timing and survey effort undertaken during these surveys was designed with reference to the:

- Nature of the target species (e.g. home range size, population density);
- Conditions within the Study Area (e.g. habitat availability); and
- Recommended survey effort guidelines prescribed by the relevant Commonwealth and/or Queensland government guidelines.

Survey effort completed as part of E2M 2025 surveys and previous surveys undertaken by EMM in 2019-2020, were assessed against relevant Commonwealth and State survey guidelines (refer to Table 8).

Table 7: E2M 2025 Survey effort summary

Survey Technique	Effort Unit	Survey Effort		
		Wet Season / Late Wet Season	Dry Season	Total
Flora				
Tertiary assessment	Number of sites	9	-	9
Quaternary assessment	Number of sites	136	6	142
TEC assessment	Number of sites	27	2	29
Threatened flora meander searches	Number of meanders / km	18 / 9.49 km	14 / 11.05 km	32 / 20.54 km
Fauna				
Ultrasonic recorders	Recorder nights	32	30	62
Harp traps	Trap nights	16	-	16
Bioacoustics recorders	Recorder days/nights	32	40	72
Motion cameras	Recorder days/nights	32	40	72
Water source watches	Person hours	16	22.25	38.25
Diurnal SAT searches	Person hours	8	8.5	16.5
Diurnal driving transects	Person hours	12	6	18
Nocturnal spotlighting	Person hours	32	17	49

Table 8: Survey effort against survey guidelines

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
Threatened flora – excluding species considered unlikely to occur based on desktop assessment					
Bertya opponens	No specific survey guidelines are prescribed.	No specific survey guidelines are prescribed for *Bertya opponens*.	During suitable conditions, two timed meanders were undertaken within high-risk area on flora survey trigger map as per Flora Survey Guidelines methodology, covering an approximate area of 58 ha. Broader EVNT flora species surveys were undertaken outside high-risk areas while completing other flora surveys across the Study Area.	A total of 32 threatened flora meander searches totalling 20.54 km were undertaken during wet season (March-May) and dry season (September) field surveys targeting threatened flora. During this time *Solanum elachophyllum* were found to be readily identifiable from vegetative matter (i.e. not requiring flowers or fruit). Opportunistic searches were undertaken while traversing the Study Area.	Survey effort includes: • 34 combined threatened flora meander searches (EMM - 58 ha, E2M – 20.54 km); and • opportunistic searches while traversing the Study Area. No specific survey guidelines are prescribed for threatened flora in the Study Area. The Disturbance Footprint has been extensively searched during the field surveys completed to date and known habitat quantified.
Solanum adenophorum	The species has been recorded flowering in October and fruiting in May, September and October (Bean, 2004).	No specific survey guidelines are prescribed for this *Solanum* species.			
Solanum dissectum	The species has been reported as flowering between July and November and fruiting between March and July (DotE, 2015a).	No specific survey guidelines are prescribed for this *Solanum* species.			

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
Solanum elachophyllum	February to September (DES, 2023).	No specific survey guidelines are prescribed for this *Solanum* species.			
Fauna – excluding species considered unlikely to occur based on desktop assessment					
Reptiles					
Ornamental snake (*Denisonia maculata)*	Late-September to late-March (DSEWPC, 2011b)	The *Draft Referral Guidelines for Nationally Listed Brigalow Belt Reptiles* (DSEWPC, 2011b) recommend 1.5 hours of spotlighting per hectare of suitable Ornamental snake habitat, which equates to 744 hours of spotlighting effort. The guideline document also recommends the use of funnel traps across a period of four	**Wet season:** • 16.5 person hours of active diurnal searches of gilgai and trap sites • pitfall and funnel trapping comprising four trap nights at four sites, totalling 64 pitfall trap nights and 96 funnel trap nights; and • 24 person hours over four consecutive nights and 60 hours over three consecutive nights of	**Wet season:** • 8 person hours of active diurnal searches in suitable habitat; and • 32 person hours of nocturnal spotlighting searches across six nights. **Dry season:** • 8.5 person hours of active diurnal searches in suitable habitat; and • 17 person hours of nocturnal spotlighting searches across four nights. **TOTAL:**	Survey effort includes: • 37 person hours of active diurnal searches in suitable habitat • 128 pitfall trapping nights • 196 funnel trapping nights; and • 182.5 person hours of nocturnal spotlighting searches across 22 nights. The funnel trapping survey effort meets the survey guideline requirements. Spotlighting at the density required to cover all potential Ornamental snake habitat within the

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
		days (DSEWPC, 2011b). Survey guidelines for Ornamental snake, released in November 2025 recommends 240 minutes of spotlight searches per 5 ha of suitable habitat(DCCEEW, 2025m). This amounts to 398 hours of spotlighting effort.	nocturnal spotlighting searches. **Dry season:** • four person hours of diurnal active searches at trap sites for 30 minutes • four trap nights at four trap sites, totalling 64 pitfall trap nights and 100 funnel trap nights; and • 49.5 person hours of nocturnal spotlighting across five consecutive nights. **TOTAL:** • 20.5 person hours active diurnal searches of gilgai and trap site quadrants	• 16.5 person hours of diurnal active searches in suitable habitat; and • 49 person hours of nocturnal spotlighting searches across ten nights.	Study Area at the recommended survey effort would be prohibitive. Although the total spotlighting effort undertaken was 182.5 person-hours, which is below the levels recommended in both the 2011 (744 hrs) and 2025 (398 hrs) survey guidelines, the effort conducted by EMM and E2M across the Study Area is considered sufficient. The level of survey effort resulted in the detection of Ornamental snake within the Study Area.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			• 128 pitfall trap nights • 196 funnel trap nights; and • 133.5 person hours over four of spotlighting.		
Birds					
Australian painted snipe (*Rostratula australis*)	No optimal survey period specified	Targeted stationary observations at suitable wetlands for ten hours over five days are recommended (DEWHA, 2010b).	**Wet season:** • 18.5 person hours of diurnal bird surveys (including water source watches) • 79 person hours of nocturnal spotlighting; and • 10 motion detection camera trap nights. **Dry season:** • 10 person hours of diurnal bird surveys (including	**Wet season:** • 16 person hours of diurnal bird surveys (including water source watches) • 32 person hours of nocturnal spotlighting across six nights; and • 32 motion detection camera trap nights. **Dry season:** • 22.25 person hours of diurnal bird surveys (including water source watches);	Survey effort includes: • 66.75 person hours of diurnal bird surveys (including water source watches) • 175.5 person hours of spotlighting; and • 93 motion detection camera trap nights. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			water source watches) • 47.5 person hours of nocturnal spotlighting across 5 nights; and • 11 motion detection camera trap nights. **TOTAL:** • 28.5 person hours of diurnal bird surveys • 126.5 person hours of spotlighting; and • 21 motion detection camera trap nights.	• 17 person hours of nocturnal spotlighting across four nights; and • 40 motion detection camera trap nights. **TOTAL:** • 38.25 person hours of diurnal bird surveys (including water source watches) • 49 person hours of nocturnal spotlighting across ten nights; and • 72 motion detection camera trap nights.	
Latham's snipe (*Gallinago hardwickii*)	October to February (DCCEEW, 2025e)	No specific survey guidelines are prescribed for the species.	No targeted surveys undertaken. However, other habitat preferences similar to Australian painted snipe which	**Wet season:** • 16 person hours of diurnal bird surveys (including water source watches)	Survey effort includes: • 66.75 person hours of diurnal bird surveys (including water source watches)

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			was targeted during surveys (as below). **Wet season:** • 18.5 person hours of diurnal bird surveys (including water source watches) • 79 person hours of nocturnal spotlighting; and • 10 motion detection camera trap nights. **Dry season:** • 10 person hours of diurnal bird surveys (including water source watches) • 47.5 person hours of nocturnal spotlighting across 5 nights; and	• 32 person hours of nocturnal spotlighting across six nights; and • 32 motion detection camera trap nights. **Dry season:** • 22.25 person hours of diurnal bird surveys (including water source watches) • 17 person hours of nocturnal spotlighting across four nights; and • 40 motion detection camera trap nights. **TOTAL:** • 38.25 person hours of diurnal bird surveys (including water source watches) • 49 person hours of nocturnal spotlighting across ten nights; and	• 175.5 person hours of spotlighting; and • 93 motion detection camera trap nights. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			• 11 motion detection camera trap nights. **TOTAL:** • 28.5 person hours of diurnal bird surveys • 126.5 person hours of spotlighting; and • 21 motion detection camera trap nights.	• 72 motion detection camera trap nights.	
Squatter pigeon (southern subspecies) (*Geophaps scripta scripta*)	May to October (DCCEEW, 2023g)	The *Survey Guidelines for Australia's Threatened Birds* (DEWHA, 2010b) recommends 15 hours of survey effort for the species over three days for areas less than 50 ha. Additional recommended survey methods include slow	**Wet season:** • 370 person hours of dedicated bird surveys (on foot or driving) over 19 days, • 42 motion detection camera trap nights; and • approximately 125 person hours spent opportunistically	**Wet season:** • 16 person hours of diurnal bird surveys (incl. water source watches), • 32 bioacoustic recorder deployment days, • 32 motion detection camera trap nights; and	Survey effort includes: • 551.25 person hours of diurnal bird surveys (incl. walking transects, driving transects and water source watches) • 144 motion detection camera trap nights • 70 bioacoustic recorder deployment days; and

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
		drive transects and diurnal stationary observations at water sources (DCCEEW, 2023g)	across the Study Area. **Dry season:** • 125 person hours of dedicated bird surveys (on foot or driving) over seven days, • 30 camera trap nights; and • approximately 370 person hours spent opportunistically across the Study Area. **TOTAL:** • 495 person hours of dedicated bird surveys (on foot or driving) over 26 days • 72 camera trap nights • Approximately 495 person hours spent	• 12 person hours of diurnal driving transects; and • approximately 252 person hours spent opportunistically searching across the Study Area. **Dry season:** • 22.25 person hours of diurnal bird surveys (incl. water source watches) • 38 bioacoustic recorder deployment days, • 40 motion detection camera trap nights, • 6 person hours of diurnal driving transects; and • approximately 72 person hours spent opportunistically searching across the Study Area.	• 819 person hours of opportunistically across 61 days. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			opportunistically searching across the Study Area over 42 days in total.	**TOTAL:** • 38.25 person hours of diurnal bird surveys (incl. water source watches), • 70 bioacoustic recorder deployment days, • 72 motion detection camera trap nights, • 18 person hours of diurnal driving transects; and • approximately 324 person hours spent opportunistically searching across the Study Area over 19 days.	
White-throated needletail (*Hirundapus caudacutus*)	October to April (TSSC, 2019)	No specific survey guidelines are prescribed for this species; however, general diurnal bird survey methods are appropriate	**Wet Season** • 26.6 person hours of diurnal bird surveys (transect surveys and water source watches); and	**Wet season:** • 16 person hours of diurnal bird surveys (incl. water source watches); and • approximately 252 person hours spent	Survey effort includes: • 91.35 person hours of diurnal bird surveys (transect surveys and water source watches); and

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
		(DEWHA, 2010b; Eyre et al., 2018).	• approximately 125 person hours spent opportunistically across the Study Area. **Dry season** • 26.5 person hours of diurnal bird surveys (transect surveys and water source watches); and • Approximately 370 person hours spent opportunistically across the Study Area. **TOTAL** • 53.1 person hours of diurnal bird surveys; and • approximately 495 person hours spent opportunistically searching across	opportunistically searching across the Study Area. **Dry season:** • 22.25 person hours of diurnal bird surveys (incl. water source watches); and • Approximately 72 person hours spent opportunistically searches across the Study Area. **TOTAL:** • water source watches totalling 38.25 person hours; and • approximately 324 person hours spent opportunistically searching across the Study Area over 19 days	• 819 person hours of opportunistically across 61 days. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			the Study Area over 42 days in total.		
Sharp-tailed sandpiper (*Calidris acuminata*)	August to April (DCCEEW, 2025c)	No specific survey guidelines for species. Guidelines listed in Australia painted snipe used as a surrogate.	No targeted surveys undertaken. However, other habitat preferences similar to Australian painted snipe which was targeted during surveys (as below). **Wet season:** • 18.5 person hours of diurnal bird surveys (including water source watches); and • 10 motion detection camera trap nights. **Dry season:** • 10 person hours of diurnal bird surveys (including water source watches); and	**Wet season:** • 16 person hours of diurnal bird surveys (including water source watches); and • 32 motion detection camera trap nights. **Dry season:** • 22.25 person hours of diurnal bird surveys (including water source watches); and • 40 motion detection camera trap nights. **TOTAL:** • 38.25 person hours of diurnal bird surveys; and • 72 motion detection camera trap nights.	Survey effort includes: • 66.75 person hours of diurnal bird surveys (including water source watches) • 93 motion detection camera trap nights.; and • Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			• 11 motion detection camera trap nights. **TOTAL:** • 28.5 person hours of diurnal bird surveys; and • 21 motion detection camera trap nights.		
South-eastern Glossy black-cockatoo (*Calyptorhynchus lathami lathami*)	No optimal survey timing	Diurnal bird surveys for 5 hours over 1 day per 50 ha of project area. A search for foraging and nesting signs for 20 hours over 4 days per 50 ha of project area (Hourigan, 2012b).	**Wet Season** • 26.6 person hours of diurnal bird surveys (transect surveys and water source watches); and • approximately 125 person hours spent opportunistically across the Study Area. **Dry season** • 26.5 person hours of diurnal bird	**Wet season:** • 16 person hours of diurnal bird surveys (incl. water source watches) • 32 bioacoustic recorder deployment days; and • approximately 252 person hours spent opportunistically searching across the Study Area. **Dry season:** • 22.25 person hours of diurnal bird surveys	Survey effort includes: • 91.35 person hours of diurnal bird surveys (transect surveys and water source watches) • 70 bioacoustic recorder deployment days; and • 819 person hours of opportunistically across 61 days. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			surveys (transect surveys and water source watches); and • Approximately 370 person hours spent opportunistically across the Study Area. **TOTAL** • 53.1 person hours of diurnal bird surveys; and • approximately 495 person hours spent opportunistically searching across the Study Area over 42 days in total.	(incl. water source watches) • 38 bioacoustic recorder deployment days; and • Approximately 72 person hours spent opportunistically searches across the Study Area. **TOTAL:** • 38.25 person hours of diurnal bird surveys (incl. water source watches) • 70 bioacoustic recorder deployment days; and • approximately 324 person hours spent opportunistically searching across the Study Area over 19 days	
Painted honeyeater (*Grantiella picta*)	Early spring to late summer	Per 50 ha of suitable habitat, 4 hours of area	**Wet Season**	**Wet season:**	Survey effort includes:

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
	(Rowland, 2012)	searches are recommended for a minimum of 4 days (Rowland, 2012).	• 26.6 person hours of diurnal bird surveys (transect surveys and water source watches); and • approximately 125 person hours spent opportunistically across the Study Area. **Dry season** • 26.5 person hours of diurnal bird surveys (transect surveys and water source watches); and • Approximately 370 person hours spent opportunistically across the Study Area. **TOTAL**	• 16 person hours of diurnal bird surveys (incl. water source watches) • 32 bioacoustic recorder deployment days; and • approximately 252 person hours spent opportunistically searching across the Study Area. **Dry season:** • 22.25 person hours of diurnal bird surveys (incl. water source watches) • 38 bioacoustic recorder deployment days; and • Approximately 72 person hours spent opportunistically searches across the Study Area. **TOTAL:**	• 91.35 person hours of diurnal bird surveys (transect surveys and water source watches) • 70 bioacoustic recorder deployment days; and • 819 person hours of opportunistically across 61 days. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			• 53.1 person hours of diurnal bird surveys; and • approximately 495 person hours spent opportunistically searching across the Study Area over 42 days in total.	• 38.25 person hours of diurnal bird surveys (incl. water source watches) • 70 bioacoustic recorder deployment days; and • approximately 324 person hours spent opportunistically searching across the Study Area over 19 days	
Fork-tailed swift (*Apus pacificus*)	September to April (DCCEEW, 2025b)	No formal survey guidelines are prescribed for this species; however, general guidance is provided in the *Draft referral guideline for 14 birds listed migratory under the EPBC Act* (DotE, 2015c) which states that observations should be made	**Wet Season** • 26.6 person hours of diurnal bird surveys (transect surveys and water source watches); and • approximately 125 person hours spent opportunistically across the Study Area. **Dry season**	**Wet season:** • 16 person hours of diurnal bird surveys (incl. water source watches); and • approximately 252 person hours spent opportunistically searching across the Study Area. **Dry season:** • 22.25 person hours of diurnal bird surveys	Survey effort includes: • 91.35 person hours of diurnal bird surveys (transect surveys and water source watches); and • 819 person hours of opportunistically across 61 days. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
		from elevated viewpoints, in the late afternoon, near tall trees.	• 26.5 person hours of diurnal bird surveys (transect surveys and water source watches); and • Approximately 370 person hours spent opportunistically across the Study Area. **TOTAL** • 53.1 person hours of diurnal bird surveys; and • approximately 495 person hours spent opportunistically searching across the Study Area over 42 days in total.	(incl. water source watches); and • Approximately 72 person hours spent opportunistically searches across the Study Area. **TOTAL:** • 38.25 person hours of diurnal bird surveys (incl. water source watches); and • approximately 324 person hours spent opportunistically searching across the Study Area over 19 days	
Glossy ibis (*Plegadis falcinellus*)	March to August (DCCEEW, 2025l)	No formal survey guidelines are prescribed for this species.	No targeted surveys undertaken. However, other habitat preferences	**Wet season:** • 16 person hours of diurnal bird surveys	Survey effort includes: • 66.75 person hours of diurnal bird surveys

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			similar to Australian painted snipe which was targeted during surveys (as below). **Wet season:** • 18.5 person hours of diurnal bird surveys (including water source watches); and • 10 motion detection camera trap nights. **Dry season:** • 10 person hours of diurnal bird surveys (including water source watches); and • 11 motion detection camera trap nights. **TOTAL:** • 28.5 person hours of diurnal bird surveys; and	(including water source watches); and • 32 motion detection camera trap nights. **Dry season:** • 22.25 person hours of diurnal bird surveys (including water source watches); and • 40 motion detection camera trap nights. **TOTAL:** • 38.25 person hours of diurnal bird surveys; and • 72 motion detection camera trap nights.	(including water source watches); and • 93 motion detection camera trap nights. Survey effort meets the survey guideline requirements.

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			• 21 motion detection camera trap nights.		
Mammals					
Koala (*Phascolarctos cinereus*)	No optimal survey period specified	Survey effort is not prescribed but established survey methods include: • Nocturnal spotlighting; and • Spot Assessment Technique surveys (Eyre et al., 2018; Phillips & Callaghan, 2011).	**Wet season:** • 4 SAT surveys totalling 3.65 km of diurnal transects • 1.5 km spotlighting transects; and • additional nocturnal spotlighting around two trap sites. **Dry season:** • 2 SAT surveys totalling 4.2 km of diurnal transects • 7 km of nocturnal spotlighting transects	**Wet season:** • diurnal SAT searches totalling eight person hours • 32 person hours of nocturnal spotlighting across six nights; and • six bioacoustics recorders over five-six nights totalling 32 trap nights. **Dry season:** • 8.5 person hours of SAT searches, • 17 person hours of nocturnal spotlighting; and • 10 bioacoustics recorders totalling 38 trap nights.	No specific survey guidelines are available for the species; however, general arboreal mammal surveys methods and SAT searches have been applied. Extensive field surveys have been completed to date, including: • 6 SAT surveys totalling 7.85 km of diurnal transects (EMM) • 16.5 person hours of SAT searches (E2M) • 8.5 km of nocturnal spotlighting transects (EMM) • 49 person hours of nocturnal spotlighting (E2M)

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			• additional nocturnal spotlighting around two trap sites; and • call playback. **TOTAL:** • 6 SAT surveys totalling 7.85 km of diurnal transects, • 8.5 km spotlighting transects; and • call playback.	**TOTAL:** • 16.5 person hours of SAT searches, • 49 person hours of nocturnal spotlighting; and • 16 bioacoustics recorders totalling 70 trap nights.	• 16 bioacoustics recorders totalling 70 trap nights; and • additional nocturnal spotlighting around two trap sites (EMM).
Short-beaked echidna (*Tachyglossus aculeatus*)	No optimal survey period specified	No specific survey guidelines are prescribed for the species.	No targeted surveys undertaken. However, other general mammal surveys undertaken, including: **Wet season:** • 16.5 person hours of active diurnal searches • 24 person hours of nocturnal	**Wet season:** • 8 person hours of active diurnal searches • 32 person hours of nocturnal spotlighting searches • 32 motion detection camera trap nights; and	Extensive survey effort has been completed across the Study Area, including: • 36.5 person hours of active diurnal searches have been completed • 49 person hours of nocturnal spotlighting (E2M)

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			spotlighting searches • 42 motion detection camera trap nights; and • approximately 125 person hours spent opportunistically across the Study Area **Dry season:** • 4 person hours of active diurnal searches • 49.5 person hours of nocturnal spotlighting searches • 30 camera trap nights; and • approximately 370 person hours spent opportunistically across the Study Area.	• approximately 252 person hours spent opportunistically **Dry season:** • 8.5 person hours of active diurnal searches in suitable habitat • 17 person hours of nocturnal spotlighting searches across four nights • 40 motion detection camera trap nights; and • approximately 72 person hours spent opportunistically **TOTAL:** • 16.5 person hours of diurnal active searches in suitable habitat • 49 person hours of nocturnal	• 144 camera traps nights; and • approximately 819 person hours spent opportunistically • .

Survey Requirement	Optimal Survey Timing	Survey Effort Consideration	Survey Effort Undertaken to Date		Status in Meeting Survey Guideline Requirements
			EMM 2019-2020	E2M 2025	
			Total: • 20.5 person hours of active diurnal searches • 133.5 person hours of nocturnal spotlighting searches • 72 camera trap nights; and • approximately 495 person hours spent opportunistically across the Study Area.	spotlighting searches across ten nights • 72 motion detection camera trap nights; and • approximately 324 person hours spent opportunistically.	

3.3 Habitat quality scoring

The Offset assessment guide (OAG) (DCCEEW, 2023f) and *How to use the Offsets Assessment Guide* (DCCEEW, 2023d) provides guidance on the assessment offset requirements and suitability. This framework provides key concepts and guiding principles, however, there is no stipulated Commonwealth method for assessing habitat quality outlined within the offset framework. The DCCEEW *Modified Habitat Quality Assessment* is an unpublished method that provides guidance on habitat quality determination for MNES and is based on the *Guide to determining terrestrial habitat quality (version 1.2)* (Department of Environment and Heritage Protection, 2017).

The habitat quality score is assessed using three indicators; site condition, site context, and species stocking rate, with the default ratios being 30%, 30% and 40%, respectively (Department of Environment and Heritage Protection, 2017). These default ratios were utilised for all assessed MNES.

3.3.1 Site condition

Site condition data was collected within 100 m x 50 m areas (including various sub-plots) for each AU, weighted in accordance with the terrestrial habitat quality guide and compared to BioCondition benchmark values for the relevant RE benchmark (Queensland Herbarium, 2025a). Quality and availability of food, foraging habitat and shelter were also incorporated into the assessment of site condition.

A summary of site condition data collected (i.e. habitat quality sites), plot area and associated maximum scores, based on the default weightings, is summarised in Table 9. These default ratios were utilised for all assessed MNES.

Table 9: Site-based attributes assessment criteria

Attribute	Description	Assessment plot	Maximum score
Large trees	Number of large trees per hectare, as determined by existing BioCondition benchmarks for the associated RE.	100 m x 50 m	15
Tree canopy height	Median canopy height in metres of the ecologically dominant layer.	100 m x 50 m	5
Recruitment (%)	The proportion of overstorey species present at a site that are regenerating (<5 cm diameter at breast height [DBH]).	100 m x 50 m	5
Tree canopy cover (%)	Vertical projection of the tree canopy crown cover along a transect.	100 m transect	5
Shrub layer cover (%)	Vertical projection of the shrub layer cover of native shrubs.	100 m transect	5[†]
Coarse woody debris	The length of fallen woody logs and other coarse woody debris (>10 cm diameter and >0.5 m in length) per ha.	50 m x 20 m	5
Native plant species richness	Native plant species richness, comprising all life forms (i.e. trees, shrubs, grasses and forbs/other).	100 m x 50 m (trees) 50 m x 10 m (shrubs, grasses, forbs/other)	5 each (20 total)

Attribute	Description	Assessment plot	Maximum score
Non-native plant cover (%)	Percentage cover of non-native/weed plant species.	50 m x 10 m	10
Native perennial grass cover (%)	Average percentage cover of native perennial grass species.	Five 1 m x 1 m	5
Organic litter cover	The average percentage cover of organic material such as fallen leaves, twigs, and branches <10 cm diameter.	Five 1 m x 1 m	5
		BioCondition values (sub-total)	**80**
Quality and availability of food and foraging habitat	Consider these parameters relative to the essential habitat requirements for the species. These attributes should realistically reflect how much of a sustainable population of a species could be supported. This component was determined using the criteria detailed within DES *Guide to determining terrestrial habitat quality (version 1.2)* (Department of Environment and Heritage Protection, 2017).	100 m x 50 m	10
Quality and availability of shelter habitat	An assessment of a species' shelter requirements must take into account the relative abundance and condition of habitat features that could be used within a site. The site's shelter habitat is necessarily species specific and includes microhabitat requirements (e.g. hollows, logs, cracking clays, large trees, leaf litter, caves etc.). This component was determined using the criteria detailed within DES *Guide to determining terrestrial habitat quality (version 1.2)* (Department of Environment and Heritage Protection, 2017).	100 m x 50 m	10
		Total (maximum score)	**100**

† Denotes site-based attributes which does not apply for some REs where no shrub layer was identified by the associated benchmarks.

3.3.2 Site context

Landscape context assessments provide a quantitative assessment of the landscape values of the Impact or Offset Areas and are used to determine the site context component of the habitat quality score for the proposed action (Table 10). When calculating context, a 20 km buffer was utilised for each of the MNES species.

The site context component of the habitat quality score is weighted based on the species-specific habitat quality Indicator ratios provided in Table 10.

Table 10: Site context criteria and scoring

Criterion	Description	Maximum score
Size of patch	Size of the patch containing the habitat quality site and any directly connecting suitable habitat.	10
Connectedness	The proportion of the polygon boundary containing the habitat quality site which is connected to suitable habitat.	5
Context	The percentage of habitat within a suitable buffer around the site (species dependent).	5
Ecological corridors	The proximity of the site to the Department of Environment, Science and Innovation (DESI) mapped state, bioregional, regional or sub-regional corridors.	6
Role of the site location to species overall population in the State	The role of the site in relation to the overall population of the species in Queensland. This takes into account the species' use of the site, such as whether it is used for feeding and/or nesting and the effect that damage to or removal of the site would have to the likelihood of the species' overall population survival.	5
Threats to Species	Each individual threat was scored in accordance with Guide to determining terrestrial habitat quality *version* 1.2, where threats are categorised as: - Low level of threat = 1 - Moderate level of threat = 7 - High level of threat = 15 Each threat was then weighted based on relevant risk ratings and summed to provide an overall threat score out of 15.	15
Species mobility capacity	Consideration of the presence and severity of factors that would contribute to a reduction in the mobility of the species (e.g. barriers to movement). This component was determined using the criteria detailed within DES *Guide to determining terrestrial habitat quality (version 1.2)* (Department of Environment and Heritage Protection, 2017).	10
Total (max. score)		**56**

3.3.3 Species stocking rate

Species stocking rate is determined based on the outcomes of surveys using best-practice methods aimed at maximising detectability of the target species. This includes undertaking surveys during appropriate timing and applying suitable search effort, preferentially over numerous monitoring periods. Attributes for species stocking rate and their respective scoring are summarised in Table 11.

For species with sufficient population data, approximate density ranges can be calculated based on local survey records/sightings; or if comprehensive targeted surveys have been done within the impact and offset sites, ranges may be devised based on the survey results. For cryptic species and data-deficient species, calculating density may not be possible, meaning an increase in stocking rate is not feasible.

Table 11: Species stocking rate scoring

Attribute	Description	Maximum score
Presence detected on or adjacent to the site	Scored based on the target species being recorded within or adjacent (neighbouring property) to the site. The associated score is based on the following categories: • Yes – on site = 10 • Yes – adjacent to site = 5; and • No = 0.	10
Species usage on the site	Scored based on the target species habitat utilisation type within the site. The associated score is based on the following categories: • Dispersal = 5 • Foraging = 10; and • Breeding = 15.	15
Approximate density (per ha)	Estimated density of the target species based on local survey records and available literature. Due to the limited available data for the Impact Area and surrounding landscape, the approximate densities for each species were categorised into four broad categories: • Absent = 0 • Low = 10 • Moderate = 20; and • High = 30. The density of each species was then scored based on survey effort, detectability and number of detections.	30
Role/importance of species population on site*	Score is based on the supplementary scoring matrix (refer to Table 12*). Overall score is determined based on the following categories: • 0 = 0 • 5 to 15 = 5 • 20 to 35 = 10; and • 40 to 45 = 15.	15
	Total (maximum score)	**70**

* Attribute calculated based on supplementary scoring matrix provided in Table 12.

Table 12: Supplementary scoring matrix for role of importance of species population

Attribute	Categories	Maximum score
Key source population for breeding	• Yes/Possibly = 10; and • No = 0.	10
Key source population for dispersal	• Yes/Possibly = 5; and • No = 0.	5
Necessary for maintaining genetic diversity	• Yes/Possibly = 15; and • No = 0.	15
Near the limit of the species range	• Yes = 15; and • No = 0.	15

3.4 Likelihood of occurrence

A likelihood of occurrence assessment evaluates the qualitative probability that a flora or fauna species, can physically occupy the Study Area during all or part (e.g. breeding season, migration) of its life cycle. The assessment evaluates:

- species-specific ecological and physiological requirements
- recorded species observations including during field surveys and existing records
- the resources and constraints present in the Study Area informed by the desktop assessment; and
- the resources and constraints present in the Study Area informed by the field surveys.

During the desktop assessment, the outcome of the likelihood of occurrence assessment is used to guide the field design and planning phase. Threatened species that are known, likely or possibly occurring in the Study Area were targeted during the field surveys (i.e. target species). Following the field surveys, the likelihood of occurrence assessment was re-evaluated using the field data to modulate the target species list prior to further assessment.

The likelihood of occurrence assessment criteria are detailed in Table 13 and the complete likelihood of occurrence assessment is included in Appendix B.

Table 13: Likelihood of threatened and migratory species to occur in the Study Area

Assessment Outcome	Criteria
Known to occur	The species or population has been observed within the Study Area.
Likely to occur	Suitable habitat for a species or population occurs within the Study Area and nearby records are present.
Possibly occurring	Suitable habitat for a species or population occurs within the Study Area but it is degraded or of limited extent, the species has never been recorded in the local area and/or habitat only supports a portion of the species' life cycle.
Unlikely to occur	A low to very low probability that a species or population uses/occurs within the Study Area due to the lack of potential habitat or the Study Area is outside the species known range.

4 Results

4.1 Flora

A desktop assessment was undertaken to determine the potential presence of flora species within the disturbance footprint and the overall Study Area. Record searches included ALA, Wildlife Online, and PMST. A likelihood of occurrence assessment was then undertaken to determine the likelihood of the species presence. Previous records produced by EMM surveys were included within this assessment.

The desktop assessment identified 22 threatened flora species potentially occurring within the 20 km buffer of the Study Area based on data from the ALA, PMST and WildNet records (ALA, 2025; DCCEEW, 2025i; DETSI, 2025c). The assessment concluded the only threatened flora species with historical records occurring within the disturbance footprint was the *Solanum elachophyllum*, with four historical records occurring within the Study Area (ALA, 2025). An additional 13 historical records occurred within the 20 km buffer area (PMST, Wildnet) (DCCEEW, 2025i; DETSI, 2025c). Further, a substantial population totalling more than 1,200 individuals of *S. elachophyllum* had also been recorded by EMM (EMM, 2020b) within the Study Area.

E2M recorded 112 species of flora through systematic and opportunistic surveying effort. This included:

- 88 native species; and
- 24 introduced species.

A detailed list of species recorded is provided in Appendix C.

4.1.1 Ground-truthed vegetation communities

A total of seven REs were ground-truthed across the Study Area, including 203.11 ha of remnant vegetation and 83.77 ha of high value regrowth vegetation. A further 6,597.09 ha of the Study Area was mapped as non-remnant, consisting of cleared pasture, young regrowth and scattered mature trees. These non-remnant areas had been subject to modification, historical clearing processes and introduction of exotic species. The remaining 23.52 ha within the Study Area consisted of farm dams and wetlands.

State mapped REs within the Study Area include only small patches of heterogenous remnant and regrowth RE 11.3.2, 11.3.25 and 11.3.1 along the central portion of Taurus Creek (DNRMMRRD, 2025d). Ground-truthed vegetation suggests that vegetation composition throughout the Study Area is more complex and contains an additional six REs. Additionally, RE 11.3.25 was not ground-truthed during field surveys. Heterogenous polygons originally mapped by EMM (EMM, 2020b) were delineated into homogenous polygons by using quaternary and tertiary ground truthed RE surveys (Neldner et al., 2025).

Vegetation in the Disturbance Footprint mainly comprise of non-remnant areas. Small areas of remnant RE 11.3.6 and 11.3.1 and high value regrowth RE 11.3.1 and 11.9.5 are located in the central and southern extents of the Disturbance Footprint. Large well-connected areas of remnant *Eucalyptus* sp. woodland (RE 11.3.2, 11.3.3 and 11.3.27) and remnant brigalow woodland (RE 11.3.1) are predominately confined to Taurus Creek and Two Mile Gully and are outside of the Disturbance Footprint, as depicted in Figure 8.

The ground-truthed extent of vegetation communities within the Study Area and Disturbance Footprint are summarised within Table 14 and depicted within Figure 8, with further detailed descriptions provided in Appendix F.

Table 14: Ground-truthed regional ecosystems within the Study Area and Disturbance Footprint

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.3.1	E	E	25a	**Description** Remnant and high value regrowth areas consisted of open forest to woodland dominated by *Acacia harpophylla* on Cainozoic alluvial clays forming plains and low undulating plains, with associated *Eucalyptus coolabah* and *Lysiphyllum carronii*. The sub-canopy consists primarily of *L. carronii* and *Terminalia oblongata*, with scattered occurrences of *A. excelsa*, *Erythroxylum australe* and *Brachychiton rupestris*. The shrub layer contained juvenile sub-canopy species as well as *Citrus glauca* and *Notelaea macrocarpa*. The ground layer was generally dense (50-90% cover) consisting of a mixture of native and exotic grasses and forbs, including *Dichanthium sericeum, Aristida calycina, Cenchrus ciliaris*, Megathyrsus maximus*, Atriplex muelleri* and *Enchylaena tomentosa*. Some remnant areas have been subject to historical disturbance (i.e. clearing/thinning) which has altered the species composition of these areas. However, they still meet the height and cover requirements of the associated remnant RE, though provide fauna habitat resources more closely aligned with areas of high-value regrowth (refer to Section 4.2.2). **Distribution** Areas of this RE are confined to the central and southern portions of the Study Area, restricted to Taurus Creek, Two Mile Gully, Deep Creek and associated tributaries.	Remnant	99.73	1.21
					High value regrowth	40.99	18.35

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.3.2	OC	OC	17a	**Description** Remnant areas consisted of *Eucalyptus populnea* dominated low open woodland on alluvial plains. The subcanopy layer consisted of *Acacia salicina*, and *Terminalia oblongata*. The shrub layer included *Lysiphyllum hookeri, Cassia brewsteri, Capparis lasiantha, Carissa ovata, Acacia excelsa, Citrus glauca, Owenia acidula,* and *Acacia saligna.* The ground layer was generally very dense (86-95% cover) consisting of a mixture of native and exotic grasses and forbs, including *Dichanthium sericeum, Chloris divaricata, Bothriochloa ewartiana, Bothriochloa pertusa*, Enneapogon polyphyllus, Enteropogon ramosus, Aristida ramosa, Themeda triandra, Cenchrus ciliaris*, Megathyrsus maximus*, Urochloa mosambicensis*, Parthenium hysterophorus*, Bryophyllum delagoense*, Harrisia cactus*, Opuntia tomentosa** and *Opuntia stricta**. **Distribution** Areas of this RE are confined to the southeastern portion of the Study Area, restricted to Taurus Creek, Two Mile Gully, Deep Creek and associated tributaries.	Remnant	11.07	0.0

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.3.3	OC	OC	16c	**Description** Remnant areas consisted of *Eucalyptus* coolabah open forest woodland on alluvial plains. The subcanopy layer consisted of *Lysiphyllum carronii, Alstonia constricta, Eucalyptus melanophloia, Brachychiton rupestris,* and *Erythroxylum australe*. The shrub layer included *Acacia harpophylla, Lysiphyllum carronii, Atalaya hemiglauca (Whitewood) and Erythroxylum australe*. The ground layer was generally dense (66-70%) and was dominated by mostly introduced species with occasional native species, including *Dichanthium sericeum, Megathyrsus maximus*, Bothriochloa pertusa*, Cenchrus ciliaris*, Cyperus sp., Malvastrum americanum*, Vittadinia triloba, Amyema preissii, Cryptostegia grandiflora*, Parthenium hysterophorus** and *Bryophyllum delagoense**. **Distribution** Areas of this RE are confined to the eastern portion of the Study Area, restricted to the upper streams of Taurus Creek.	Remnant	38.28	0.0

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.3.6	LC	OC	17b	**Description** Remnant areas consisted of *Eucalyptus melanophloia* dominant woodland on an alluvial plain. Subcanopy species consisted of *Lysiphyllum hookeri, Terminalia oblongata, Acacia harpophylla* and *Alectryon diversifolius*. Shrub species consisted of *Lysiphyllum hookeri, Terminalia oblongata, Carissa ovata, A. harpophylla, Alstonia constricta, Atalaya hemiglauca* and *A. salicina*. The ground layer was generally dense (56-90%) and consisted of a mixture of native and introduced species such as *Bothriochloa bladhii*, Chloris sp., Sporobolus caroli, Dichanthium sericeum, Chrysopogon fallax, Enteropogon acicularis, Cynodon dactylon*, Aristida calycina, Megathyrsus maximus*, Urochloa mosambicensis*, Cenchrus ciliaris** and *Enchylaena tomentosa*. Some remnant areas have been subject to historical disturbance (i.e. clearing/thinning) which has altered the species composition of these areas. However, they still meet the height and cover requirements of the associated remnant RE, though provide fauna habitat resources more closely aligned with areas of high-value regrowth (refer to Section 4.2.2). **Distribution** Areas of this RE are confined to the central and southern portions of the Study Area, restricted to Taurus Creek, Two Mile Gully, Deep Creek and associated tributaries.	Remnant	45.32	2.72

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.3.27	LC	OC	34d	**Description** Remnant areas of this RE consisted of *Eucalyptus camaldulensis* open forest fringing watercourses. The subcanopy consisted of *Acacia harpophylla, Eremophila mitchellii* (False sandalwood), *Atalaya hemiglauca, Grevillea parvifolia, Lysiphyllum carronii, Owenia acidula* and *Terminalia oblongata*. Groundcover species consisted of a mixture of native and introduced species such as *Bothriochloa ewartiana, Enchylaena tomentosa, Megathyrsus maximus*, Cenchrus ciliaris** and varied throughout the assessment units in density (6-75%). **Distribution** Remnant areas of this RE are confined to the eastern portion of the Study Area, restricted to Taurus Creek and Two Mile Gully.	Remnant	8.71	0.0

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.4.9	E	E	25a	**Description** High value regrowth areas of this RE consisted of *Acacia harpophylla* open low woodland. The subcanopy layer consisted of *A. salicina, Atalaya hemiglauca* and *Lysiphyllum hookeri*. The shrub layer included *Carissa ovata, Lysiphyllum carronii, Acacia harpophylla, Citrus glauca, Terminalia oblongata* and *A. salicina*. The ground layer was generally dense (76-80%) and was dominated by mostly introduced species with occasional native species, including *Cenchrus ciliaris*, Megathyrsus maximus*, Harrisia martini*, Aristida ramosa, Sporobolus caroli, Panicum decompositum, S. actinocladus, Trianthema triquetra, Salsola australis, Enchylaena tomentosa, Solanum elachophyllum, Enneapogon sp.* and *Sida sp.* **Distribution** High value regrowth areas of this RE are confined to the southeastern portions of the Study Area.	High value regrowth	32.16	17.66

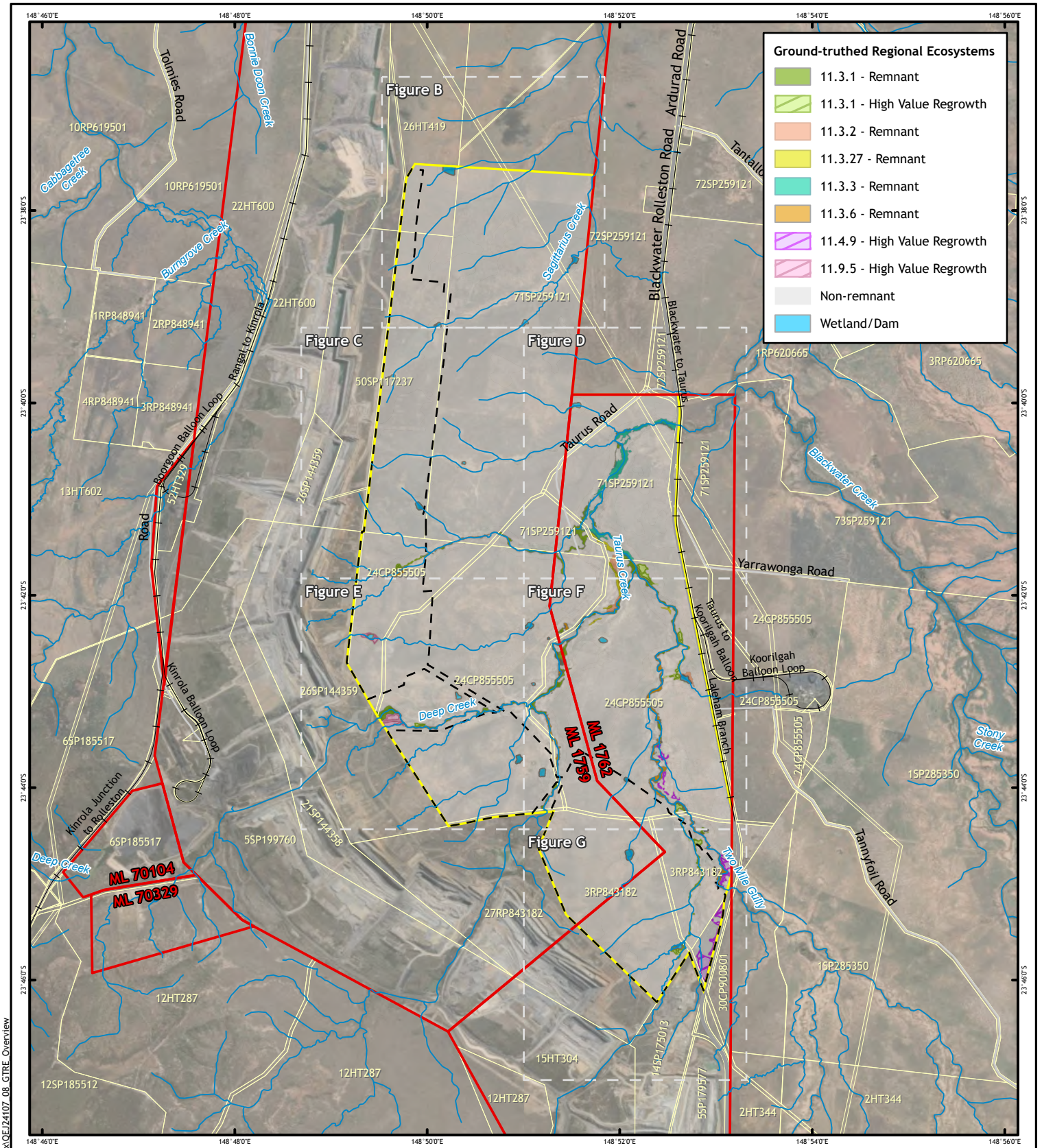
RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
11.9.5	E	E	25a	**Description** High value regrowth areas consisted of *Acacia harpophylla* open woodland on gently undulating plains. The subcanopy layer included *Lysiphyllum carronii, Atalaya hemiglauca and Terminalia oblongata. Erythroxylum australe, Citrus glauca, Eremophila mitchellii, Santalum lanceolatum, Grewia latifolia, Alstonia constricta, Jasminum didymum subsp. lineare, and Capparis* spp. comprised the majority of the shrub layer. The ground layer was generally very sparse (95%) and comprised both native and introduced species. Species included *Dactyloctenium radulans, Enneapogon sp., Sporobolus actinocladus, S. caroli, Enteropogon ramosus, Chloris divaricata, Aristida latifolia, A. ramosa, Malvastrum americanum*, Harrisia martinii*, Opuntia tomentosa*, Cenchrus ciliaris*, Bothriochloa pertusa** and *Portulaca oleracea**. **Distribution** Patches of high value regrowth RE 11.9.5 are scattered throughout the Study Area.	High value regrowth	10.62	3.77

RE	VM Act status[1]	Biodiversity status[1]	Broad vegetation group	RE Description	Condition type	Extent within the Study Area (ha)	Extent within the Disturbance Footprint (ha)
Non-remnant	N/A	N/A	N/A	**Description** Non-remnant areas in the Study Area comprised a mixture of cleared areas with improved pasture species, scattered young regrowth and mature trees. Isolated mature trees consisted of *Acacia harpophylla*, *Eucalyptus populnea* and *Lysiphyllum carronii*. Improved pasture species included the following *Cenchrus ciliaris*, Bothriochloa pertusa*, Urochloa mosambicensis*, Megathyrsus maximus*, Chloris gayana**. **Distribution** Non-remnant areas with improved pasture species and young woody regrowth are present throughout the Study Area and dominates most of the landscape outside of remnant and high value regrowth woodlands and open forests which are restricted to watercourses.	Non-remnant	6,597.09^	2,262.07^

[1] LC = Least concern, NC = No concern at present, Of concern = OC, Endangered = E

* - denotes non-native species

^ - excludes wetland and dam areas



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre
- Figure Extent

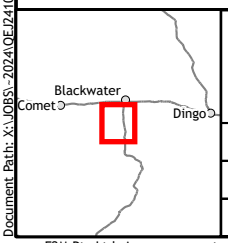
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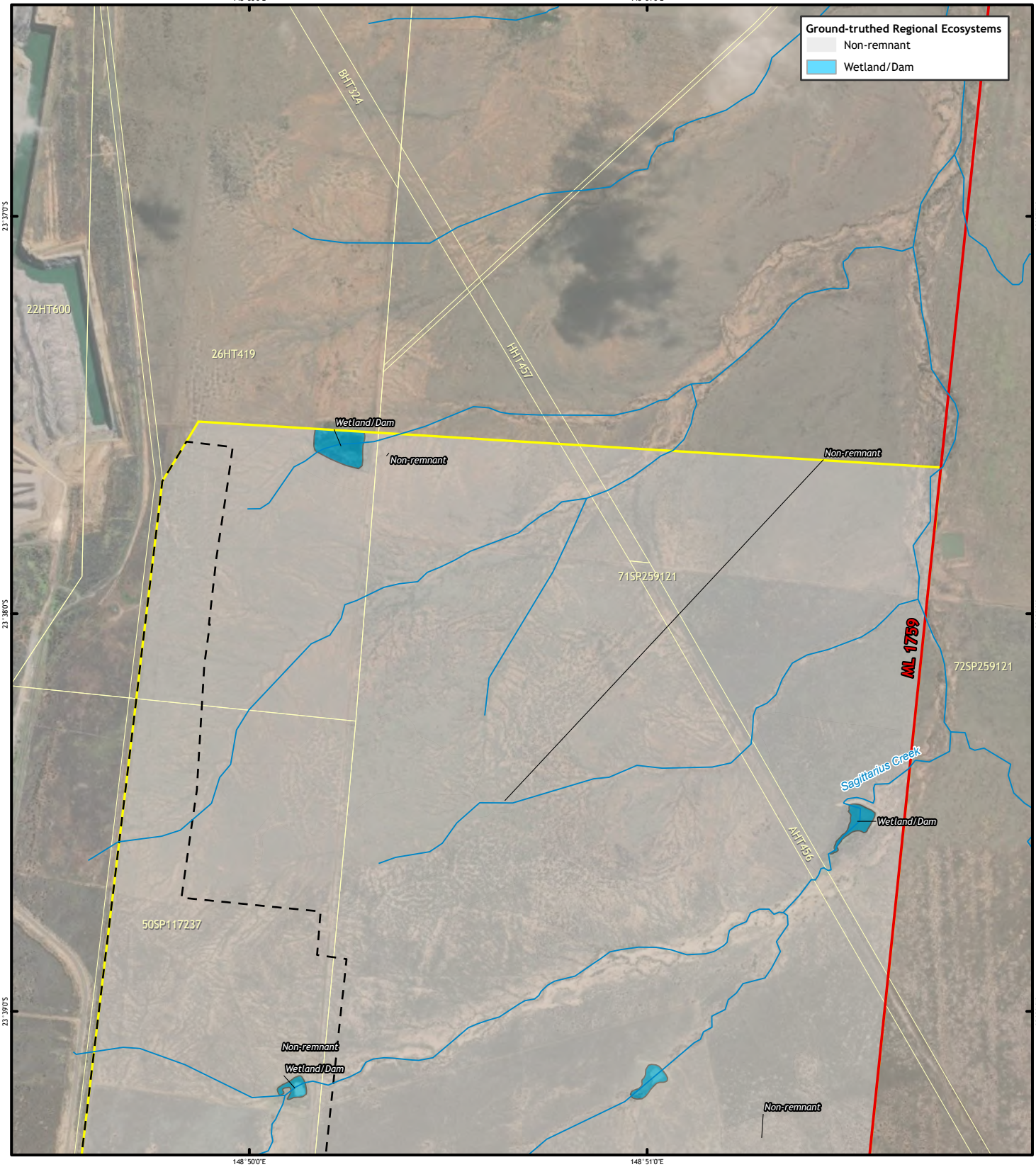
FIGURE 8A: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA - OVERVIEW

Blackwater North Ecological Assessment
Whitehaven Coal

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1 of 7	QEJ24107	1

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

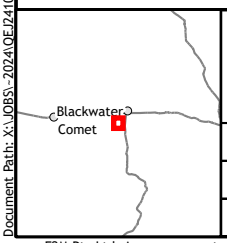
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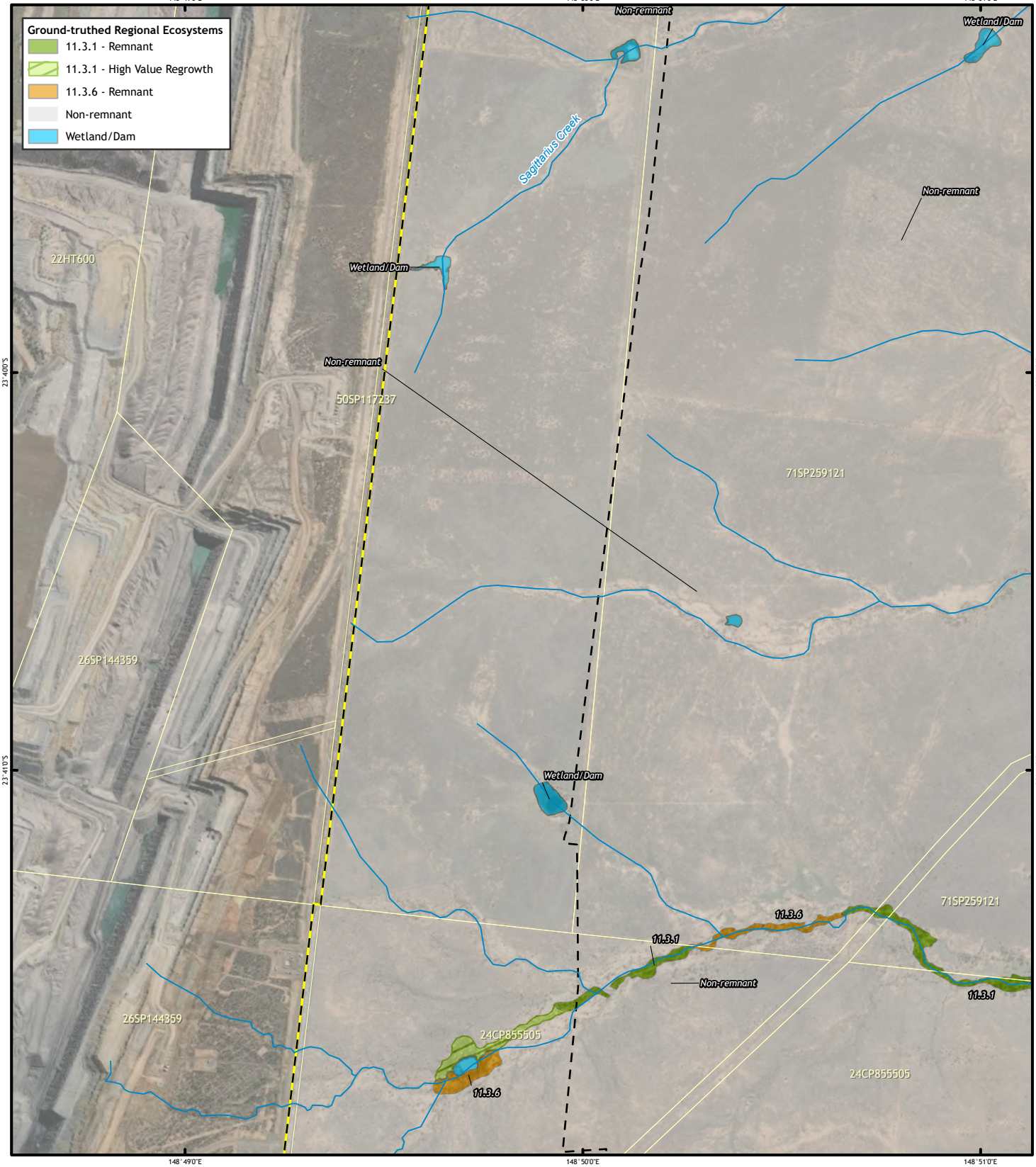
FIGURE 8B: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

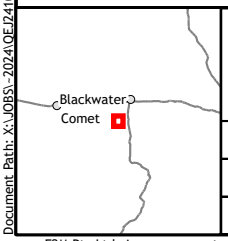
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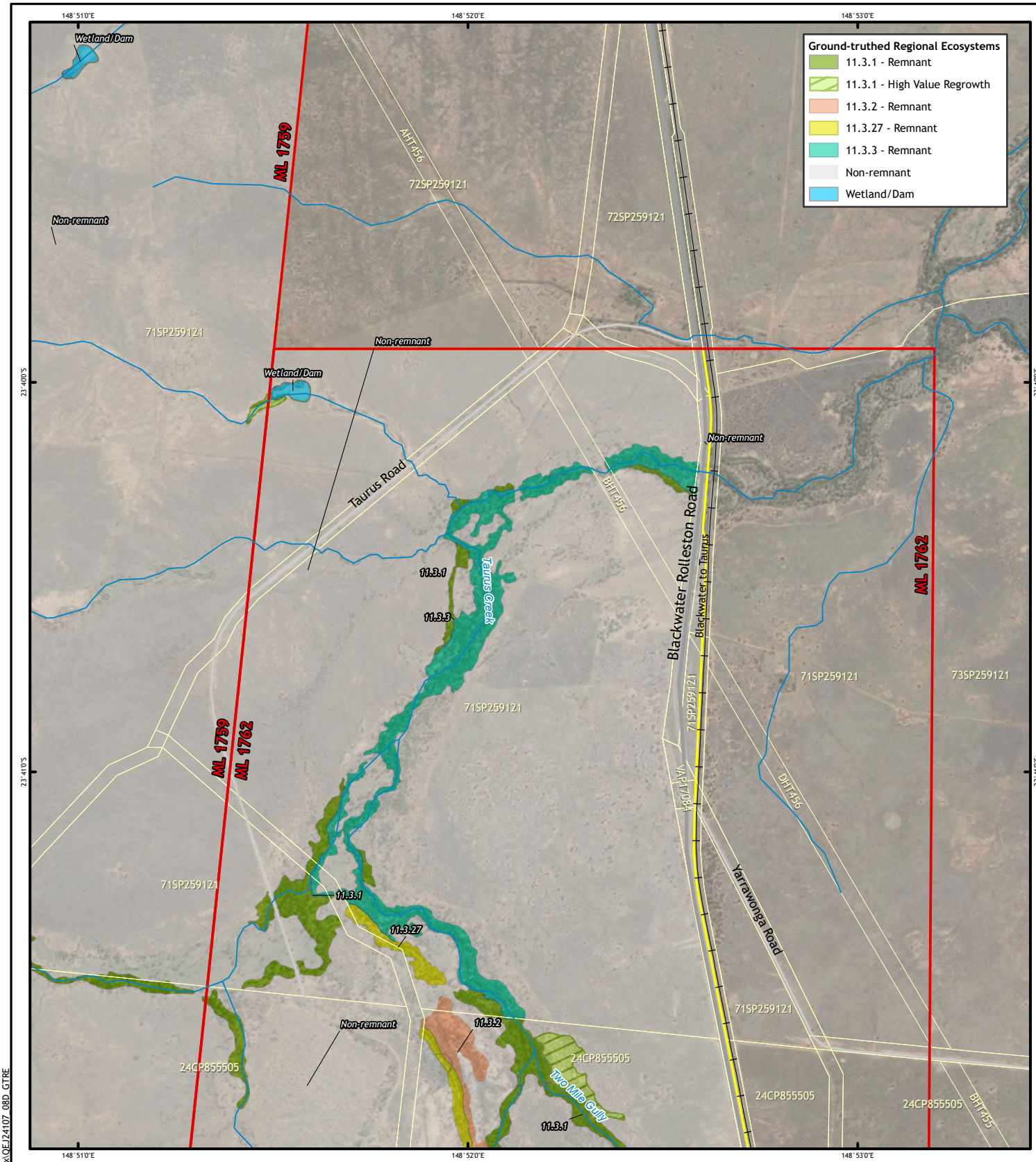
FIGURE 8C: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Blackwater Mining Lease
- Cadastre

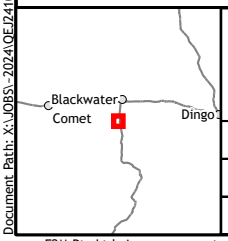
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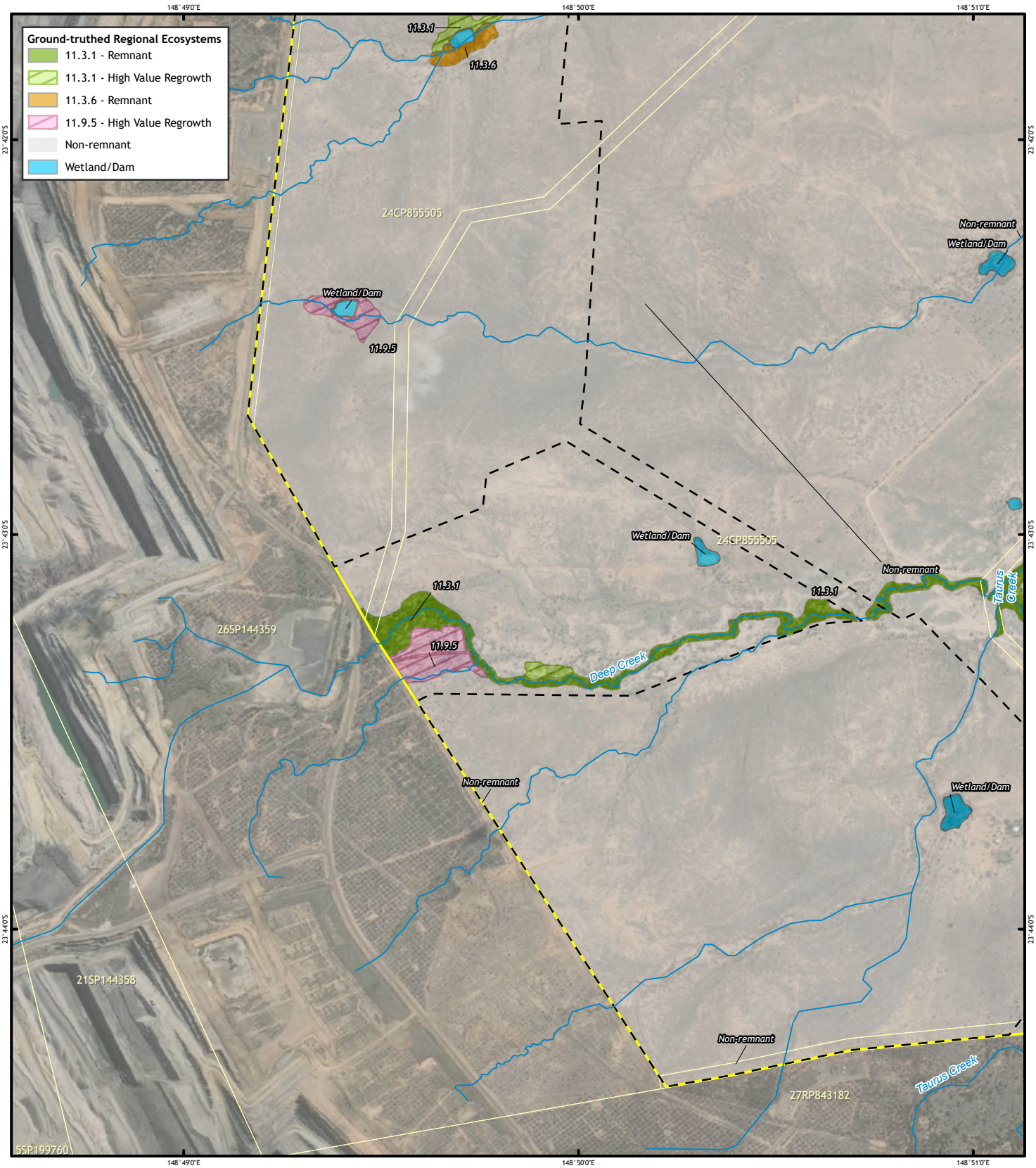
FIGURE 8D: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

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- Study Area
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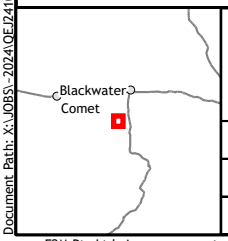
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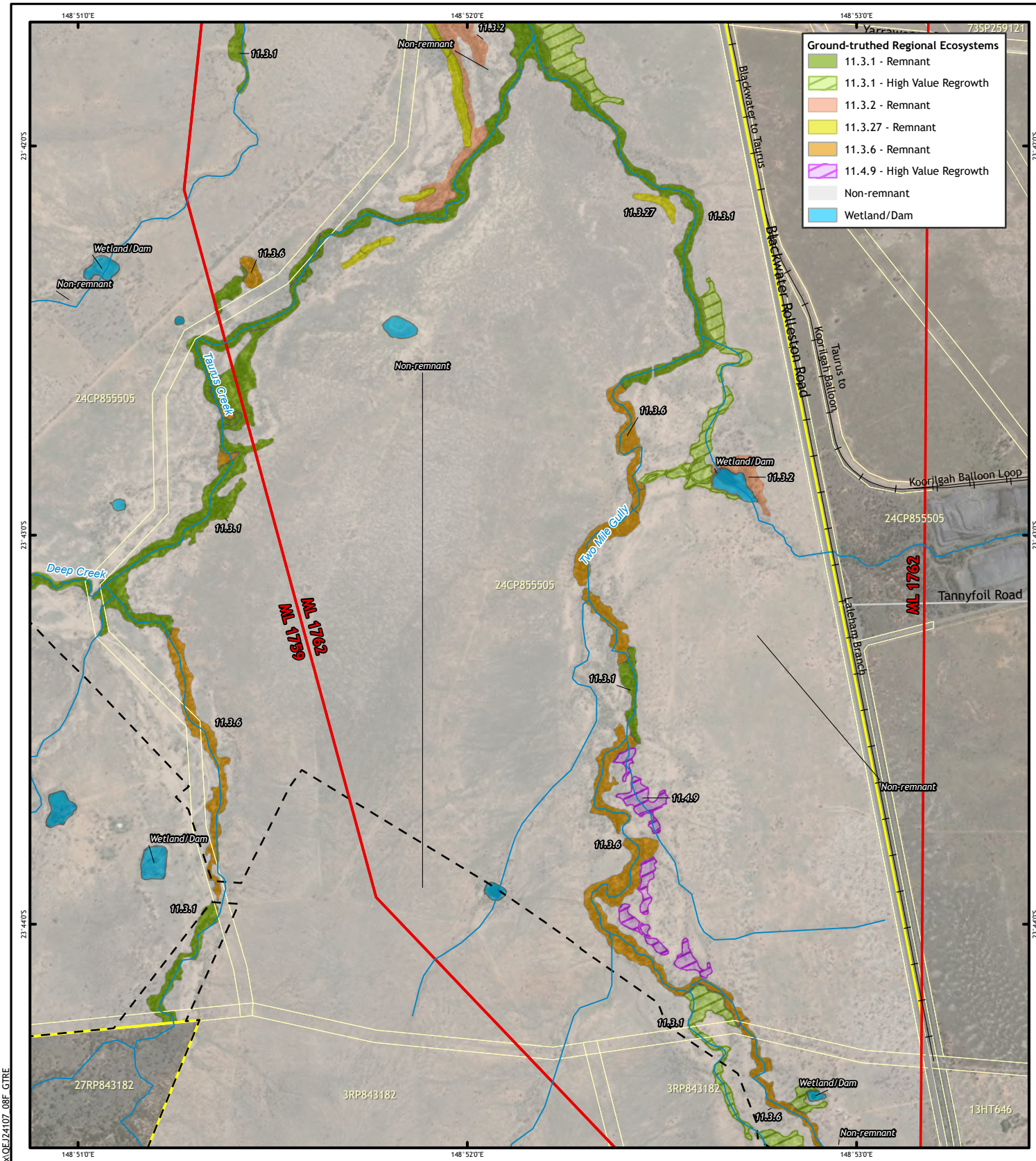
FIGURE 8E: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

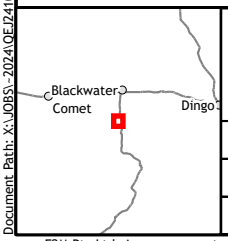
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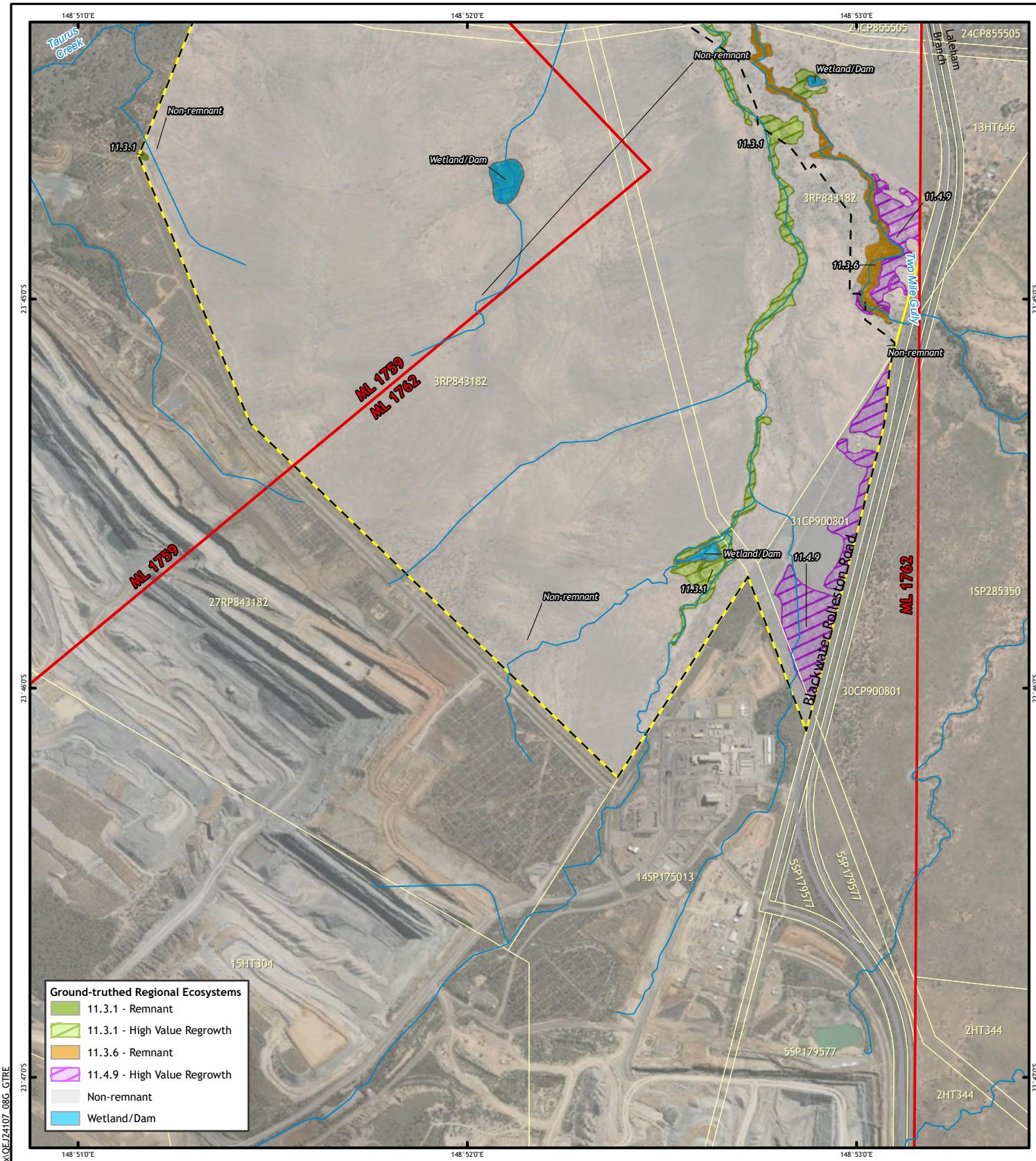
FIGURE 8F: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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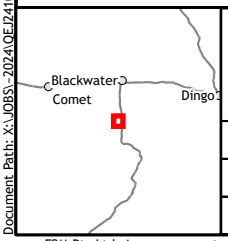
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FIGURE 8G: GROUND-TRUTHED VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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4.1.2 Threatened Ecological Communities

A desktop assessment was undertaken to identify the potential presence of TECs listed under the EPBC Act within the Study Area. This included a review of PMST, existing RE mapping, and soil/land information to determine where known TEC-aligned REs may occur.

The desktop assessment identified six TECs that were potentially occurring within the Study Area (Appendix A). This included:

- Brigalow (*Acacia harpohylla* dominant and co-dominant) (Brigalow TEC)
- Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions (Coolibah TEC)
- Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin (Natural grasslands TEC)
- Poplar box grassy woodland on alluvial plains (Poplar box TEC)
- Semi Evergreen Vine Thicket Threatened Ecological Community of the Brigalow Belt (North and South) and Nandewar Bioregions (SEVT TEC); and
- Weeping Myall Woodlands.

Mapped occurrences of analogous REs within the Study Area were further assessed during field surveys to determine whether they met the key criteria and condition thresholds in the listing advice. Field verification confirmed the presence of the Brigalow TEC within the Study Area, in association with both remnant and high value regrowth vegetation. The TEC was recorded within areas mapped as RE 11.3.1, 11.4.9 and 11.9.5 where *Acacia harpophylla* was dominant or co-dominant. This is consistent with the ecological character of Brigalow communities described within the EPBC Act conservation advice (DotE, 2013a). Table 15 provides a summary of the TECs potentially occurring within the Study Area and their field-verified presence outcomes.

Table 15: Summary of potentially occurring TECs occurring in the Study Area

TEC	EPBC Act status	Presence within the Study Area
Brigalow (*Acacia harpohylla* dominant and co-dominant) (Brigalow TEC)	Endangered	**Confirmed present** A total of 148.88 ha of Brigalow TEC was mapped within the Study Area in association with remnant and high value regrowth areas of RE 11.3.1 and high value regrowth RE 11.4.9 and 11.9.5 where *Acacia harpophylla* was dominant or codominant (DotE, 2013a) (Section 4.1.2.1). Brigalow TEC mapped in the Disturbance Footprint totalled 40.29 ha.
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions (Coolibah TEC)	Endangered	**Not present** Mapped areas of RE 11.3.3, which is analogous with the TEC, were identified within the Study Area, however, the Study Area is located outside of the Brigalow Belt southern bioregion in which this TEC is located (DSEWPaC, 2011a).
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin (Natural grasslands TEC)	Endangered	**Not present** No REs analogous with TEC were identified within the Study Area.

TEC	EPBC Act status	Presence within the Study Area
Poplar box grassy woodland on alluvial plains (Poplar box TEC)	Endangered	**Not present** Mapped areas of RE 11.3.2, which is analogous with the TEC, were identified within the Study Area, however, these patches did not meet the minimum condition thresholds (Section 4.1.2.2).
Semi Evergreen Vine Thicket Threatened Ecological Community of the Brigalow Belt (North and South) and Nandewar Bioregions (SEVT TEC)	Endangered	**Not present** No REs analogous with TEC were identified within the Study Area.
Weeping myall woodlands	Endangered	**Not present** While RE 11.3.2 was observed within the Study Area, the eponymous weeping myall (*Acacia pendula*) was not recorded (DEWHA, 2009).

4.1.2.1 Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC

The Brigalow TEC is listed as Endangered under the EPBC Act. The Brigalow TEC includes 16 REs within Queensland (DCCEEW, 2025j) and typically occurs on fertile soils associated with land zones 4 and 9. The TEC is characterised by the dominance or co-dominance of *A. harpophylla* (brigalow) in the canopy, often in association with species such as *Casuarina cristata*, *Eremophila mitchellii*, or *Geijera parviflora* (Wilga). The community can exist as open woodland to closed forest and may occur as remnant or regrowth vegetation. To be considered a TEC under the EPBC Act, a patch must meet minimum threshold conditions pertaining to patch size and weed encroachment as detailed in Section 3.2.2.2.1.

The initial desktop assessment determined that the Study Area includes REs 11.3.1, 11.4.9 and 11.9.5. The field assessment verified a total of 148.88 ha of Brigalow TEC identified within the Study Area, associated with high value regrowth and remnant areas of RE 11.3.1, 11.4.9 and 11.9.5 where *A. harpophylla* was dominant or codominant (Plate 1).

An additional 18 patches, totalling 93.33 ha, analogous to these REs were not considered to meet the requirements of Brigalow TEC due to small patch size (less than 0.5 ha), the ecologically dominant layer not being dominant or codominant by *A. harpophylla,* exotic perennial plants have more than 50% cover or vegetation that has been comprehensively cleared (not just thinned) within the last 15 years.

Brigalow TEC mapped in the Disturbance Footprint totalled 40.29 ha. Areas analogous with these three REs which were considered the TEC all exceeded the 0.5 ha patch size and total vegetation cover consisted of less than 50% perennial exotics. While some patches contained high exotic cover within the ground layer, including *Cenchrus ciliaris* (Buffel grass) and *Harrisia martinii* (Harrisia cactus), non-native encroachment was limited within the other structural layers of the community, keeping the overall perennial exotic cover below 50%. Brigalow TEC habitat within the Study Area is illustrated in Figure 9.

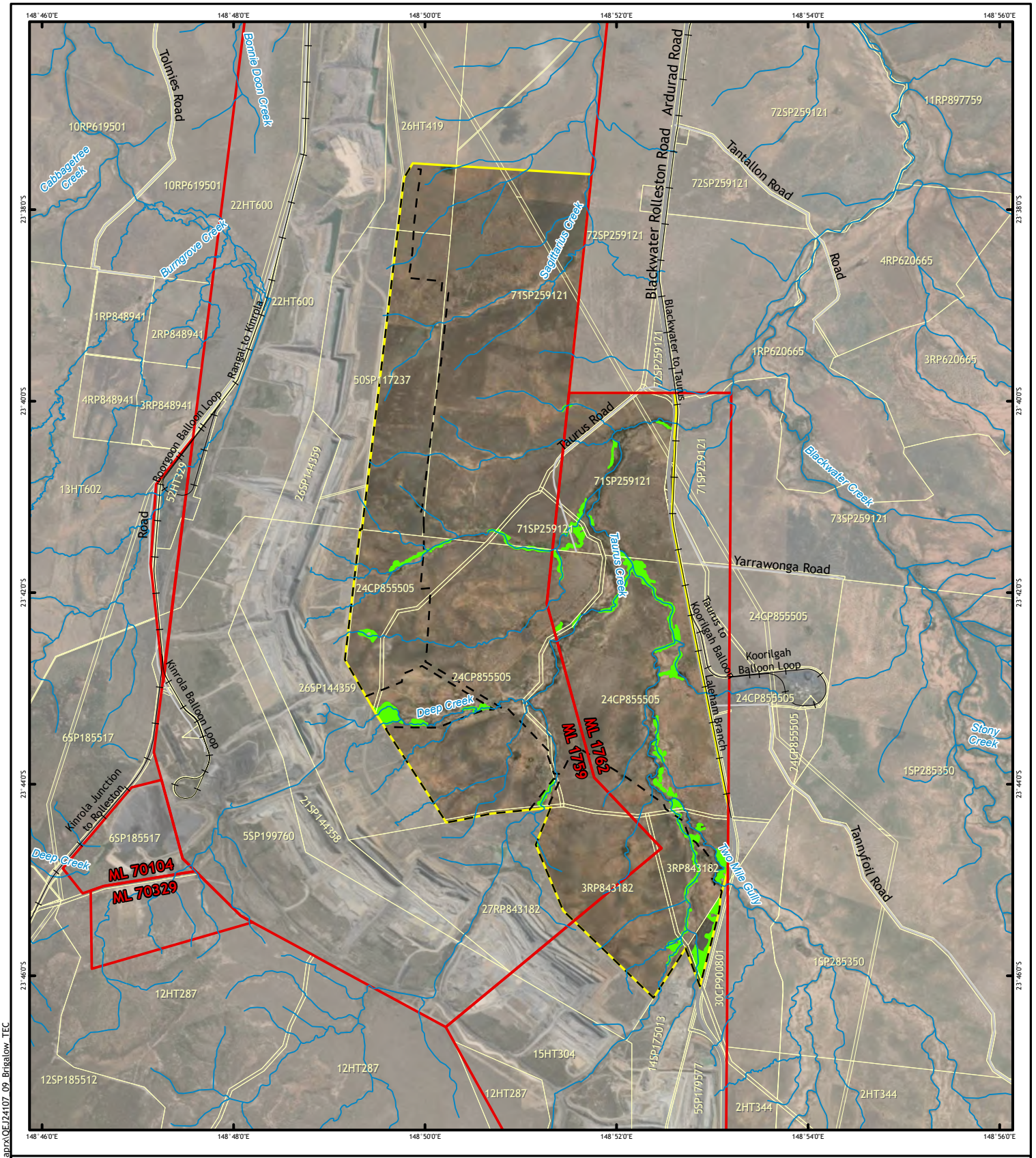


Plate 1: Remnant Brigalow TEC within the Study Area



Plate 2: Young regrowth areas not consistent with Brigalow TEC within the Study Area

Young regrowth (i.e. non-remnant areas) (Plate 2) associated with REs 11.3.1, 11.4.9 and 11.9.5 were dominated by *A. harpophylla* and commonly associated with *Lysiphyllum carronii* (Ebony tree) and *Atalaya hemiglauca* (Whitewood) with a median height of 3 m. However, these areas were deemed to not meet the structural elements broadly typical of the associated REs with clearing occurring within the last 15 years.



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Brigalow TEC
- Blackwater Mining Lease
- Cadastre

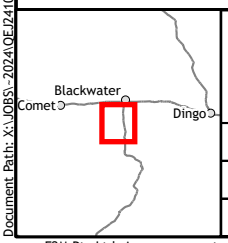
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Kilometres

Coordinate System: GDA2020



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FIGURE 9: BRIGALOW THREATENED ECOLOGICAL COMMUNITY HABITAT WITHIN THE STUDY AREA

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4.1.2.2 Poplar box grassy woodland on alluvial plains TEC

The Poplar box grassy woodland on alluvial plans is listed as a TEC under the EPBC Act and is primarily associated with *Eucalyptus populnea* (Poplar box) as the dominant or co-dominant species. The Poplar box TEC typically occurs on alluvial plains and fine-textured soils across Queensland and northern New South Wales.

The Poplar box TEC includes five REs within Queensland (DCCEEW, 2025j), with 11.3.2 the only analogous RE identified within the Study Area. To qualify as the Poplar box TEC, the remnant or high value regrowth vegetation community must meet minimum threshold conditions pertaining to patch size, crown cover, species composition, diversity, and weed encroachment as detailed in Section 3.2.2.2.2.

Two patches of RE 11.3.2 were assessed within the Study Area to determine whether they met the Poplar box TEC key diagnostic and condition thresholds requirements. While both patches met the key diagnostic requirements of the TEC, neither patch met the moderate or high condition thresholds to be considered the TEC. Both patches were less than 5 ha in size meaning they would need to meet the Class A1 condition to be considered the Poplar box TEC. However, assessment of perennial vegetation cover in the ground layer identified both patches contained over 50% non-native cover, dominated by Buffel grass (Plate 3), far in exceedance of the 10% requirement to be considered Class A1.



Plate 3: Non-native grasses dominating remnant area of RE 11.3.2

4.1.3 Threatened flora

The desktop assessment identified 22 threatened flora species potentially occurring within the 20 km buffer of the Study Area based on data from the ALA, PMST and WildNet records (ALA, 2025; DCCEEW, 2025i; DETSI, 2025c). The assessment concluded that only three species were considered known, likely or possible occurrences within the Study Area, including:

- *Bertya opponens* - Study Area is unlikely to contain suitable habitat but species has been previously recorded within close proximity to the Study Area
- *Solanum dissectum* - Study Area contains suitable habitat and the species has previously been recorded in close proximity to the Study Area; and
- *Solanum elachophyllum* - the species was previously recorded within the Study Area during EMM surveys including identification of approximately 1,200 stems[2].

[2] Fensham *et al*. (2019) found that *S. elachophyllum* have lateral underground stems that generate clonal shoots from rhizomes. As such, population estimates were calculated for stems instead of individuals.

Extensive field surveys targeting potential habitat for these three threatened flora species, re-confirmed presence of *S. elachophyllum* but failed to identify the presence of either *Bertya opponens* or *Solanum dissectum*. Therefore, given the neither species has been detected during extensive flora surveys and the lack of suitable habitat, specifically for *Bertya opponens*, neither species is considered likely to occur within the Study Area. Description of *S. elachophyllum* habitat and records within the Study Area is provided in the following section with likelihood of occurrence assessment for all other threatened flora species provided in Appendix B.

4.1.3.1 Solanum elachophyllum

Solanum elachophyllum, is listed as Endangered under the NC Act (not listed under the EPBC Act), and is found primarily on fertile cracking-clay soils in open forest of *E. thozetiana* (Lapunyah) *A. harpophylla*, with understorey of *Geijera parviflora*, *Casuarina cristata*, *Macropteranthes leichhardtii* (Bonewood), *E. cambageana*, or woodland of *E. crebra* and *E. tenuipes* (Bean, 2004). This species grows in vegetation communities in which fire is normally absent (Bean, 2004). The species is a shrub growing 0.1 m to 0.4 m height, on fertile cracking soils between Middlemount and Theodore.

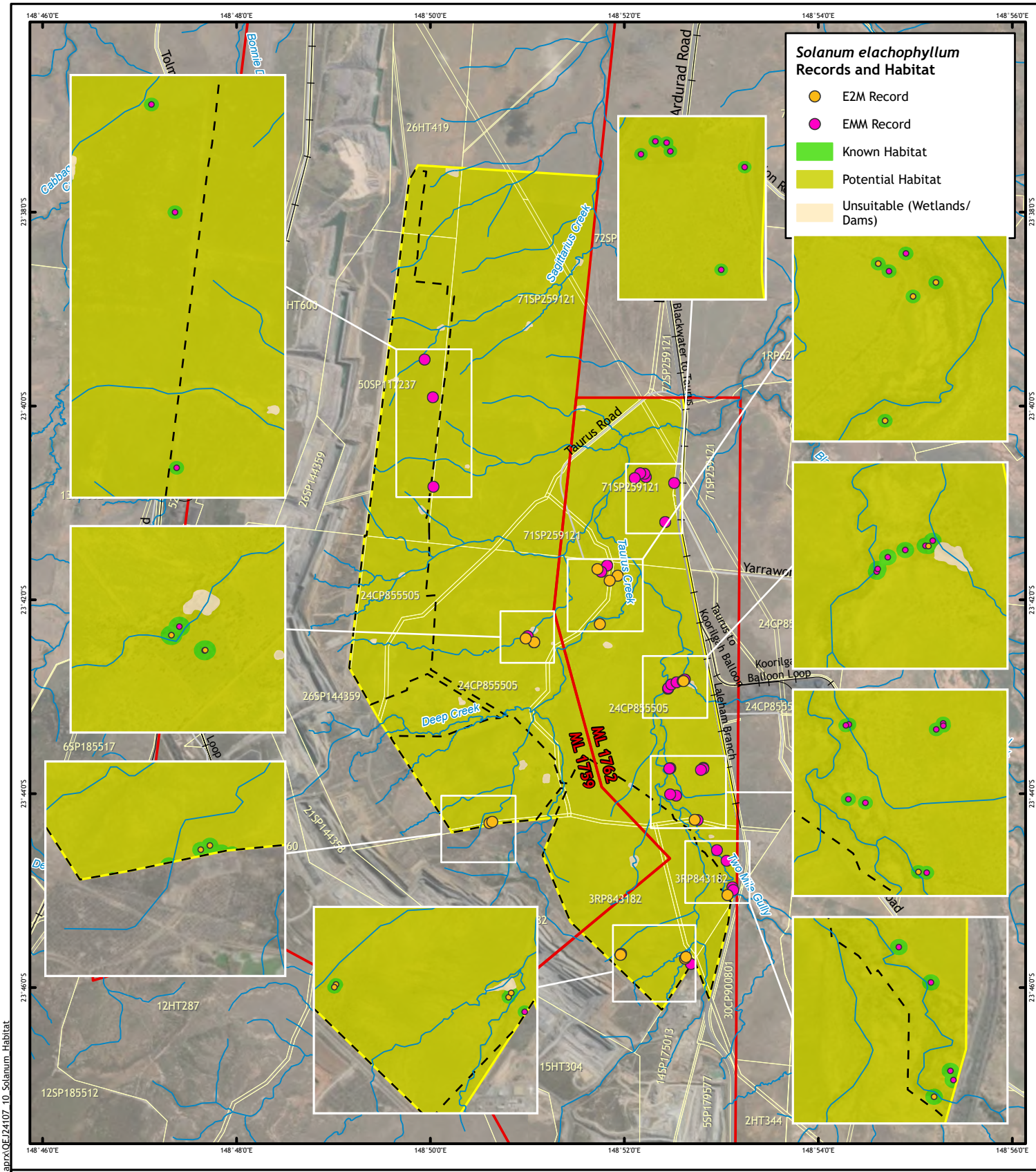
The species was primarily recorded on cracking clay soils in vegetation communities containing or previously dominated by *A. harpophylla*. Suitable habitat for *S. elachophyllum* within the Study Area, comprises:

- **Known habitat:** consists of suitable habitat within 50 m of known records of the species including REs 11.3.1, 11.3.2, 11.3.27, 11.3.6, 11.4.9, 11.9.5 and non-remnant vegetation.
- **Potential habitat:** consists of suitable habitat outside areas of known habitat including the REs listed above with the addition of RE 11.3.3.

Specifically, suitable habitat for *S. elachophyllum*, within the Study Area consists of remnant, high value regrowth and non-remnant vegetation associated with REs 11.3.1, 11.3.6, 11.4.9 and 11.9.5. In total 6,883.97 ha of habitat was identified within the Study Area, including 30.32 ha of known habitat and 6,853.65 ha of potential habitat. Approximately 2,305.60 ha of habitat was identified in the Disturbance Footprint, including 6.00 ha of known habitat and 2,299.78 ha of potential habitat. Threatened flora meanders conducted by both EMM and e2m within the Disturbance Footprint identified approximately 123 stems (Figure 10). S. *elachophyllum* observed within the Study Area is presented in Plate 4.



Plate 4: *Solanum elachophyllum* observed within the Study Area



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

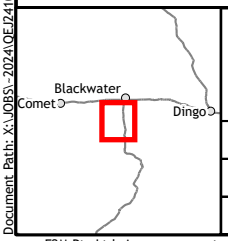
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Kilometres

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FIGURE 10: *SOLANUM ELACHOPHYLLUM* HABITAT AND RECORDS WITHIN THE STUDY AREA

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4.1.4 Pest flora

Eight weed species listed as Weeds of National Significance (WoNS) or restricted matter under the Biosecurity Act 2014 (Biosecurity Act) were recorded within the Study Area (Table 16). This correlates with EMM's findings (EMM, 2020b) where they observed pest flora to be widespread across the Study Area and included all species observed by E2M. *Opuntia* spp. (Prickly pears) were commonly observed within Brigalow communities, *Bryophyllum delagoense* (Mother of Millions) and *Parthenium hysterophorus* (Parthenium) amongst floodplains, and *Harrisia martinii* (Harrisia cactus) often in areas of regrowth vegetation and pasture (Plate 5). EMM observed *Cryptostegia grandiflora* (Rubber Vine) mostly within sections of stream banks, encroaching trees and forming thickets (EMM, 2020b), whilst during E2M surveys the species was commonly observed throughout Taurus Creek (Plate 6). Both EMM and E2M observed *Parkinsonia aculeata* (Parkinsonia weed) at some dam and wetland sites, although it was noted that it was relatively rare across the full Study Area (EMM, 2020b).



Plate 5 A dense patch of pest flora species *Bryophyllum delagoense* (Mother of millions), *Harrisia martinii* (Harrisia cactus), and *Parthenium hysterophorus*



Plate 6: Rubber vine *Cryptostegia grandiflora* encroachment

The extent categories used to describe flora species presence in Table 16, such as common, scattered and high density, reflect varying patterns of presence across the landscape. Scattered indicates irregular and isolated occurrences; common suggests regular but moderate presence; and high density refers to areas where the species occurs in large numbers or concentrations.

Table 16: Pest flora within the Study Area

Scientific name	Common name	WoNS	Biosecurity Act status	Extent within Study Area
Bryophyllum delagoense	Mother of millions	-	Category 3	Common throughout Study Area
Cryptostegia grandiflora	Rubber vine	WoNS	Category 3	Common throughout Taurus Creek
Harrisia martinii	Harrisia cactus	-	Category 3	Common throughout Study Area

Scientific name	Common name	WoNS	Biosecurity Act status	Extent within Study Area
Opuntia streptacantha	White-spined pear	WoNS	Category 3	Scattered throughout Study Area
Opuntia stricta	Common prickly pear	WoNS	Category 3	Scattered throughout Study Area
Opuntia tomentosa	Velvet tree pear	WoNS	Category 3	Scattered throughout Study Area
Parkinsonia aculeata	Parkinsonia	WoNS	Category 3	Scattered throughout Study Area
Parthenium hysterophorus	Parthenium	WoNS	Category 3	High density throughout the Study Area

4.1.5 Groundwater Dependent Ecosystems

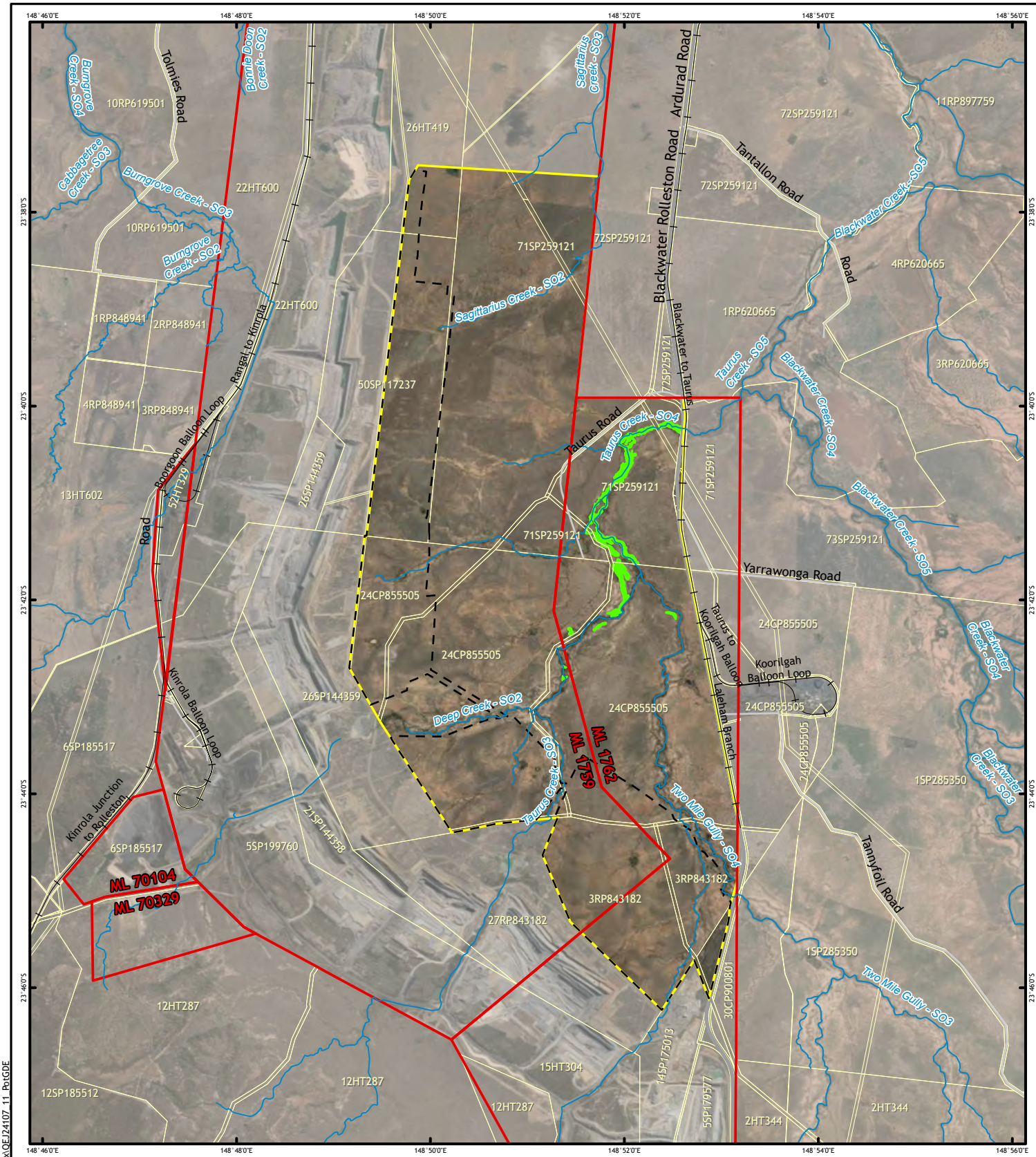
Groundwater Dependent Ecosystems (GDEs) are identified as 'water resources' under the Commonwealth *Water Act 2007* and require assessment under the EPBC Act in relation to coal seam gas and large coal mining developments. GDEs are ecosystems that require access to groundwater to meet all or some of their water requirements on a permanent or intermittent basis for maintenance of the ecosystem (Richardson et al., 2011). GDEs are classified by Doody et al. (2019) into three broad types, including:

- aquifer/cave ecosystems, occupied by stygofauna (subterranean GDEs);
- ecosystems dependant on the surface availability (discharge) of groundwater, which are characterised by permanent provision of surface water (aquatic GDEs); and
- ecosystems dependent on access to subsurface groundwater, which includes many riparian communities (terrestrial GDEs).

Assessment of subterranean and aquatic GDEs are not included within this report, and so only terrestrial GDEs will be discussed further. Desktop assessments identified a potential terrestrial GDEs in the central extent of the Study Area around Taurus Creek (BoM, 2026). A field assessment of potential GDEs determined that upstream and downstream extents of terrestrial GDEs within the Study Area have not been delineated, but likely correspond with RE 11.3.2, 11.3.25, 11.3.27, 11.3.3 and 11.3.6 on Taurus Creek (DPM, 2026).

Based on the species composition of these communities, areas of these REs potentially access groundwater during dry periods, given the presence of *E. coolabah and E. populnea*, which can be facultative groundwater dependent species (Eamus et al., 2006; Kath et al., 2014; Roberts & Marston, 2000).Remnant vegetation on Two Mile Gully and further upstream on Taurus Creek is unlikely to constitute terrestrial GDEs as they generally contained species that do not represent ground-water dependent vegetation such as *Acacia harpophylla* and *Terminalia oblongata*. These species typically have a horizontal root system and are considered unlikely to be dependent on access to groundwater for long-term survival (DES, 2017).

Areas of terrestrial GDEs identified in the Study Area are depicted in Figure 11 (DPM, 2026).



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Potential GDE
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

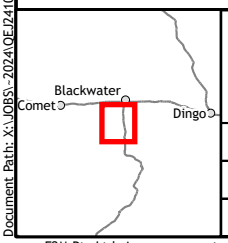
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Kilometres

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Potential GDE: © DPM Enviroscienses 2026

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FIGURE 11: POTENTIAL GROUNDWATER DEPENDENT ECOSYSTEMS

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4.2 Fauna

Fauna surveys were undertaken within the Study Area in accordance with the relevant guidelines outlined in Section 3.2.3.

4.2.1 Fauna diversity

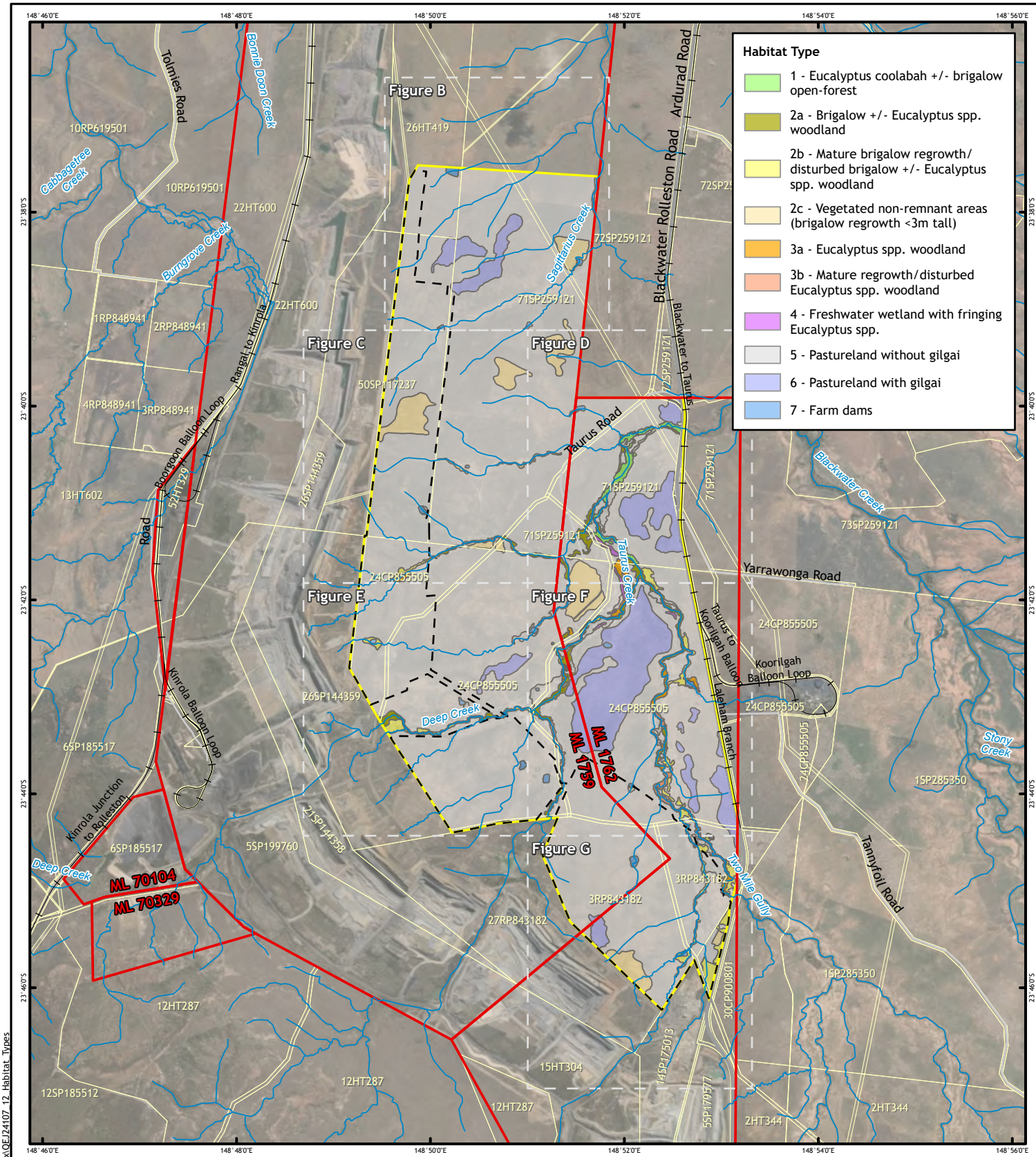
During the field surveys, E2M recorded 81 species of terrestrial fauna within the Study Area, including 74 native species and seven pest/introduced species. Birds accounted for 81.48% of the recorded fauna species, whilst mammals, reptiles and amphibians composed 8.64%, 2.47% and 7.41% of records, respectively. Refer to Appendix C for a full fauna species list.

4.2.2 Fauna habitat types

The Study Area can be delineated into ten broad habitat types based largely on vegetation type and structure (Table 17). The description of each fauna habitat type is presented from Section 4.2.2.1 to 4.2.2.10. Fauna habitat types within the Study Area are illustrated in Figure 12.

Table 17: Broad fauna habitat and their associated REs

Broad fauna habitat type	Broad fauna habitat type description	Associated RE	Location
Habitat 1	*Eucalyptus coolabah* +/ - brigalow open-forest	Remnant 11.3.3	Outside Disturbance Footprint
Habitat 2a	Brigalow +/- *Eucalyptus spp.* woodland	Remnant 11.3.1, 11.4.9, 11.9.5	Inside Disturbance Footprint
Habitat 2b	Mature brigalow regrowth / disturbed brigalow +/- *Eucalyptus* spp. woodland	High value regrowth/disturbed remnant 11.3.1, 11.4.9, 11.9.5	Inside Disturbance Footprint
Habitat 2c	Vegetated non-remnant areas (brigalow regrowth <3m tall)	Vegetated non-remnant areas associated with REs 11.3.1, 11.4.9, 11.9.5	Inside Disturbance Footprint
Habitat 3a	*Eucalyptus spp.* woodland	Remnant 11.3.2, 11.3.6	Inside Disturbance Footprint
Habitat 3b	High value regrowth / disturbed Eucalyptus spp. woodland	High value regrowth/disturbed remnant areas 11.3.2, 11.3.6	Inside Disturbance Footprint
Habitat 4	Freshwater wetland with fringing *Eucalyptus* spp.	Remnant 11.3.27	Outside Disturbance Footprint
Habitat 5	Pastureland without gilgai	N/A	Inside Disturbance Footprint
Habitat 6	Pastureland with gilgai	N/A	Inside Disturbance Footprint
Habitat 7	Dams	N/A	Inside Disturbance Footprint



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre
- Figure Extent

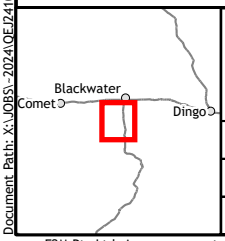
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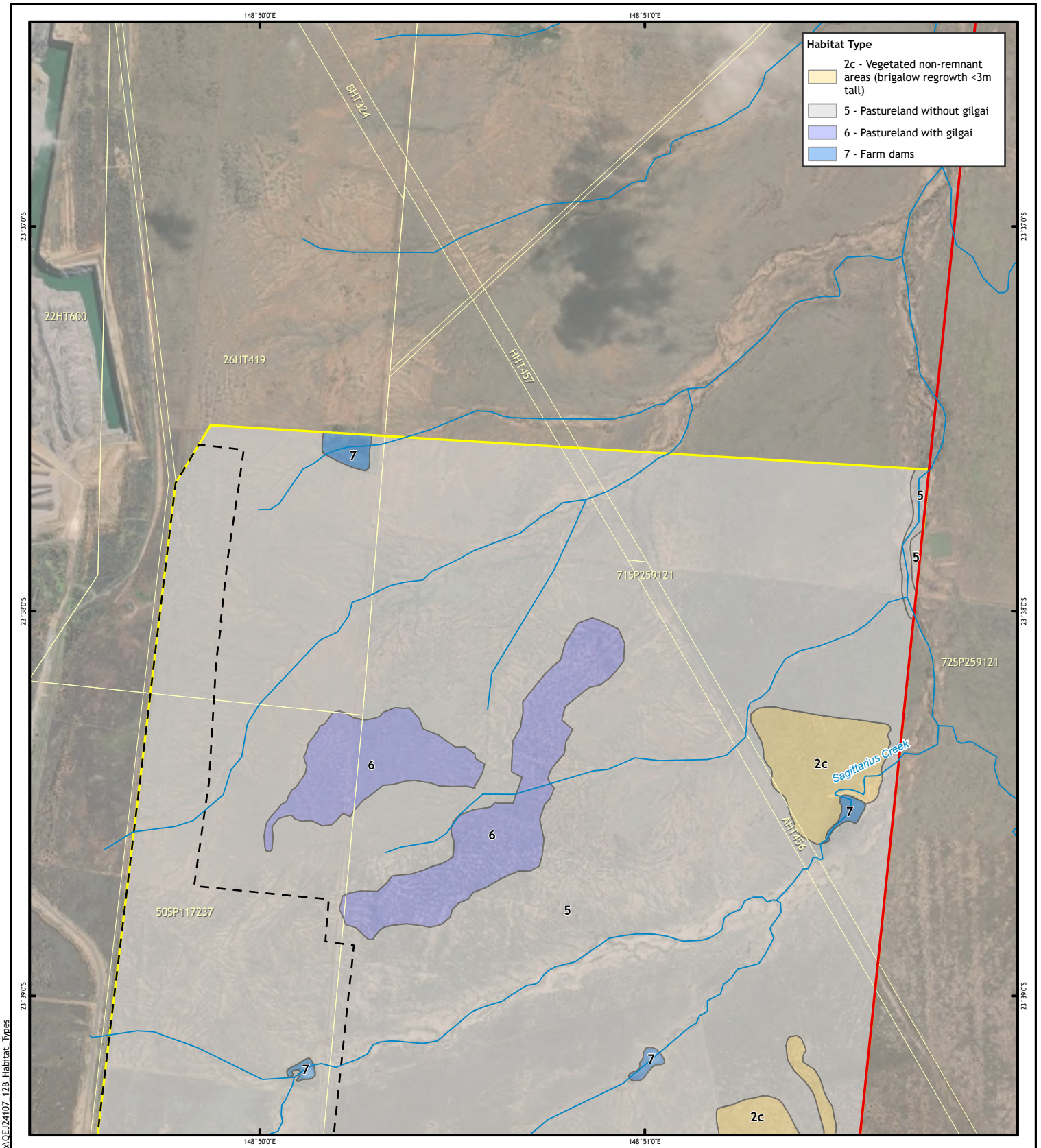
FIGURE 12A: FAUNA HABITAT TYPES IN THE STUDY AREA - OVERVIEW

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Whitehaven Coal

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

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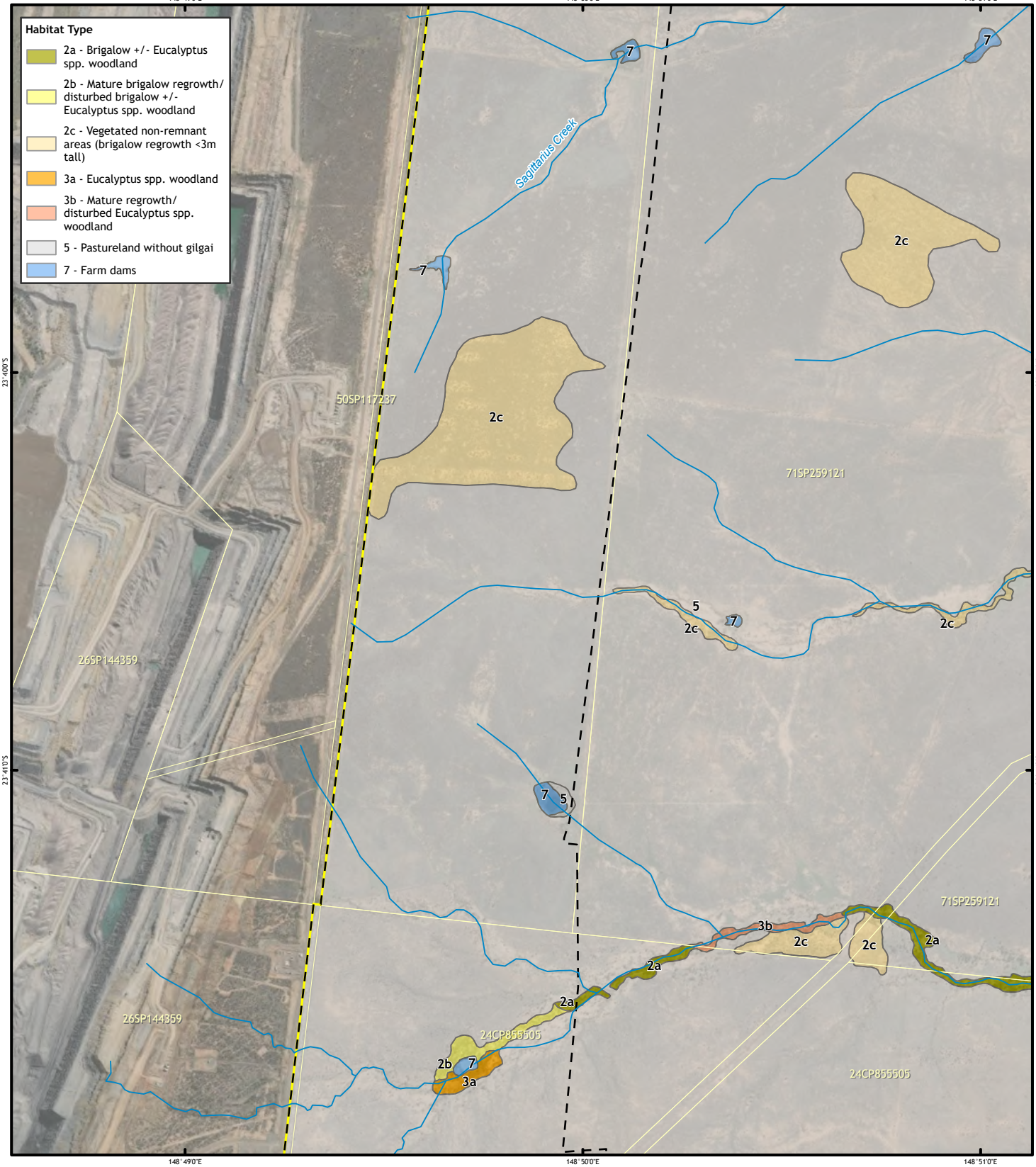
FIGURE 12B: FAUNA HABITAT TYPES IN THE STUDY AREA

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Whitehaven Coal

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

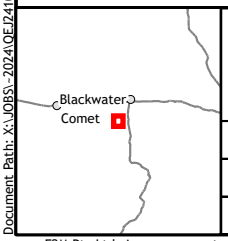
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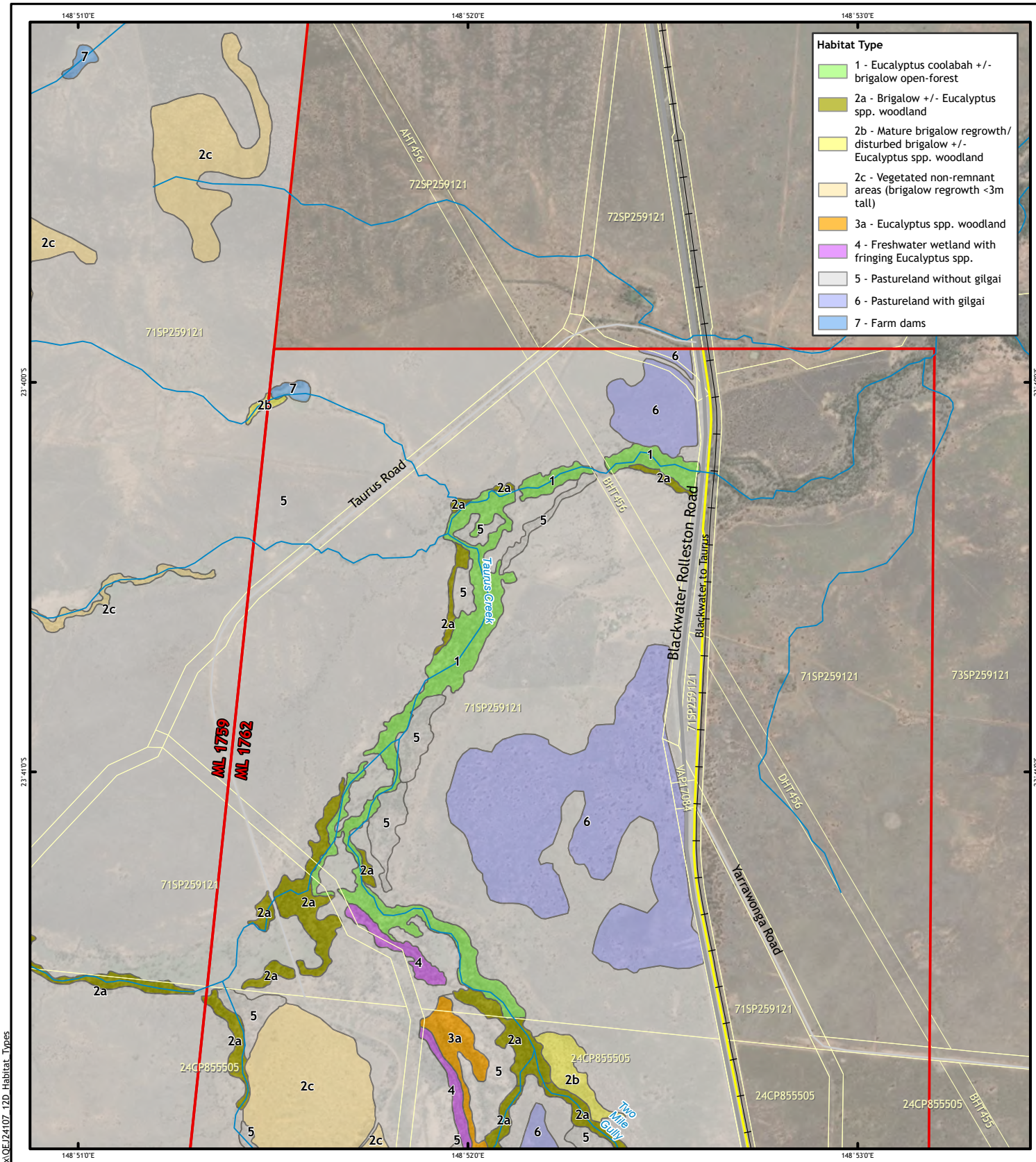
FIGURE 12C: FAUNA HABITAT TYPES IN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Blackwater Mining Lease
- Cadastre

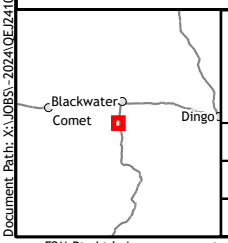
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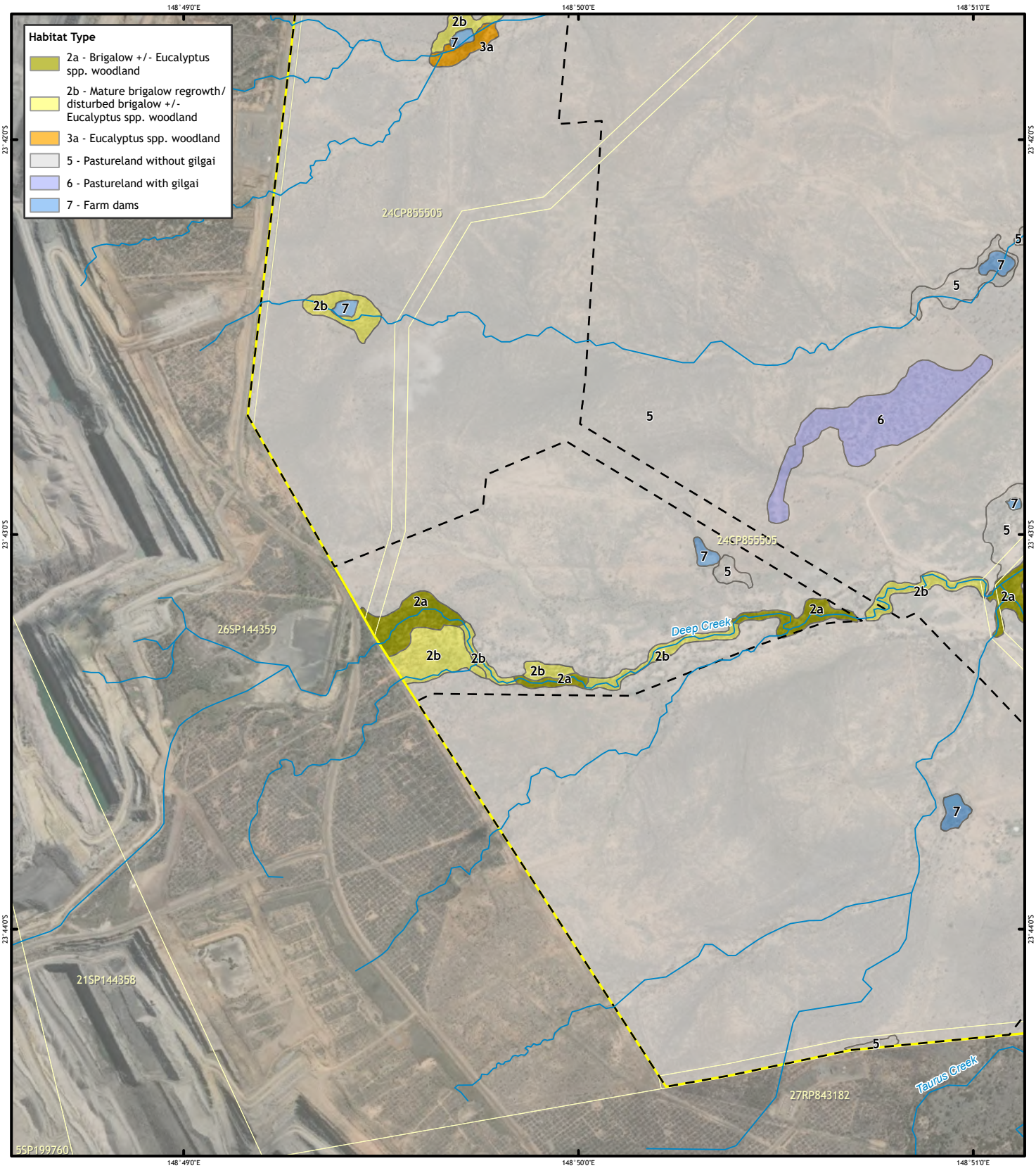
FIGURE 12D: FAUNA HABITAT TYPES IN THE STUDY AREA

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Whitehaven Coal

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

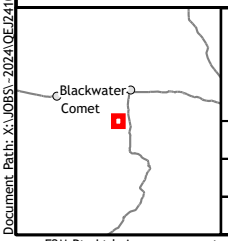
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Kilometres

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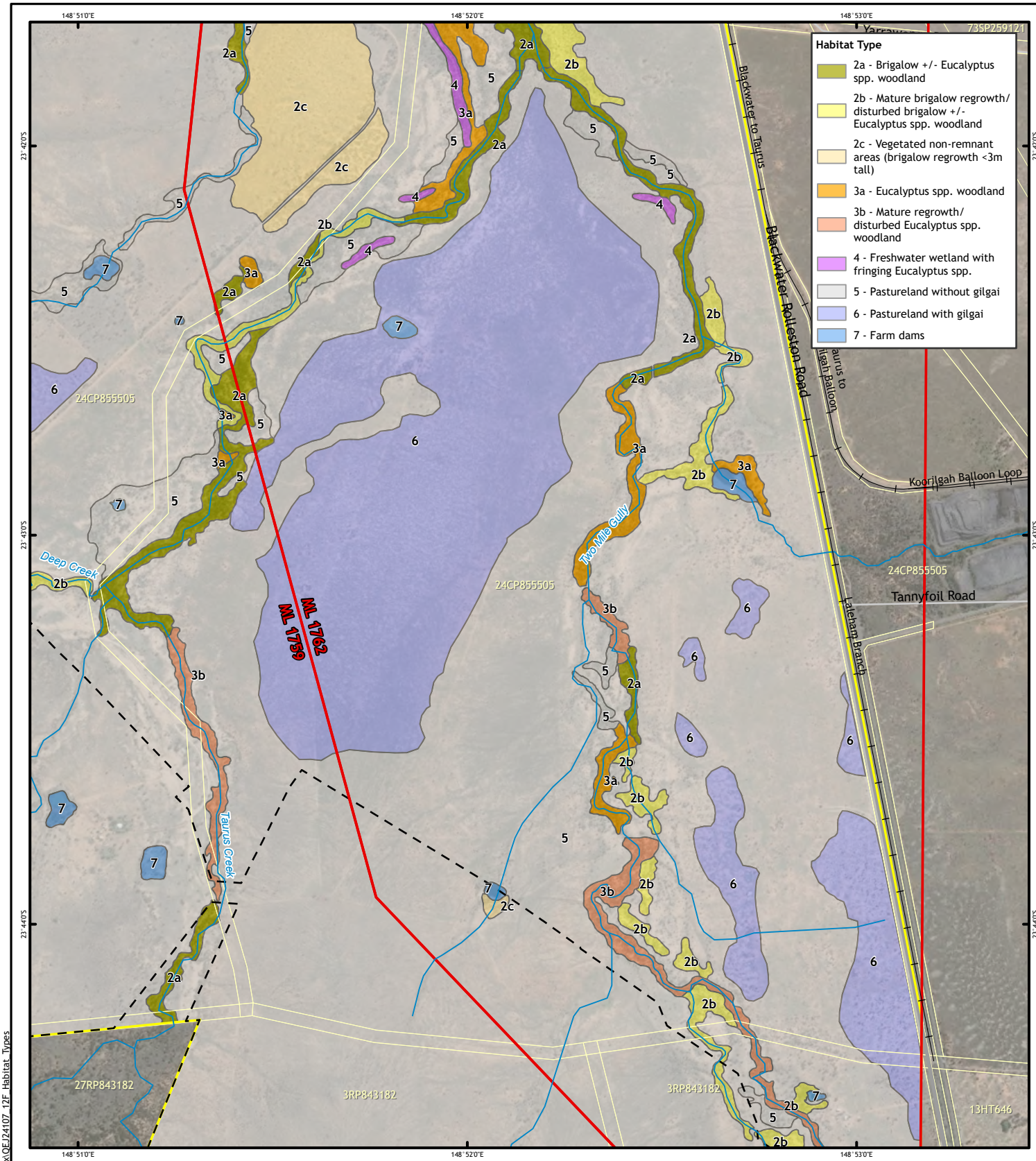
FIGURE 12E: FAUNA HABITAT TYPES IN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
5 of 7	QEJ24107	1

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- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

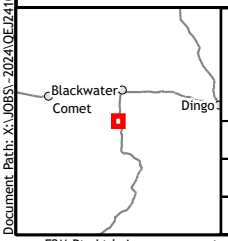
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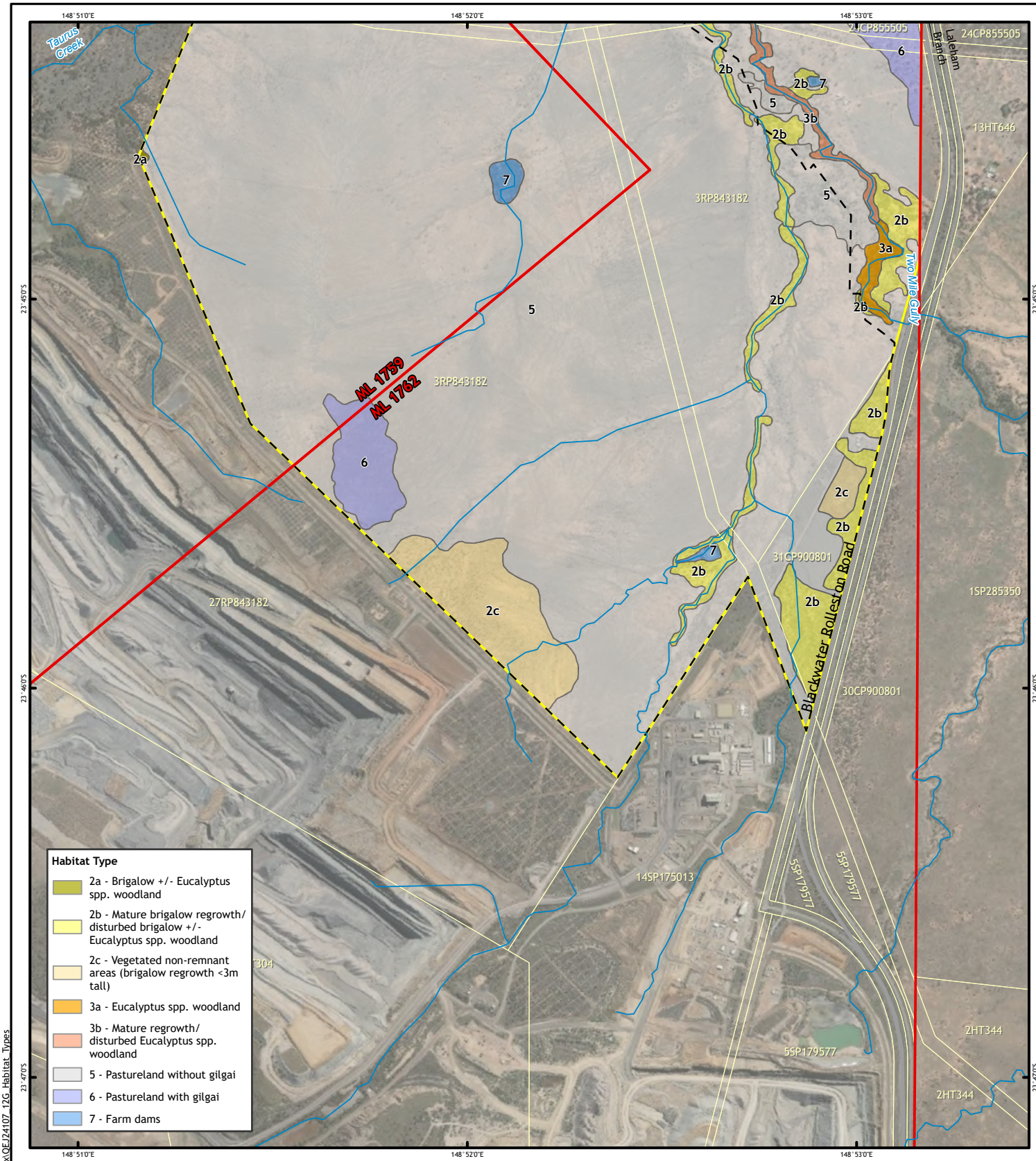
FIGURE 12F: FAUNA HABITAT TYPES IN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

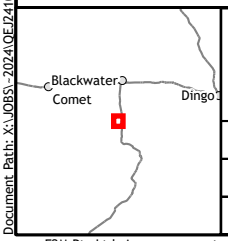
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FIGURE 12G: FAUNA HABITAT TYPES IN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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4.2.2.1 Habitat 1: *Eucalyptus coolabah* +/- brigalow open-forest

This habitat type occurs outside of the Disturbance Footprint. The habitat is characterised by an open forest dominated by *Eucalyptus coolabah*, with *Acacia harpophylla* forming a prominent sub-canopy. The canopy structure provides nesting and roosting opportunities for arboreal mammals and birds, though lacks high abundances to support hollow dependent fauna (e.g. Greater gliders). A dense shrub layer, primarily comprising *Lysiphyllum carronii* and *Erythroxylum australe,* offers additional shelter and nesting sites for ground-dwelling birds and small mammals.

The ground layer, composed of native grasses and forbs, supports seed-eating birds, small mammals and invertebrates. An abundance of fallen logs and leaf litter is present, providing shelter and foraging substrate for reptiles, amphibians and invertebrates, and nesting materials for small mammals and birds. There is evidence of canopy species recruitment, indicating habitat resilience and long-term suitability for fauna dependent on mature vegetation. Despite this, a high presence of non-native species, such as *Megathyrsus maximus* and *Parthenium hysterophorus*, suggests reduced habitat quality.

This habitat type is equivalent to RE 11.3.3 (*Eucalyptus coolabah* woodland on alluvial plains), and representative photographs of this habitat type is provided in Plate 7.



Plate 7: Habitat 1: *Eucalyptus coolabah* +/- brigalow open-forest

4.2.2.2 Habitat 2a: Brigalow +/- *Eucalyptus* spp. woodland

This habitat occurs within the Disturbance Footprint and is generally comprised of an open forest dominated by *A. harpophylla* and scattered trees of *Eucalyptus coolabah, Brachychiton rupestris,* and *L. carronii*. The shrub layer provides shelter, nesting sites, and foraging opportunities for small mammals, birds and reptiles, with species such as *L. carronii* and *Erythroxylum australe* known to support insect life and offer structural diversity. Grass species diversity is low across the sites for this habitat, with species such as *Dichanthium sericeum* and *Sporobolus* spp. common, although some sites completely lack the presence of native grass species. This low diversity may limit habitat quality across some areas.

The habitat is heavily invaded by non-native species such as *Parthenium hysterophorus* and *Bryophyllum delagoense*, which may suppress native flora and alter fauna dynamics. Coarse woody debris was observed in great accumulations across all sites and is likely to enhance shelter and foraging availability for fauna species.

REs within the Study Area associated with this habitat type include 11.3.1, 11.4.9, and 11.9.5 and is depicted in Plate 8.



Plate 8: Habitat 2a: Brigalow +/- *Eucalyptus* spp. woodland

4.2.2.3 Habitat 2b: Mature brigalow regrowth/disturbed brigalow +/- *Eucalyptus* spp. woodland

This habitat occurs within the Disturbance Footprint. It is a mix of structurally open forests and shrubland with a moderate canopy layer dominated by *A. harpophylla*. The canopy cover ranges from moderate to high, while shrub layers are consistently sparse. Tree diversity is high with species such as *Eucalyptus coolabah*, *Terminalia oblongata*, and *Geijera parviflora*. Native ground cover is low or absent on some sites, with exotic species such as *Megathyrsus maximus, Cenchrus ciliaris* and *Parthenium sp*. dominating the ground layer, which significantly reduces the suitability for ground-dwelling and herbivorous fauna.

Sites within this habitat that are located on watercourses generally appear to offer higher ecological value compared to those on alluvial plains or with exotic understoreys. These watercourse-associated sites are likely to support a more diverse tree community, maintain better canopy structure and exhibit lower exotic species cover and a slightly higher native ground layer diversity. While they still are impacted by degradation, their structural complexity and species richness make them more suitable for a broader range of native fauna, particularly arboreal and shrub-dwelling species. This suggests that riparian or watercourse-associated vegetation may serve as important ecological refuges in otherwise modified landscapes.

REs within the Study Area associated with this habitat type include high value regrowth/disturbed remnant 11.3.1, 11.4.9, and 11.9.5 and is depicted in Plate 9.



Plate 9: Habitat 2b: Mature brigalow regrowth/disturbed brigalow +/- *Eucalyptus* spp. woodland

4.2.2.4 Habitat 2c: Vegetated non-remnant areas (brigalow regrowth <3m tall)

This habitat occurs within the Disturbance Footprint. The habitat represents non-remnant regrowth of *A. harpophylla* (<3m tall), forming sparse low woodlands. Canopy structure is underdeveloped, reflecting early successional growth following historical clearing. *A. harpophylla* is consistently dominant, though associated species such as *T. oblongata*, *L. carronii* and *A. hemiglauca* may be present in low numbers. Emergent and subcanopy layers are largely absent and tree diversity is low to moderate.

Shrub layers are sparse and composed of regenerating woody species such as *Carissa ovata*, *Capparis lasiantha*, and *Dodonaea* spp., while ground cover is a mix of native and introduced grasses including *Aristida ramosa*, *Panicum decompositum*, and *Cenchrus ciliaris*, with exotic species cover often exceeding 50%. Forbs are present but include many disturbance-tolerant and non-native taxa such as *Parthenium hysterophorus*, *Melinis repens*, and *Salsola australis*. Litter cover is patchy, with some areas showing high bare ground percentages.

This early regrowth habitat is structurally simple, with limited vertical complexity, moderate canopy cover (~20-30%), and often a high dominance of pasture species. As a result, it provides low habitat suitability for arboreal or ground-dwelling fauna, although it may support some shrub and disturbance-adapted species.

REs within the Study Area associated with this habitat type include non-remnant brigalow regrowth (<3 m tall) associated with previously cleared REs 11.3.1, 11.4.9, 11.9.5 and is depicted in Plate 10.



Plate 10: Habitat 2c: Vegetated non-remnant areas (brigalow regrowth <3m tall)

4.2.2.5 Habitat 3a: *Eucalyptus* spp. woodland

This habitat occurs within the Disturbance Footprint and is an open woodland dominated by species such as *Eucalyptus populnea, Eucalyptus melanophloia*, *Eucalyptus camaldulensis, T. oblongata* and *A. harpophylla*. The canopy cover ranges from sparse to moderately dense and is rich in diversity in some sites (up to 8 tree species). Sites with mixed species composition and higher canopy cover is likely to prove more ecological niches and support higher biodiversity, particularly arboreal fauna, though lack of hollows reduces suitability. The shrub layer is generally sparse across most sites and includes species such as *Lysiphyllum hookeri*, *Carissa ovata*, and *Citrus glauca*. The ground layer is highly variable and often degraded. Native grasses such as *Dichanthium sericeum, Enteropogon ramosus,* and *Sporobolus caroli* were present in some site although exotic species such as *Cenchrus ciliaris*, *Megathyrsus maximus* and *Urochloa mosambicensis* dominated in most.

Sites with high exotic cover (up to 70%) and low native grass diversity offer poor habitat for groundforaging fauna and herbivores. Coarse woody debris is moderate to high across most sites and are likely to support a richer and more diverse fauna community, particularly those depended on ground-level habitat features such as reptiles, amphibians and small mammals.

REs within the Study Area associated with this habitat type include Remnant 11.3.2, 11.3.6 and is depicted in Plate 11.



Plate 11: Habitat 3a: *Eucalyptus* spp. woodland

4.2.2.6 Habitat 3b: High value regrowth/disturbed *Eucalyptus* spp. woodland

The habitat type occurs within the Disturbance Footprint. It is characterised as a disturbed open forest and woodland habitat, primarily dominated by *Eucalyptus populnea*, *Eucalyptus melanophloia* and associated species such as *T. oblongata*, *Lysiphyllum hookeri*, and *A. harpophylla*. The canopy is variable in density, ranging from sparse to moderately closed. The presence of mature Eucalypt species provides vertical structure and potential nesting and foraging opportunities for arboreal fauna, though generally lacks hollows.

The shrub layer is patchy and inconsistent, with one site supporting a well-developed shrub layer whilst others are nearly devoid of mid-strata vegetation. This likely affects habitat suitability for small mammals, reptiles and birds that rely on shrub cover for shelter and movement. The ground layer is mostly degraded with a high exotic species cover (50-70%) including species such as *Cenchrus ciliaris*, *Megathyrsus maximus*, *Parthenium* spp. and *Opuntia* spp. Native grass and forb diversity is limited. Coarse woody debris is moderate to high, offering important microhabitats for invertebrates, reptiles and small mammals.

REs within the Study Area associated with this habitat type include high value regrowth/disturbed remnant areas 11.3.2 and 11.3.6 and is depicted in Plate 12.



Plate 12: Habitat 3b: High value regrowth/disturbed *Eucalyptus* spp. woodland

4.2.2.7 Habitat 4: Freshwater wetland with fringing *Eucalyptus* spp.

The habitat type occurs outside the Disturbance Footprint. The habitat is characterised as a riparian open forest dominated by *Eucalyptus camaldulensis* (River red gum), occurring adjacent to a backwater wetland. It features diverse tree assemblage and moderate to high canopy, providing strong vertical structure and habitat for arboreal fauna such as birds and possums. The shrub layer is sparse (2.4%) with species such as *L. carronii* and *Acacia saligna*. This limited mid-stratum vegetation is likely to reduce shelter and foraging opportunities for small mammals and birds.

Amongst the ground layer, native grass is limited with only *Bothriochloa ewartiana* recorded and forbs demonstrate low diversity with just three species recorded. Exotic cover is high (70%) and is dominated by *Megathyrsus maximus* and *Cenchrus ciliaris*, likely suppressing native regeneration and reducing habitat quality. There is moderate coarse woody debris presence, contributing to ground-level habitat complexity and supporting reptiles, invertebrates and decomposers.

Presence of permanent to semi-permanent water in these areas likely provide foraging opportunities for wetlands bird species.

REs within this Study Area associated with this habitat type include Remnant 11.3.27 and is depicted in Plate 13.



Plate 13: Habitat 4: Freshwater wetland with fringing *Eucalyptus* spp.

4.2.2.8 Habitat 5: Pastureland without gilgai

This habitat, located within the Disturbance Footprint, comprises cleared paddocks with scattered regrowth and improved pasture species. The overstorey is very sparse and contains only scattered individuals such as *A. harpophylla*, *L. carronii*, and *Acacia saligna*, with emergent heights reaching up to 12 m in some areas. Canopy and subcanopy cover are minimal (0-2.2%), offering limited vertical structure and habitat for arboreal fauna.

The shrub layer is variable with some sites supporting a moderate diversity of species including *Carrisa ovata, Capparis lasiantha, Dodonaea sp.*, and *Grewia latifolia*, though overall shrub cover remains low. This patchiness likely limits shelter and foraging opportunities for small mammals and understorey birds. The ground layer is dominated by exotic pasture grasses and forbs, with non-native cover ranging from 65% to 90%. Invasive species such as *Cenchrus ciliaris, Bothriochloa pertusa, Megathyrsus maximus*, and *Stylosanthes scabra* are widespread and likely suppress native regeneration. Native grasses such as *Themeda triandra, Aristida ramosa*, and *Sporobolus actinocladus* are present but patchy. Forb diversity is moderate, with a mix of native and exotic species including *Enchylaena tomentosa*, *Trianthema triquetra* and *Portulaca oleracea*.

Ground condition is variable, with litter cover ranging from 5% to 90% and bare ground from 0% to 25%, indicating inconsistent surface stability and microhabitat availability. Coarse woody debris is largely absent, further reducing structural complexity at ground level. This habitat type is depicted in Plate 14.



Plate 14: Habitat 5: Pastureland without gilgai

4.2.2.9 Habitat 6: Pastureland with gilgai

This habitat, located within the Disturbance Footprint, comprises cleared paddocks with scattered regrowth and improved pasture species on Cainozoic clay plains with gilgai microrelief. This habitat is characterised as a disturbed open woodland on improved pasture, dominated by *A. harpophylla*, *L. carronii*, and associated species such as *Apophyllum anomalum* and *A. hemiglauca*. Vertical structure is limited, with emergent heights ranging from 1.8 to 5 m and very sparse canopy development. Canopy and subcanopy are generally low, offering limited arboreal habitat value.

The shrub layer is patchy and species-rich in some areas, with taxa such *as Dodonaea sp., Capparis lasiantha* and *Sesbania cannabina*, but overall shrub cover remains minimal. This likely reduces shelter and foraging opportunities for small mammals and understorey birds. The ground layer is dominated by exotic grasses, with non-native cover averaging 80-90%. Invasive species such as *Cenchrus ciliaris, Bothriochloa pertusa*, and *Chloris gayana* are prevalent, likely suppressing native regeneration. Native grasses are present but limited, including *Eragrostis parviflora* and *Dichanthium sericeum*. Forb diversity is moderate, with a mix of native and exotic species.

Coarse woody debris is present in some areas, contributing to microhabitat complexity for reptiles, invertebrates and decomposers. However, high bare ground and litter variability across the sites suggest inconsistent ground-level habitat quality. Importantly, the presence of gilgai microtopography and cracking clays soils enhances habit heterogeneity by creating small seasonal refuge and breeding sites for amphibians, invertebrates and reptiles, while ephemeral water presence provides seasonal foraging opportunities for birds including herons and snipes. This habitat type is depicted in Plate 15.



Plate 15: Habitat 6: Pastureland with gilgai

4.2.2.10 Habitat 7: Dams

This habitat is located within the Disturbance Footprint and includes artificial waterbodies constructed primarily for agricultural purposes, such as livestock watering or irrigation. They can provide important aquatic and semi-aquatic habitat on otherwise dry landscapes. This habitat often supports a range of fauna, such as providing breeding habitat for amphibians, providing drinking, foraging and nesting opportunities for terrestrial and waterbirds, providing a water source for mammals, basking, shelter and foraging habitat for reptiles, and supporting a wide range of aquatic and semi-aquatic invertebrates.

Vegetation surrounding dams typically include emergent aquatic plants, sedges and grasses with occasional regrowth of native shrubs. However, the surrounding ground layer is often dominated by exotic pasture species and may show signs of trampling or erosion due to livestock access.

Water quality and ecological value vary widely depending on management practices, including well-maintained dams with fenced margins and native vegetation buffers and other degraded or heavily grazed dams may offer limited ecological function. This habitat type is depicted in Plate 16.



Plate 16: Habitat 7: Dams

4.2.3 Threatened fauna

The desktop assessment identified 39 fauna species listed under both the EPBC Act and NC Act as potentially occurring within the Study Area, including 36 EPBC Act listed species, and 37 NC Act listed species. Prior to field surveys, an assessment of the likelihood of occurrence for threatened fauna species was conducted based on species habitat suitability, species distribution ranges and historical occurrence records. Desktop assessments results identified 12 species as known, likely or possibly occurring within the Study Area, including:

- Known to occur (previously recorded within the Study Area during EMM surveys (EMM, 2023a, 2023b)):
  - **Koala**: indirect evidence (Koala scratches) was recorded along Taurus Creek (2.11 km northeast of the Disturbance Footprint)
  - **Australian painted snipe**: observed on three occasions within the Study Area
  - **Squatter pigeon (southern)**: recorded on two occasions in the vicinity of dams near Taurus Road
  - **Ornamental snake**: recorded in gilgai areas between Taurus Creek and the Blackwater-Rolleston Road
  - **Latham's snipe**: was recorded at three locations across the Study Area in ephemeral gilgai habitat
- Likely to occur:
  - **White-throated needletail:** the species occurs widely across Queensland and forages aerially above all most habitat types including cleared pasture. The species has been recorded on multiple occasions within the desktop search extent and foraging habitat occurs above the entire Study Area.
  - **Short-beaked echidna:** the species occurs in a wide range of habitats across Australia including grasslands and open-woodlands which occur throughout the Study Area. The species has also been recorded multiple occasions within desktop search extent.
- Possibly occurring:
  - **Corben's long-eared bat:** the Study Area occurs at the edge of the species potential distribution and may contain suitable habitat
  - **Greater glider (southern and central):** the species has been previously recorded within the desktop search extent and suitable habitat may occur within the Study Area
  - **South-eastern Glossy black-cockatoo:** numerous records occur within the desktop search extent, and the Study Area may contain suitable habitat
  - **Painted honeyeater:** numerous records occur within the desktop search extent, and the Study Area may contain suitable habitat
  - **Sharp-tailed sandpiper:** the species has been previously recorded within the desktop search extent and suitable habitat may occur within the Study Area

These species formed the basis of targeted surveys and habitat assessments undertaken by E2M with the aim of refining species likelihood of occurrence based on field verified results.

While no additional threatened fauna species were identified during field surveys, potential suitable habitat was confirmed for both likely occurring threatened species, whilst the five possibly occurring species were downgraded to unlikely to occur based on the species not being detected during targeted surveys and the lack of suitable habitat within the Study Area. Full likelihood of occurrence results for all species identified during the desktop assessment are provided in (Appendix B).

The characteristics of habitat mapped for known or likely to occur species are summarised in Table 18 and described in further detail in Sections 4.2.1 to 4.2.3.7.

Table 18: Summary of threatened fauna habitat within the Study Area and Disturbance Footprint

Species	Habitat summary	Habitat with Study Area (ha)	Habitat within Disturbance Footprint (ha)
Reptiles			
Ornamental snake (*Denisonia maculata*)	Breeding and foraging - remnant, high value regrowth and non-remnant areas with suitable gilgai microrelief and soil cracks	497.52	0.0
Birds			
Australian painted snipe *(Rostratula australis)*	Intermittent foraging – consisting of all remnant, high value regrowth or non-remnant areas with gilgai microrelief	593.55	14.45
	Permanent foraging - consisting of dams/wetlands with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges)	16.45	6.41
Latham's snipe *(Gallinago hardwickii)*	Intermittent foraging – consisting of all remnant, high value regrowth or non-remnant areas with gilgai microrelief	593.55	14.45
	Permanent foraging - consisting of dams/wetlands with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges)	16.45	6.41
Squatter pigeon (southern) *(Geophaps scripta scripta)*	Breeding and foraging – remnant, high value regrowth and young regrowth communities on well-draining soils (i.e. land zones 3, 5, 7 and 9) within 1 km of a semi-permanent or permanent waterbody	239.01	26.05
	Foraging - remnant, high value regrowth and young regrowth communities on well-draining soils (i.e. land zones 3, 5, 7 and 9) between 1 km to 3 km of a seasonal or permanent waterbody	30.46	6.41
	Dispersal – all other remnant, high value regrowth and young regrowth communities which links areas of suitable breeding and foraging habitat, as well as non-remnant areas less than 100 m wide which join breeding and foraging habitat	990.75	262.34
White-throated needletail *(Hirundapus caudacutus)*	Aerial foraging – all remnant, high value regrowth, young regrowth and non-remnant habitat	6,907.49	2,316.58

Species	Habitat summary	Habitat with Study Area (ha)	Habitat within Disturbance Footprint (ha)
Mammals			
Koala (*Phascolarctos cinereus*)	Breeding and foraging – all remnant and high value regrowth vegetation dominated or co-dominated LIKTs, including RE 11.3.2, 11.3.3, 11.3.6 and 11.3.27.	103.38	2.72
	Dispersal – all remnant and high value regrowth areas associated with REs dominated or co-dominated by containing ancillary species (i.e. REs 11.3.1, 11.4.9 and 11.9.5) OR non-remnant areas with scattered LIKTs which provide connectivity between areas of breeding and foraging habitat.	209.24	48.29
Short-beaked echidna (*Tachyglossus aculeatus*)	Breeding and foraging: All remnant, high value regrowth and young regrowth communities.	501.13	122.11

4.2.3.1 Ornamental snake (*Denisonia maculata*)

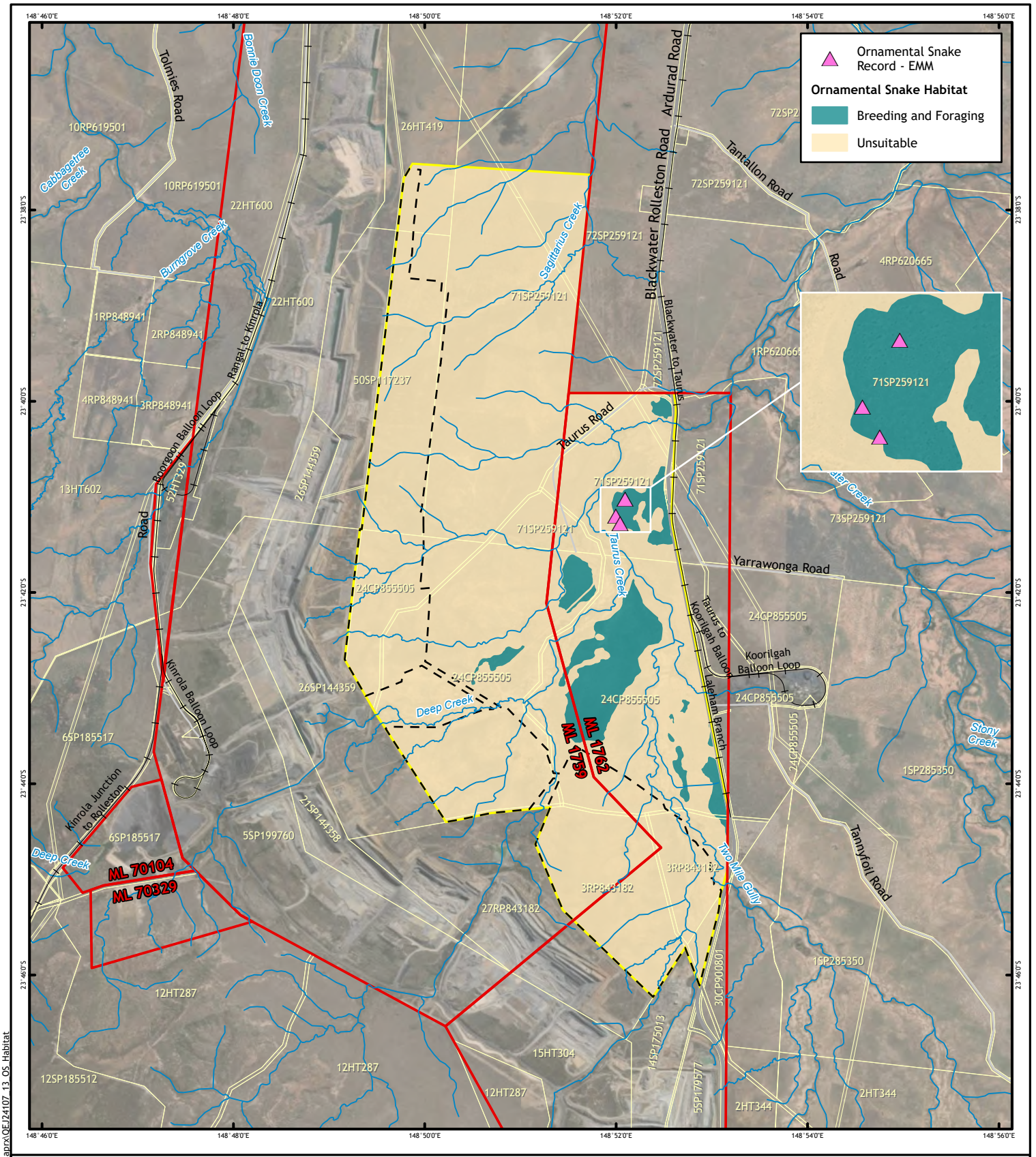
Ornamental snake is listed as vulnerable under the EPBC Act and NC Act, and is a habitat specialist, closely dependent on gilgai for foraging and refuge (Brigalow Belt Reptiles Workshop, 2010). When flooded, gilgai provide habitat for prey species such as Green tree frogs (*Litoria caerulea)*, Striped burrowing frogs (*Cyclorana alboguttata)*, Salmon-striped frogs (*Limnodynastes salmini*) and Broad-palmed frog (*Litoria latopalmata*) (Veary, 2011). As the water ebbs and the gilgai dries, deep cracks within the clay soil provide shelter for Ornamental snake. Gilgai are associated with Brigalow (*A. harpophylla*), Gidgee (*A. cambagei*), Blackwood (*A. argyrodendron*) and/or Coolabah (*Eucalyptus coolabah*) dominant vegetation communities (DCCEEW, 2025d).

While not recorded during E2M surveys, Ornamental snake was recorded during previous field surveys within the Study Area (see Section 2.8). The species was recorded on three separate occasions, in close proximity to each other, within non-remnant gilgai habitat (Figure 13). Given the highly disturbed and degraded nature of the Study Area, suitable habitat for Ornamental snake was categorised based primarily on the availability of suitable gilgai microrelief with deep cracking clay soils. Specifically, Ornamental snake habitat with the Study Area was categorised into the following:

- **497.52 ha of breeding and foraging habitat:** remnant, high value regrowth and non-remnant areas with suitable gilgai microrelief and soil cracks (Plate 17).

Note: Some areas containing gilgai microrelief were excluded as suitable habitat for Ornamental snake based on them being shallow and lacking sufficient soil cracks and microhabitat (i.e. woody debris) to support the species (Plate 18). Brigalow TEC within the Disturbance Footprint is not considered as Ornamental snake habitat due to the absence of these key microhabitat features.

A total of 497.52 ha of breeding and foraging habitat was identified in the Study Area. No areas of Ornamental snake habitat were identified in the Disturbance Footprint (Figure 13).



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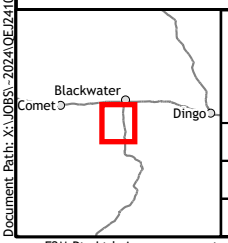
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FIGURE 13: ORNAMENTAL SNAKE HABITAT AND RECORDS WITHIN THE STUDY AREA

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Plate 17: Well developed gilgai within suitable Ornamental snake habitat



Plate 18: Shallow gilgai with limited soil cracks

4.2.3.2 Australian painted snipe (*Rostratula australis*)

Australian painted snipe is listed as endangered under the EPBC Act and NC Act, and generally forages in a variety of shallow wetlands yet breeding habitat requires specific microhabitat features such as exposed mud, dense low vegetation cover, on or near a small islands within a shallow, freshwater wetland (Rogers, et al., 2005). Breeding habitat for the species is very specific and includes shallow wetlands with areas of bare wet mud with canopy cover nearby. Nests are almost always recorded on or near small islands in freshwater wetlands, which provide a combination of water, exposed mud, dense low cover and sometimes dense canopy cover (Rogers et al., 2005).

While not recorded during E2M surveys, Australian painted snipe has been detected at two separate locations across the Study Area during previous ecological surveys, once within permanent foraging habitat and once within the intermittent foraging habitat (see Section 2.8) (Figure 14). The species was observed within dams and non-remnant gilgai habitat, which provide suitable foraging opportunities. No suitable breeding habitat was identified within the Study Area. Specifically, within the Study Area, suitable habitat for Australian painted snipe comprises:

- **610.00 ha of foraging habitat, including (Figure 14):**
  - 593.55 ha within which there is intermittent foraging habitat in the form of gilgai microrelief with remnant, high value regrowth or non-remnant areas (Plate 19); and
  - 16.45 ha of permanent foraging habitat in the form of farm dams [man-made] with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges) (Plate 20).

'Gilgai' are characterised by repeating mounds and depressions formed on shrink–swell cracking clay soils. Seasonal ponding occurs in depressions over only a small subset of the total intermittent foraging habitat mapped and the location of gilgal depressions change over time. For this reason, gilgai depressions associated with this soil type can provide intermittent foraging habitat for the Australian painted snipe.

DPM (2026) describe that the lacustrine wetlands (hydrologically modified or artificial) within the Study Area are either farm dams with constructed earthen walls on the downstream side or are constructed mine water dams. Some dams identified within the Study Area were not considered suitable habitat as they contained unvegetated steep bank margins. As this species requires dense low vegetation for cover (Department of the Environment and Energy, 2019), these areas were excluded from habitat. Additionally, some gilgai microrelief lacked suitable native aquatic vegetation, were extremely shallow and lacked the capability to hold water for prolonged periods (Rogers et al., 2005).

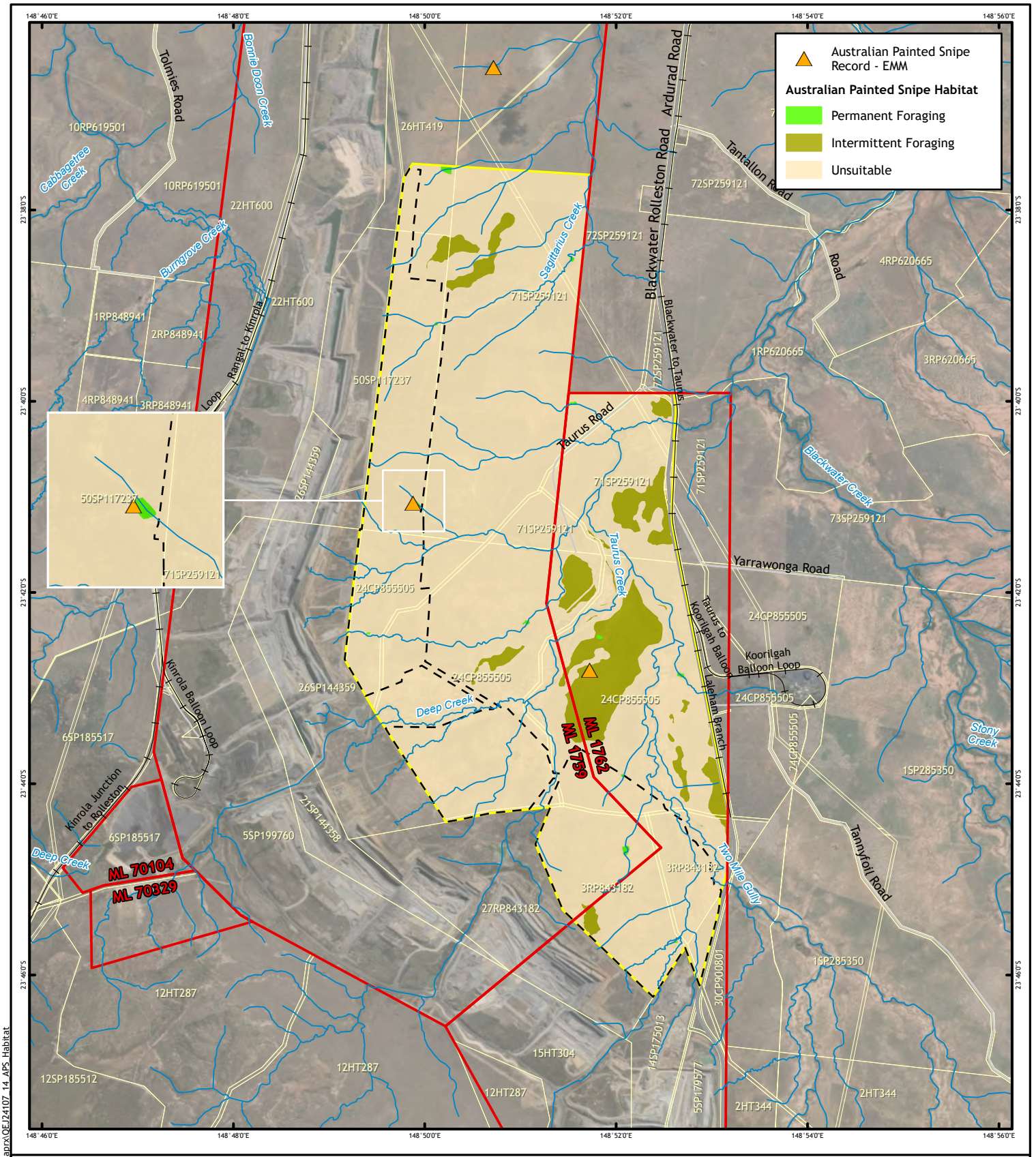
A total of 610.00 ha of foraging habitat for Australian painted snipe was identified in the Study Area, of which only 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat (i.e. man-made farm dams) occurs within the Disturbance Footprint (Figure 14). As described above, not all of the intermittent foraging habitat contains gilgai depressions suitable for the species.



Plate 19: Well developed gilgai within suitable Australian painted snipe foraging habitat



Plate 20: Dam providing suitable foraging habitat



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

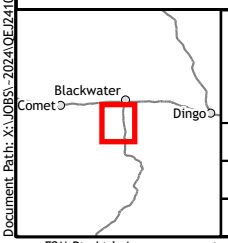
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Kilometres

Coordinate System: GDA2020



Notes:
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FIGURE 14: AUSTRALIAN PAINTED SNIPE HABITAT AND RECORDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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4.2.3.3 Latham's snipe (*Gallinago hardwickii*)

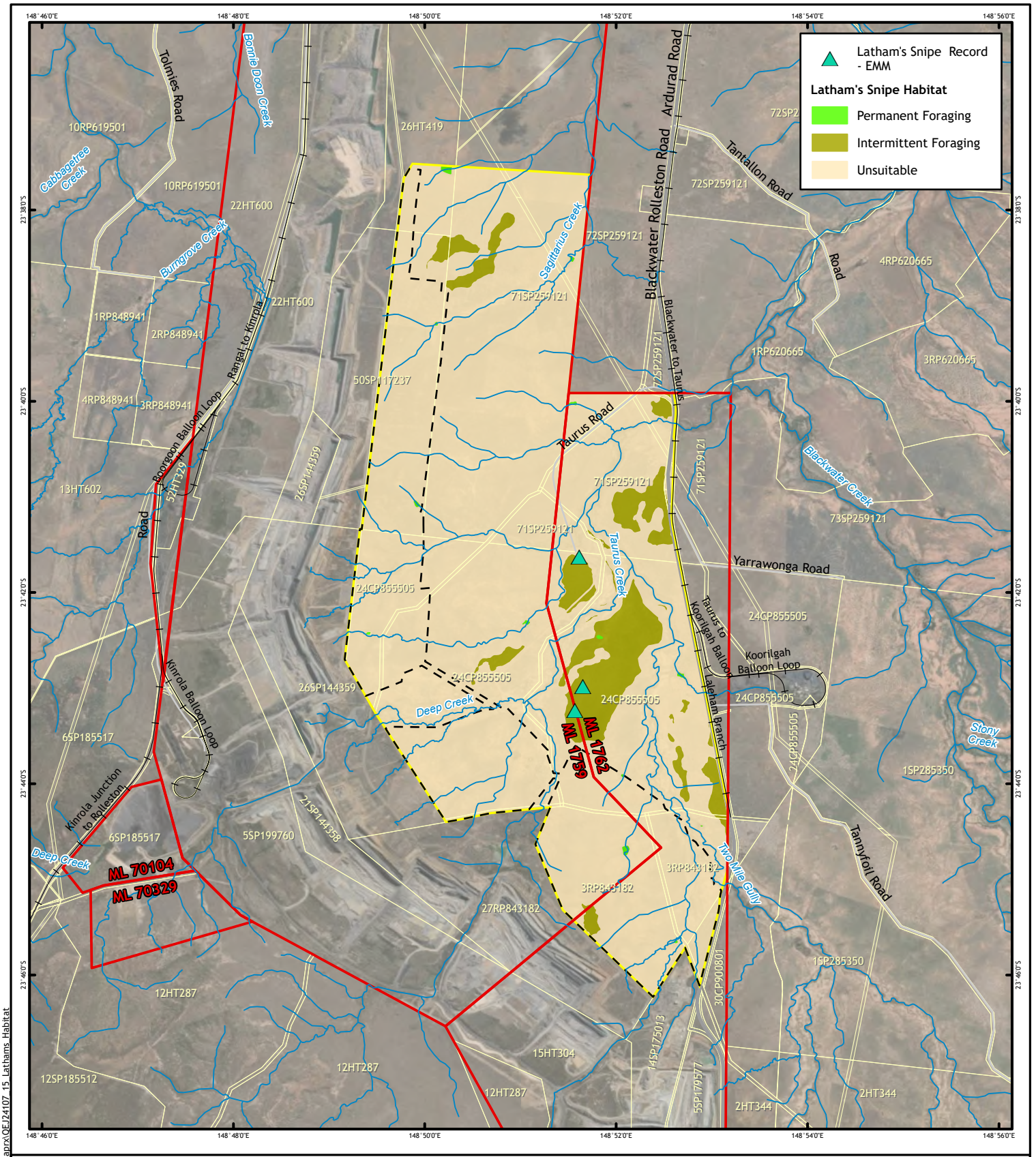
The Latham's snipe is listed as vulnerable under the EPBC Act and NC Act, and typically occurs in permanent and ephemeral wetlands up to 2,000 m above sea-level (DCCEEW, 2025e). They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies) (DCCEEW, 2025e). However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (DCCEEW, 2025e). Various other freshwater habitats can be used including bogs, waterholes, billabongs, lagoons, lakes, creek or river margins, river pools and floodplains (DCCEEW, 2025e).

While not recorded during E2M surveys, Latham's snipe was recorded during previous field surveys within the Study Area (see Section 2.8). The species was recorded on three separate occasions within non-remnant gilgai habitat, which provide suitable foraging opportunities (Figure 15). Specifically, within the Study Area, suitable habitat for Latham's snipe comprises:

- **610.00 ha of foraging habitat, including:**
  - 593.55 ha of intermittent foraging habitat in the form of all remnant, high value regrowth or non-remnant areas with gilgai microrelief (Plate 19); and
  - 16.45 ha of permanent foraging habitat in the form of dams/wetlands with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges) (Plate 20).

Note: Some dams/wetlands and areas of gilgai microrelief identified within the Study Area were not considered suitable habitat based on dams having unvegetated steep banks or gilgai areas being extremely shallow and lacking aquatic vegetation.

A total of 610.00 ha of foraging habitat for Latham's snipe was identified in the Study Area, including 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat within the Disturbance Footprint (Figure 15).



Legend

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- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

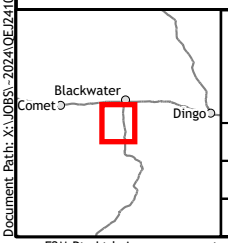
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Scale 1:100,000 (A4)

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Kilometres

Coordinate System: GDA2020



Notes:
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FIGURE 15: LATHAM'S SNIPE HABITAT AND RECORDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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4.2.3.4 Squatter pigeon (southern subspecies) (*Geophaps scripta scripta*)

Squatter pigeon (southern) is listed as vulnerable under the EPBC Act and NC Act, and is a ground dwelling species whose habitat occurs in tropical, open, dry sclerophyll woodlands and savannahs of north-east Australia (DCCEEW, 2025g). The species is generally found in areas mostly dominated in the overstorey by *Eucalyptus, Acacia* and *Callitris* species, in remnant, regrowth or partly modified vegetated communities and within 3 km of water bodies or water courses (DCCEEW, 2025g). Water bodies suitable for the species include permanent or seasonal rivers, creeks, lakes, ponds and waterholes (TSSC, 2015). The species drinks daily and prefers to drink where there is gently sloping, bare ground on which to approach and stand at the water's edge. A small patch (less than a square metre) of bare ground at the water's edge is what the bird requires (DCCEEW, 2025g).

While not recorded during E2M surveys in 2025, Squatter pigeon (southern) was recorded during previous field surveys within the Study Area (see Section 2.8). The species was recorded on two separate occasions, in close proximity to each other, within the vicinity of two dams. Within the Study Area, Squatter pigeon (southern) habitat was generally in poor condition due to exotic pasture species dominating the ground-layer (Plate 21), resulting in high ground-layer cover and low native foraging species diversity. Suitable habitat within the Study Area consisted off:

- **239.01 ha of breeding and foraging habitat:** remnant, high value regrowth and vegetated non-remnant communities on well-draining soils (i.e. land zones 3, 5, 7 and 9) within 1 km of a semi-permanent or permanent waterbody (i.e. dams, wetlands (RE 11.3.27) and SO 4 or greater watercourses) (Plate 22).
- **30.46 ha foraging habitat:** remnant, high value regrowth and vegetated non-remnant communities on well-draining soils (i.e. land zones 3, 5, 7 and 9) between 1 km to 3 km of a semi-permanent or permanent waterbody (i.e. dams, wetlands (RE 11.3.27) and SO 4 or greater watercourses).
- **990.75 ha of dispersal habitat:** all other remnant, high value regrowth and vegetated non-remnant communities which links areas of suitable breeding and foraging habitat, as well as non-remnant areas less than 100 m wide which join breeding and foraging habitat.

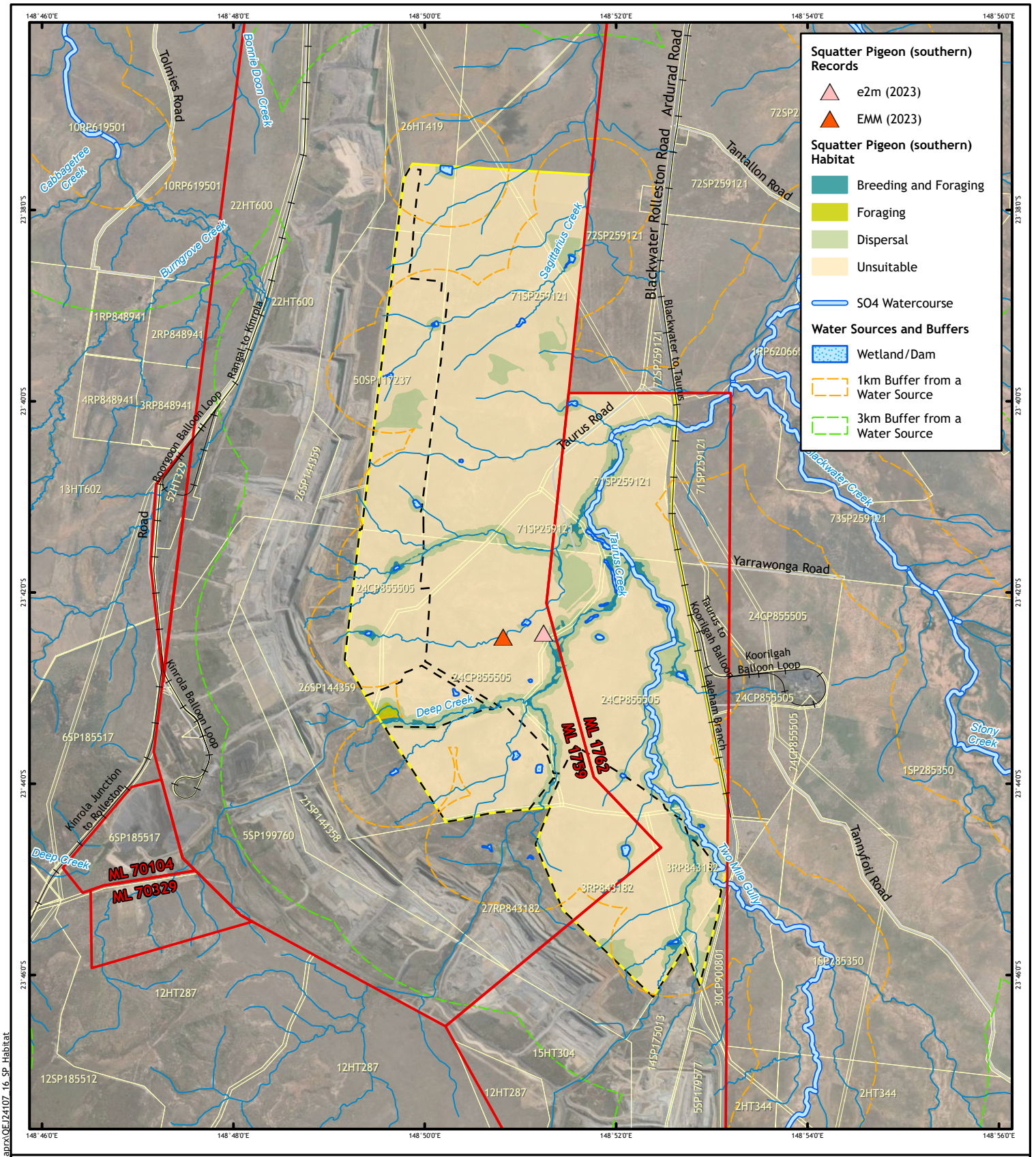
A total of 239.01 ha breeding and foraging, 30.46 ha of foraging, and 990.75 ha of dispersal habitat was identified in the Study Area. Additionally potential habitat within the Disturbance Footprint for Squatter pigeon (southern) includes 26.05 ha of breeding and foraging, 6.41 ha of foraging, and 262.34 ha of dispersal habitat (Figure 16).



Plate 21: Remnant eucalypt woodland with high cover of exotic pasture species



Plate 22: Semi-permanent water available within RE 11.3.27



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

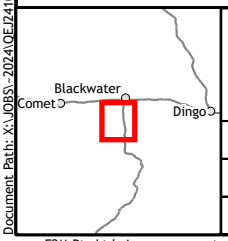
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Scale 1:100,000 (A4)

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Kilometres

Coordinate System: GDA2020



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FIGURE 16: SQUATTER PIGEON (SOUTHERN) HABITAT AND RECORDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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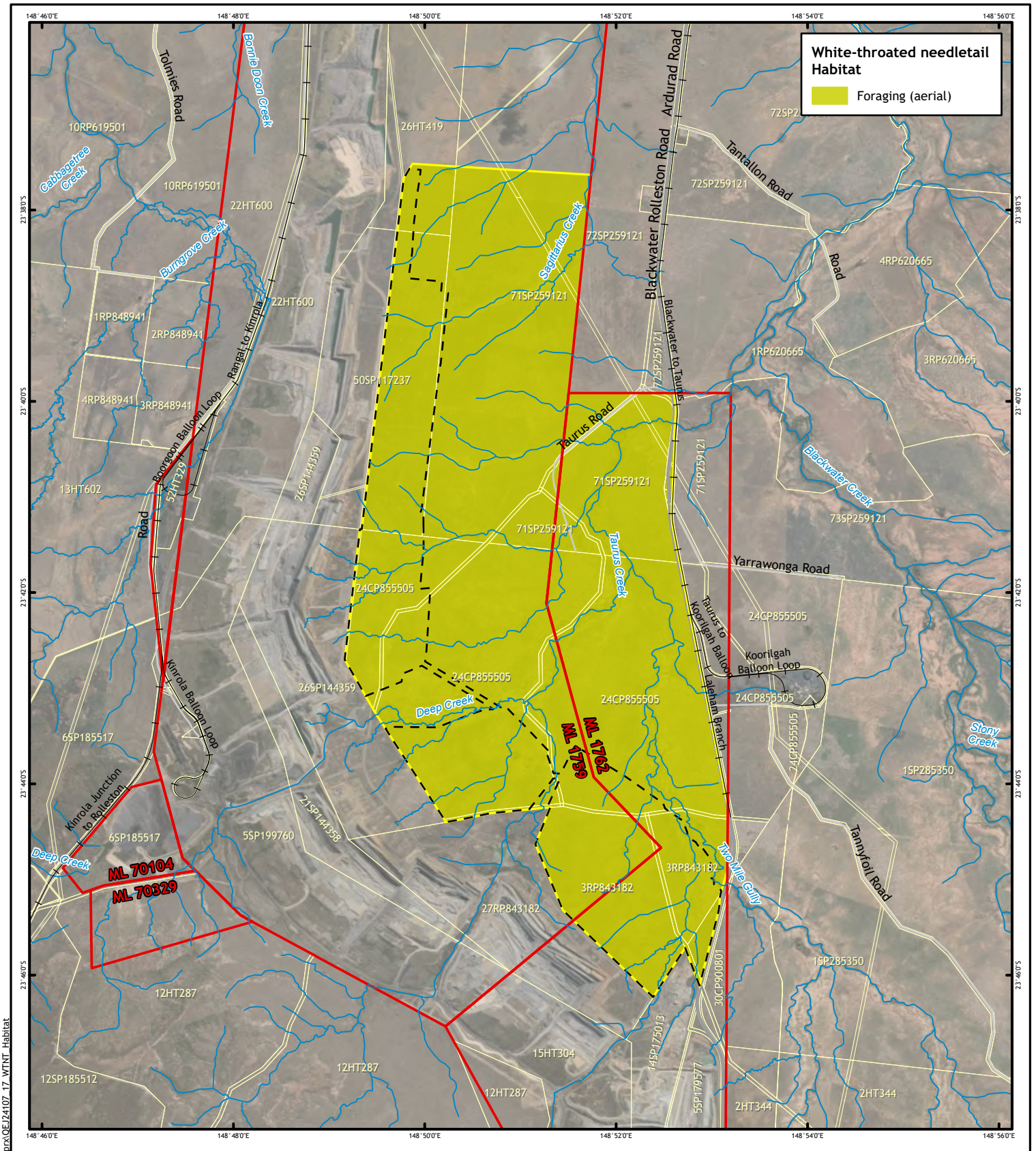
4.2.3.5 White-throated needletail (*Hirundapus caudacutus*)

The White-throated needletail listed as vulnerable under the EPBC Act and NC Act, as is widespread across eastern and south-eastern Australia (DCCEEW, 2025j). In Queensland it occurs in all coastal regions including inland to the western slopes of the Great Dividing Range and occasionally onto the adjacent inland plains (DCCEEW, 2025j). In Australia, the species is primarily aerial, from heights of 1 m up to 1000 m above the ground. They are known to roost in tall trees bordering clearings, both natural and man-made. While they do occur over most habitat types, they are predominately recorded above wooded areas (DCCEEW, 2025j). The species does not breed in Australia, with their local habitat restricted to foraging during their non-breeding season (DCCEEW, 2025j).

White-throated needletail has not been recorded during any surveys; however, the species is considered likely to occur based on habitat availability and previous records within the vicinity of the Study Area (see Section 2.8). Given the species does not breed in Australia, is highly nomadic and is primarily aerial, suitable habitat within the Study Area, includes:

- **6,907.49 ha of foraging habitat**: aerially above the entirety of the Study Area.

A total of 6,907.49 ha of potential foraging habitat was identified in the Study Area and 2,316.58 ha of foraging habitat within the Disturbance Footprint for the White-throated needletail (Figure 17).



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

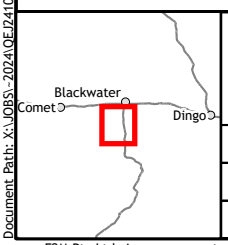
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Kilometres

Coordinate System: GDA2020



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FIGURE 17: WHITE-THROATED NEEDLETAIL HABITAT AND RECORDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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4.2.3.6 Koala (*Phascolarctos cinereus*)

The Koala is listed as endangered under the EPBC Act and NC Act, and are widespread across Queensland, however they generally occur in patchy and often low-density populations in different bioregions (DAWE, 2022). At a local scale, Koala habitat is defined by several factors including the availability and nutritional quality of food trees, presence of suitable resting trees and microclimates, age structure of vegetation, history and impediments to dispersal. These differ regionally because they are strongly influenced by local climatic conditions and landform attributes (DAWE, 2022d).

A variety of food tree species are utilised by Koalas, from genera including *Eucalyptus*, *Corymbia* and *Lophostemon*. In a particular region or site, only a few species may constitute preferred feed trees. Non-food trees are also an important resource for Koalas and may be used for thermoregulation, shelter, and predator avoidance. Non-food trees include species from genera such as *Acacia*, *Callitris* and *Melaleuca* (DAWE, 2022d). Stream fringing eucalypts (*Eucalyptus camaldulensis* and *Eucalyptus tereticornis*) have the highest leaf moisture content, and as Koalas largely rely on diet to meet their water intake requirements, the presence of eucalypts with a high leaf moisture content is likely to positively influence habitat suitability, particularly during times of drought (Wu et al., 2012). Koala are known to utilise all types of eucalypt woodland across its range where Locally Important Koala Trees (LIKTs) are abundant (Youngentob et al., 2021).

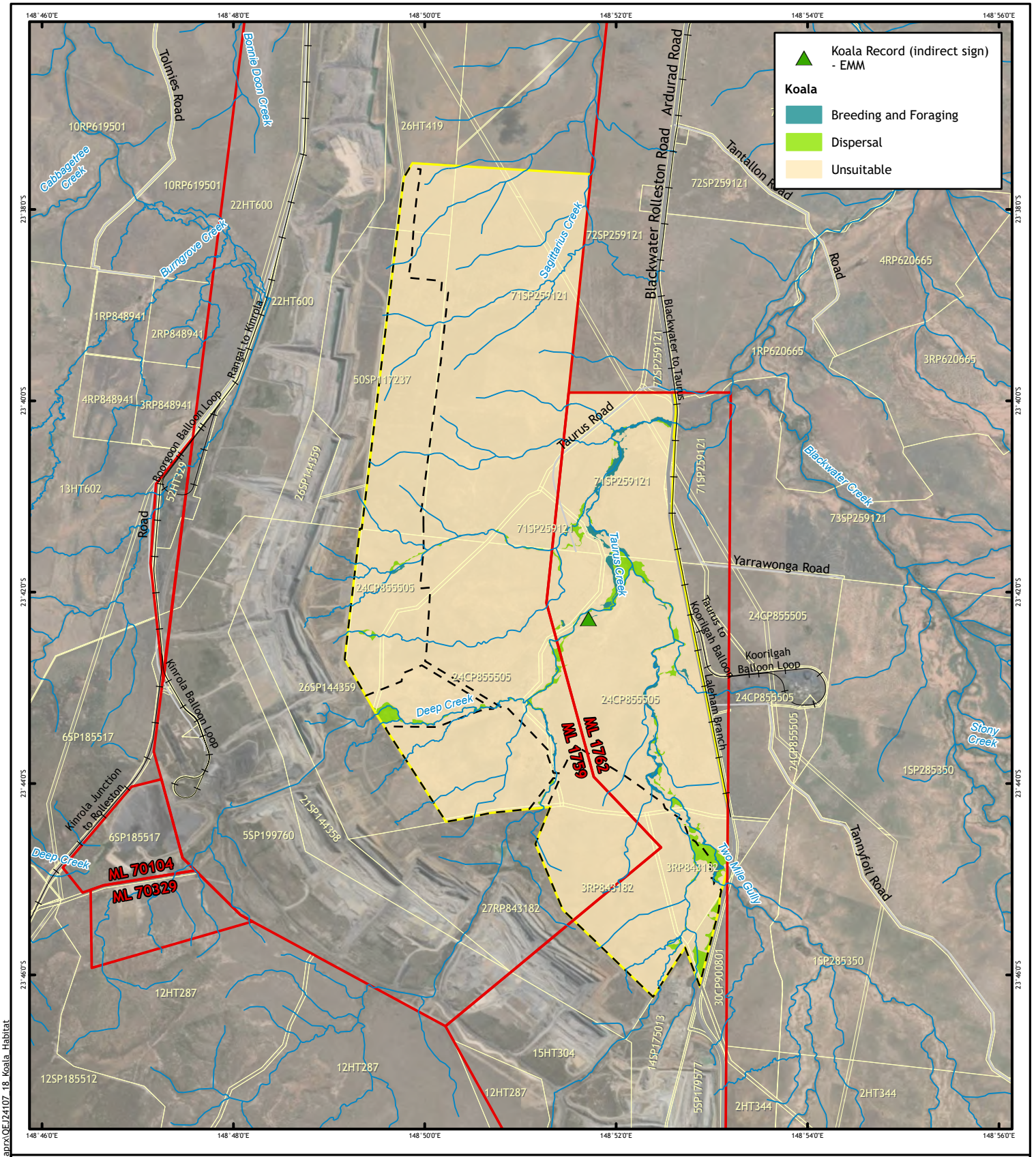
Previous ecological assessments undertaken by EMM recorded evidence of Koala activity (i.e. tree scratch marks and scat) within the Study Area (EMM, 2020), suggesting historical use of the site by the species. To verify current presence, ground-truthing was undertaken during this assessment that included systematic searches across both remnant and non-remnant vegetation for Koala scats, scratch marks, vocalisations, and visual sightings during diurnal fauna surveys. However, no evidence of Koala activity was recorded during these assessments.

Suitable habitat for Koala within the Study Area is highly degraded due to historical land clearing, with the majority of potential habitat now limited to retained mature vegetation associated with watercourses and drainage lines. Non-remnant areas where scattered LIKTs or ancillary species are still retained and provided connectivity between areas of suitable mature vegetation were also assessed as providing habitat for Koala. Within the Study Area, suitable habitat was categorised into two types based on the presence and abundance of LIKTs and ancillary species, including:

- **103.38 ha of breeding and foraging habitat:** consisting of remnant and high value regrowth areas associated with REs dominated or co-dominated by LIKTs, including REs 11.3.2, 11.3.3, 11.3.6 and 11.3.27.
- **209.24 ha of dispersal habitat:** consisting of remnant and high value regrowth areas associated with REs dominated or co-dominated by containing ancillary species (i.e. REs 11.3.1, 11.4.9 and 11.9.5) or non-remnant areas with scattered LIKTs which provide connectivity between areas of breeding and foraging habitat.

Note: Small areas of potential suitable habitat which are fragmented from other areas of suitable habitat were not considered suitable habitat due to their inaccessibility and unlikely utilisation by the species.

A total of 103.38 ha of breeding and foraging habitat and 209.24 ha of dispersal habitat was identified in the Study Area. Additionally, 2.72 ha of breeding and foraging habitat and 48.29 of dispersal habitat was identified within the Disturbance Footprint for the Koala (Figure 18).



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

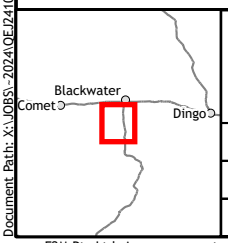
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Kilometres

Coordinate System: GDA2020



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FIGURE 18: KOALA HABITAT AND RECORDS WITHIN THE STUDY AREA

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Whitehaven Coal

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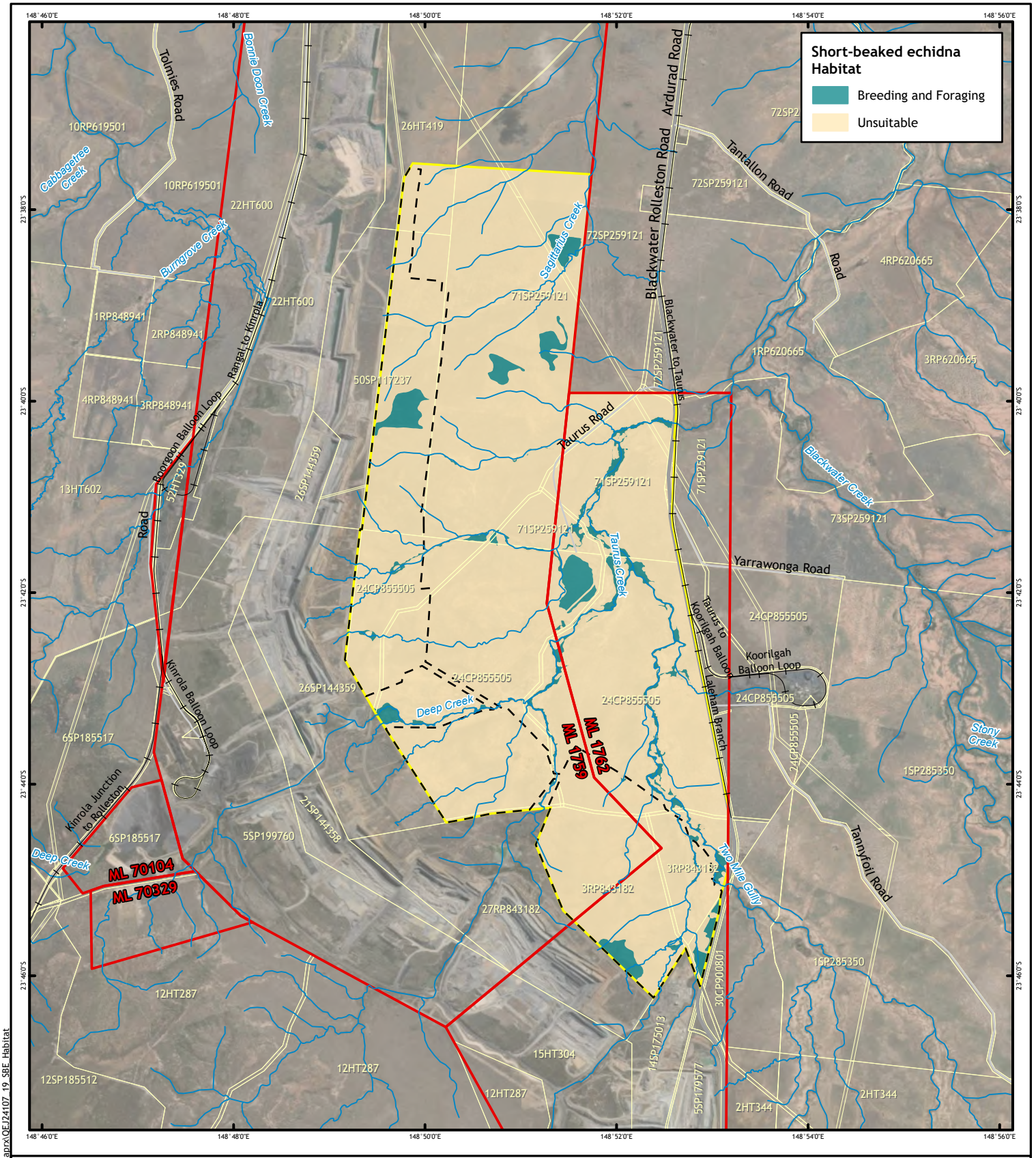
4.2.3.7 Short-beaked echidna (*Tachyglossus aculeatus*)

Short-beaked echidna is listed as special least concern under the NC Act. This species occurs throughout Australia in a wide variety of habitats including mountains, tropics, open woodlands, grasslands, arid zones and coastal environments; wherever there is a supply of ants and termites, upon which it feeds. They prefer to inhabit areas with vegetation that provides cover such as gaps under rocks, hollow logs, hollows at the base of trees, piles of leaves or bunched grasses (Nicol et al., 2011). The species also enters a period of torpor or deep hibernation during autumn and winter, during which time it also requires these forms of cover (ALA, 2025).

Short-beaked echidna has not been recorded during any surveys within the Study Area with degraded nature of the Study Area limiting availability of suitable shelter microhabitat (e.g. hollow logs and termite mounds). However, given the species is widespread and utilises a range of habitats, suitable habitat within the Study Area, includes:

- **501.13 ha of breeding and foraging habitat:** all remnant, high value regrowth and vegetated non-remnant communities within the Study Area.

A total of 501.13 ha of potential breeding and foraging habitat was identified in the Study Area and 122.11 ha of breeding and foraging habitat within the Disturbance Footprint for the Short-beaked echidna (Figure 19).



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- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

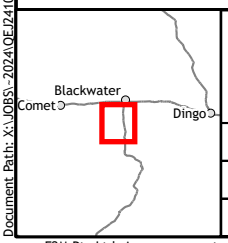
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Kilometres

Coordinate System: GDA2020



Notes:
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FIGURE 19: SHORT-BEAKED ECHIDNA HABITAT WITHIN THE STUDY AREA

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Whitehaven Coal

Map Number	Job Number	Rev
1 of 1	QEJ24107	1

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4.2.4 Migratory fauna

The desktop assessment identified twelve migratory fauna species listed under both the EPBC Act and as potentially occurring within the Study Area. Prior to field surveys, an assessment of the likelihood of occurrence for migratory fauna species was conducted based on species habitat suitability, species distribution ranges and historical occurrence records. Desktop assessments results identified five species as known, likely or possibly occurring within the Study Area, including:

- Known to occur (previously recorded within the Study Area during EMM surveys (EMM, 2023a, 2023b)):
  - **Fork-tailed swift:** was recorded at one location in the Study Area in the vicinity of Taurus Creek
  - **Latham's snipe**: was recorded at three locations across the Study Area in ephemeral gilgai habitat.
- Likely to occur:
  - **White-throated needletail:** the species occurs widely across QLD and forages aerially above all most habitat types including cleared pasture. The species has been recorded on multiple occasions within the desktop search extent and foraging habitat occurs above the entire Study Area.
  - **Glossy ibis:** was recorded at one location in the northern extent of the Study Area in ephemeral gilgai habitat.
- Possibly occurring:
  - **Sharp-tailed sandpiper:** the species has been previously recorded within the desktop search extent and suitable habitat may occur within the Study Area.

These species formed the basis of targeted surveys and habitat assessments undertaken by E2M with the aim of refining species likelihood of occurrence based on field verified results.

One migratory species was identified during E2M surveys within the Study Area:

- Fork-tailed swift (*Apus pacificus*) – Migratory under the EPBC Act.

Following an evaluation against the likelihood of occurrence assessment criteria and the results of the field surveys, two species are considered likely to occur:

- White-throated needletail (*Hirundapus caudacutus*) - vulnerable and migratory under the EPBC Act; and
- Glossy ibis (*Plegadis falcinellus*) – migratory under the EPBC Act.

Suitable habitat was confirmed for two known occurring and two likely occurring migratory species, whilst one possibly occurring species, namely Sharp-tailed sandpiper, was downgraded to unlikely to occur based on the species not being detected during targeted surveys and the Study Area only containing marginal habitat. Full likelihood of occurrence results for all species identified during the desktop assessment are provided in Appendix B.

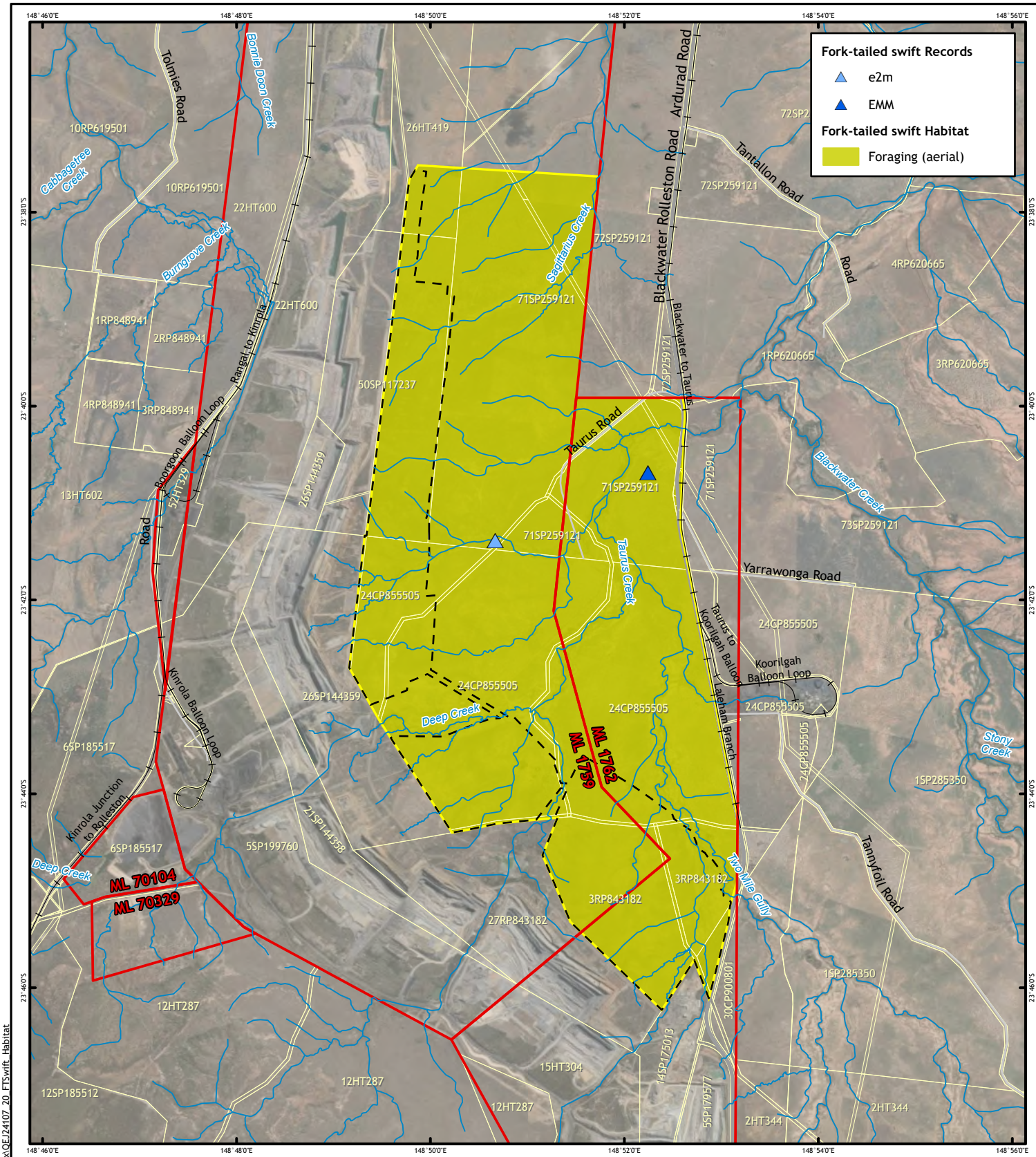
4.2.4.1 Fork-tailed swift

Fork-tailed swift is a non-breeding visitor leaving its breeding grounds in Siberia from August to September and arrives in Australia around October. Although the species mostly occurs over dry open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh, it also is found in treeless grassland, open farmland and coastal sand-dunes (DCCEEW, 2025a).

This species has been observed on a single occasion during surveys above the Study Area, during the 2025 wet season survey. Given the species may occur above any habitats across the Study Area, suitable habitat includes:

- **6,907.49 ha of foraging habitat:** aerially above the entirety of the Study Area.

A total of 6,907.49 ha of foraging habitat was identified in the Study Area and 2,316.58 ha of foraging habitat within the Disturbance Footprint for the Fork-tailed swift (Figure 20).



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

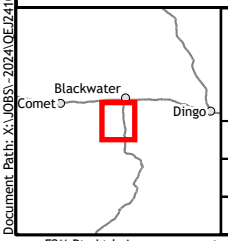
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Scale 1:100,000 (A4)

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Kilometres

Coordinate System: GDA2020



Notes:
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FIGURE 20: FORK-TAILED SWIFT HABITAT AND RECORDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
1 of 1	QEJ24107	1

Document Path: X:\JOBS\-2024\QEJ24107\GIS\PRO\QEJ24107\QEJ24107_EA.aprx\QEJ24107_20_FTSwift_Habitat

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4.2.4.2 Glossy ibis (*Plegadis falcinellus*)

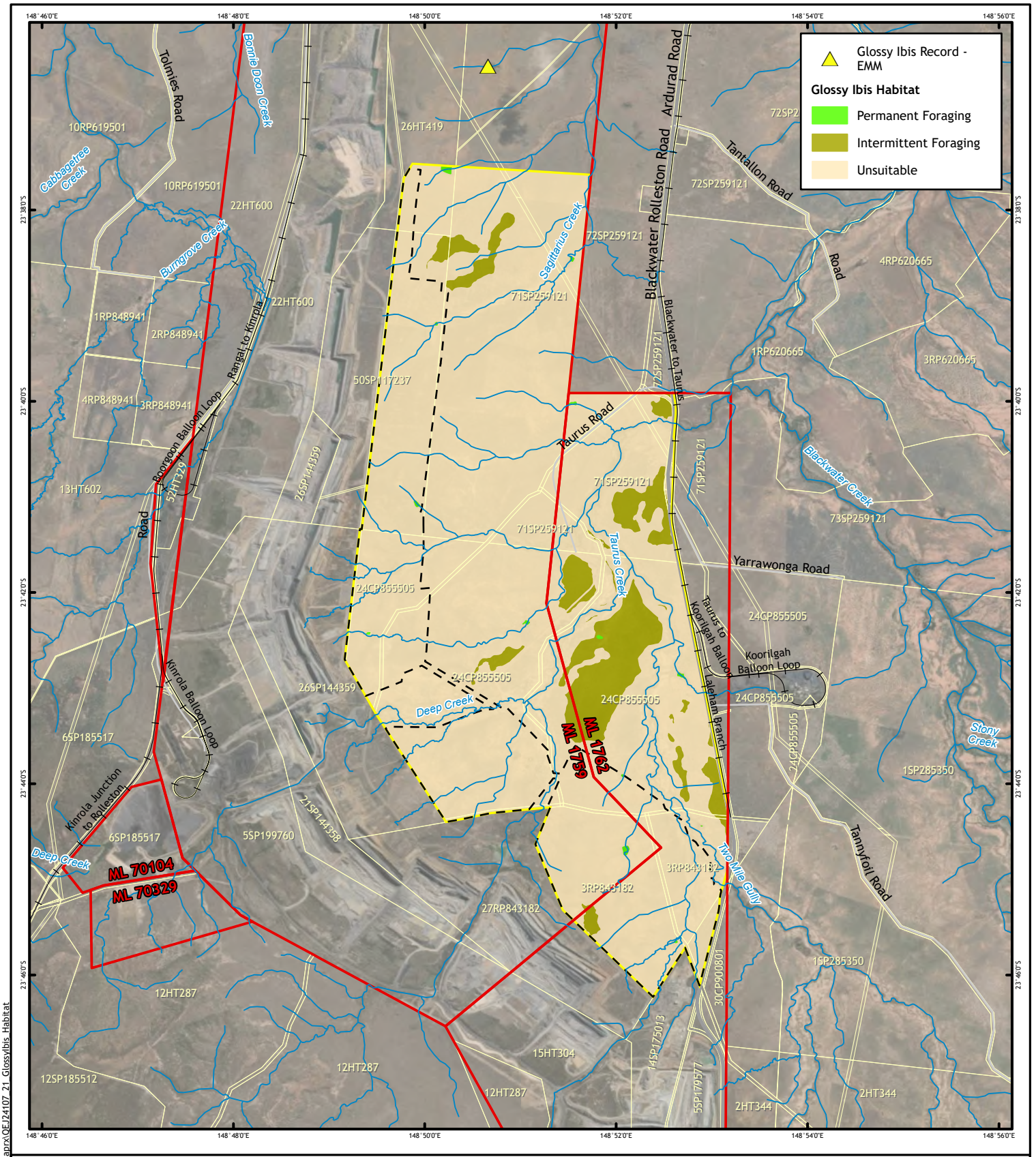
Glossy ibis generally occurs singly, in pairs or small flocks foraging in freshwater marshes at the edges of lakes and rivers, lagoons, floodplains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation (DCCEEW, 2025l). Glossy ibis has been recorded breeding at a limited number of locations within its Australian distribution, with core breeding areas occurring within the Murray-Darling Basin region of New South Wales and Victoria, the Macquarie Marshes in New South Wales, and in southern Queensland (DCCEEW, 2025l). Within Australia, Glossy ibis move north in Autumn, then south to the main breeding areas in Spring and Summer (DCCEEW, 2025l).

While not recorded during E2M surveys, Glossy ibis has been detected on a single location during previous EMM ecological surveys (Section 2.8), approximately 2 km north of the current Study Area. The species was observed within a dam, which provides suitable foraging opportunities. Given the species breeds primarily within distinct locations within Australia, no suitable breeding habitat was mapped within the Study Area. Specifically, within the Study Area, suitable habitat for Glossy ibis comprises:

- 593.55 ha of potential intermittent foraging habitat in the form of all remnant, high value regrowth or non-remnant areas with gilgai microrelief (Plate 19); and
- 16.45 ha of permanent foraging habitat in the form of dams/wetlands with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges) (Plate 20).

Note: Some dams/wetlands and areas of gilgai microrelief identified within the Study Area were not considered suitable habitat based on dams having unvegetated steep banks or gilgai areas being extremely shallow and lacking aquatic vegetation.

A total of 610.00 ha of foraging habitat for Glossy ibis was identified in the Study Area, including 14.45 ha of potential intermittent foraging habitat and 6.41 ha of permanent foraging habitat within the Disturbance Footprint (Figure 21).



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

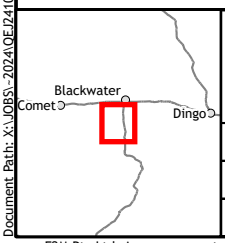
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Kilometres

Coordinate System: GDA2020



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FIGURE 21: GLOSSY IBIS HABITAT WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Document Path: X:\JOBS\-2024\QEJ24107\GIS\PRO\QEJ24107_EA.aprx\QEJ24107_21 Glossyibis Habitat

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4.2.4.3 Latham's snipe (*Gallinago hardwickii)*

Refer to Section 4.2.3.3.

4.2.4.4 White-throated needletail (*Hirundapus caudacutus*)

Refer to Section 4.2.3.5.

4.2.5 Pest fauna

Pest fauna species have varying adverse impacts on the environment ranging from competition for resources to predation on native species. Eight pest fauna species were recorded within the Study Area during the field assessments (Table 19). The extent categories used to describe fauna species presence, such as common, scattered and high density, reflect varying patterns of presence across the landscape. Scattered indicates irregular and isolated occurrences; common suggests regular but moderate presence; and high density refers to areas where the species occurs in large numbers or concentrations.

Table 19: Pest fauna within the Study Area

Scientific name	Common name	Biosecurity Act status	Extent within Study Area
Acridotheres tristis	Common myna	-	Common throughout Study Area
Canis lupus dingo	Dingo	Category 3, 4, 5 and 6	Scattered throughout Study Area
Canis lupus familiaris	Wild dog	Category 3, 4 and 6	Scattered throughout Study Area
Felis catus	Feral cat	Category 3, 4 and 6	Scattered throughout Study Area
Lepus europaeus	European hare	-	Scattered throughout Study Area
Oryctolagus cuniculus	European rabbit	Category 3, 4, 5 and 6	Scattered throughout Study Area
Rhinella marina	Cane toad	-	High density throughout the Study Area
Sus scrofa	Feral pig	Category 3, 4 and 6	Scattered throughout Study Area

Feral cats are efficient predators and are likely to prey upon snakes, birds and amphibians (Doherty et al., 2017), including the target MNES (namely Ornamental snake). Herbivorous pest species including Rabbit, Hare and Feral pig compete with native wildlife for resources, degrade the land (Plate 23) and damage vegetation (DSEWPaC, 2011c). Cane toads were observed in high abundance throughout the Study Area (Plate 24) including within the gilgai and cracking clay soil habitats where they co-exist with Ornamental snake. As a specialist predator of amphibians, the Ornamental snake is likely to predate small Cane toads, potentially resulting in the snake's mortality (Veary, 2011).



Plate 23: Feral pig (*Sus scrofa*) wallow



Plate 24: Cane toad (*Rhinella marina*) identified on remote camera

Wild dog and Dingo tracks were observed scattered throughout the Study Area (Plate 25). Wild dogs (*Canis lupus familiaris*) have been identified as one of the most significant threats to Koala populations (Beyer et al., 2018; DAWE, 2022b). Recent research highlights that although threats such as vehicle collisions and disease remain substantial, predation by wild dogs can be the leading cause of mortality in some Koala populations (Beyer et al., 2018). In addition to ecological impacts, wild dogs and Dingos also pose biosecurity risks through disease transmission and can threaten human safety and livestock (Queensland Government, 2024).



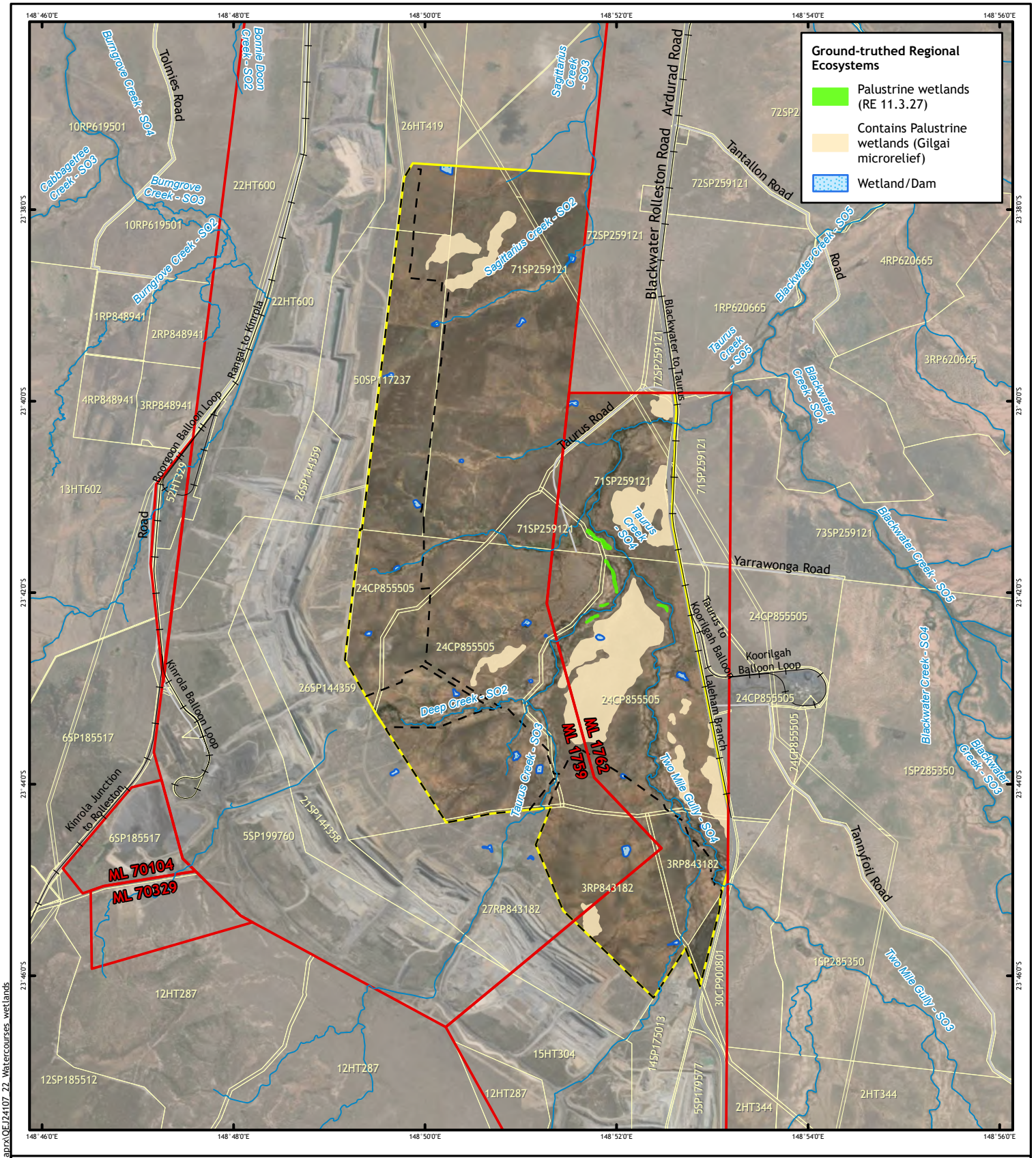
Plate 25: Wild dog (*Canis lupus familiaris*) tracks

4.3 Ecological function

4.3.1 Watercourses and wetlands

Several unnamed tributaries traverse the Study Area (Figure 22), predominantly in the SO of 1 to 3. These minor watercourses are predominantly ephemeral, remaining dry for most of the year and lack substantial riparian vegetation. These tributaries then contribute to watercourses of higher SOs, including Sagittarius Creek (SO 2) to the north, Taurus Creek (SO 4) to the east and Two Mile Gully (SO 4) to the south. Although these larger watercourses are also ephemeral, some fragmented riparian vegetation is present along their margins. However, the lack of vegetation across the remainder of the Study Area is attributed to the historic broadscale clearing and cattle grazing. Watercourses within the Study Area have also been impacted by weed invasion, pest fauna species presence (i.e. feral pig uprooting), and altered hydrology resulting from existing mining activity.

No wetlands of high ecological significance (HES) or high ecological value (HEV) under the EP Act, or wetlands under the VM Act occur within the Study Area.



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

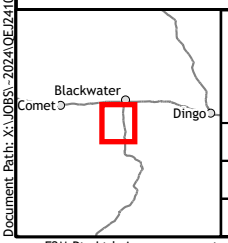
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Kilometres

Coordinate System: GDA2020



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FIGURE 22: WATERCOURSES AND WETLANDS WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

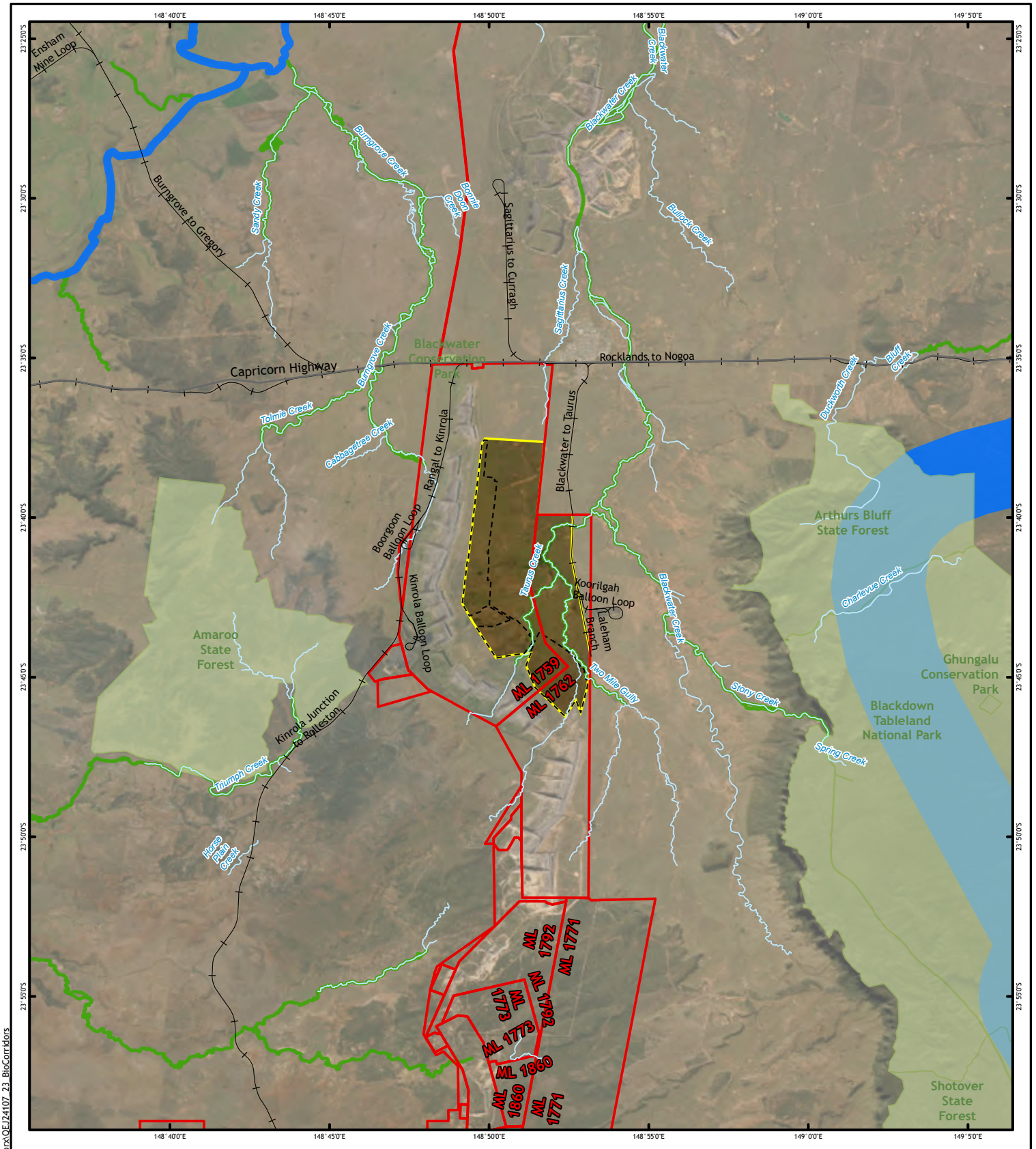
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4.3.2 Corridors and connectivity

Taurus Creek and Two Mile Gully in the eastern part of the Study Area are mapped as a regional riparian biodiversity corridors (DETSI, 2024) (Figure 23). However, due to the historic and extensive cattle grazing activities not only within the Study Area, but surrounding, the landscape is highly fragmented and disconnected. This is particularly evident regarding the largely disturbed, non-remnant vegetation within the Study Area that restricts dispersal opportunities between the remnant, intact Blackdown Tableland National Park, situated less than 10 km to the east (Figure 23). As vegetation is primarily restricted to riparian zones within the Study Area, opportunities for fauna dispersal are expected to be highly limited and restricted to species with large dispersal abilities.



Legend

- Railway
- Watercourse
- Road
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Protected Area

Statewide Corridors v1.6 - significance

- Regional
- State

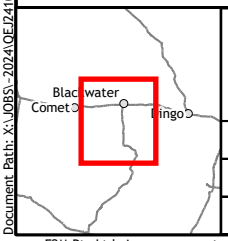
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Kilometres

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FIGURE 23: STATE AND REGIONAL BIODIVERSITY CORRIDORS

Blackwater North Ecological Assessment
Whitehaven Coal

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4.4 Habitat quality assessments

A total of 13 AUs were identified within the Study Area. A total of 53 habitat quality assessment sites were undertaken to meet the survey requirements of the Commonwealth Government *Modified Habitat Quality Assessment* method (Table 20).

Data from these sites was used to determine the habitat quality and offset requirements for MNES and MSES that are likely significantly impacted by the Project (refer to Section 8.1 and Section 8.2).

Table 20: Survey effort per assessment unit for habitat quality assessment sites

BVGs	RE	Condition	AU	Extent within the Study Area (ha)	No. of survey sites	Assessment against the habitat quality guideline requirements[1]
25a	11.3.1, 11.4.9, 11.9.5	Non-remnant	1a	62.07	8	Survey guideline sampling units achieved
		Vegetated non-remnant (regrowth <3m tall)	1b	214.22	4	Survey guideline sampling units achieved
		High value regrowth	1c	83.77	8	Survey guideline sampling units achieved
		Remnant	1d	99.73	7	Survey guideline sampling units achieved
17a	11.3.2	Non-remnant	2a	25.74	2	Survey guideline sampling units achieved
		Remnant	2b	11.07	2	Survey guideline sampling units achieved
16c	11.3.3	Remnant	3	38.28	2	Survey guideline sampling units achieved
17b	11.3.6	Disturbed remnant	4b	26.71	3	Survey guideline sampling units achieved
		Remnant	4c	18.61	2	Survey guideline sampling units achieved
34a	11.3.27	Remnant	5	8.71	2	Survey guideline sampling units achieved
17b	11.9.2	Non-remnant	6	1.34	1	Survey guideline sampling units achieved as there is only enough area to allow for one sampling unit
-	-	Non-remnant (cleared) with gilgai	7a	534.65	5	Survey guideline sampling units achieved
-	-	Non-remnant (cleared) without gilgai	7b	5,759.07	7	Survey guideline sampling units achieved

5 Environmentally sensitive areas

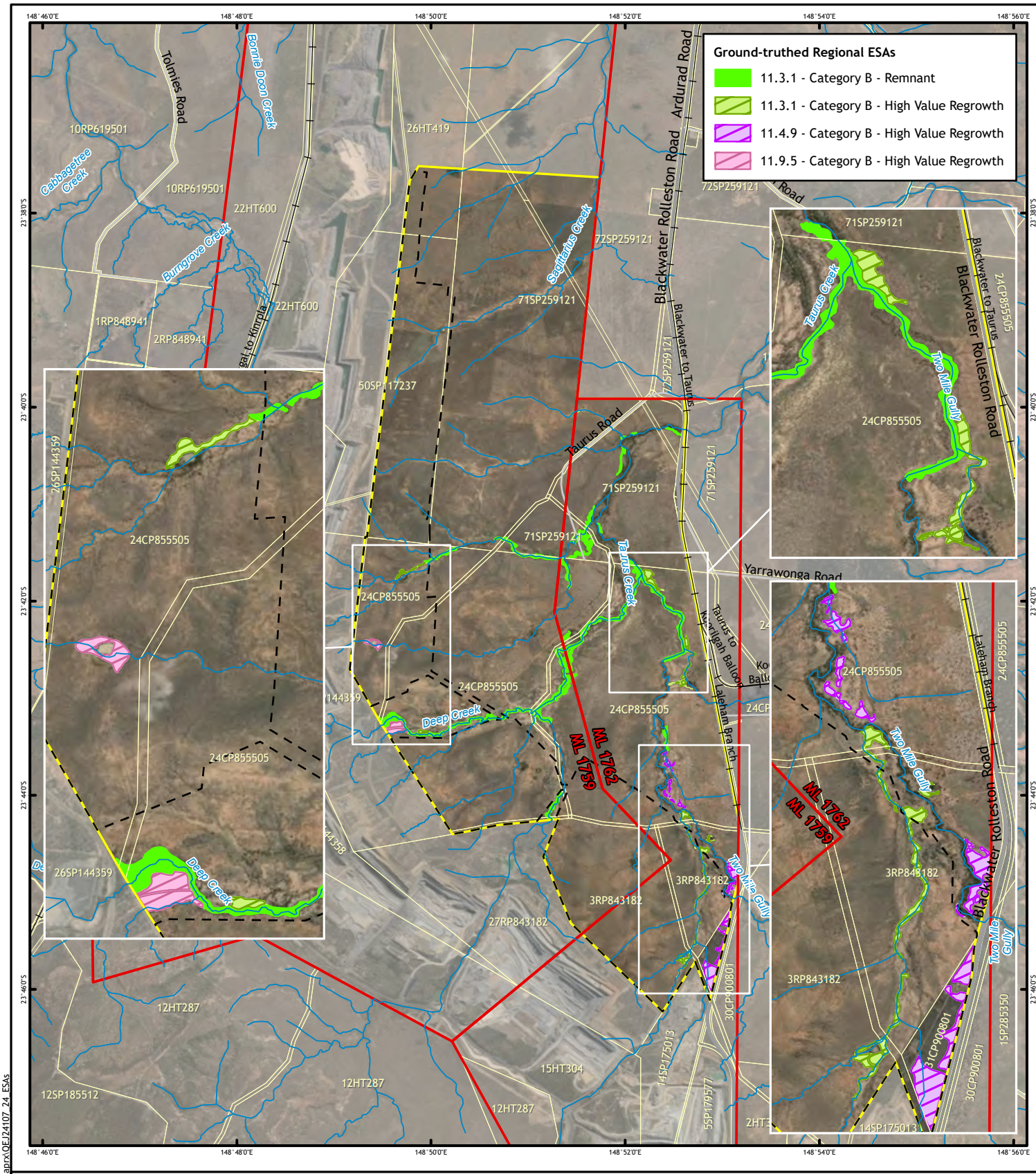
ESAs are defined by the Queensland *Environmental Protection Regulation 2019* (EP Regulation). ESAs include national parks, state forests, world heritage areas, Ramsar wetlands and nationally important wetlands. In addition, they feature areas of elevated natural and cultural value such as habitat for conservation significant flora and fauna and places of Aboriginal and European cultural heritage.

No Category A ESAs were identified within or in proximity to the Study Area.

Category B ESAs were identified within the Study Area during the desktop assessment and were associated with VM Act mapped REs listed as endangered under the biodiversity status framework. This included endangered remnant and high-value regrowth RE 11.3.1. Field assessment confirmed the presence of RE 11.3.1 within the Study Area along with an additional two endangered REs (RE 11.4.9 and RE 11.9.5). These are listed in Table 21 below and depicted in Figure 24.

Table 21: Ground-truthed Category B ESAs within the Study Area

RE	Short description	Condition type	Extent within Study Area (ha)	Extent within Disturbance Footprint (ha)
11.3.1	*Acacia harpophylla* open woodland on alluvial plains	Remnant	99.73	1.21
		High value regrowth	40.99	18.35
11.4.9	*Acacia harpophylla* shrubby open forest to woodland; *Terminalia oblongata* on Cainozoic clay plains	High value regrowth	32.16	17.66
11.9.5	*Acacia harpophylla* and/or *Casuarina cristata* open forest to woodland on fine-grained sedimentary rocks	High value regrowth	10.62	3.77



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

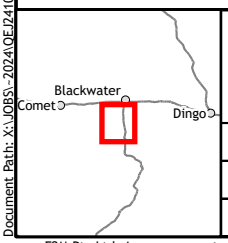
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FIGURE 24: ENVIRONMENTALLY SENSITIVE AREAS (ESAs)

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Whitehaven Coal

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6 MNES and MSES summary

6.1 Summary of MNES

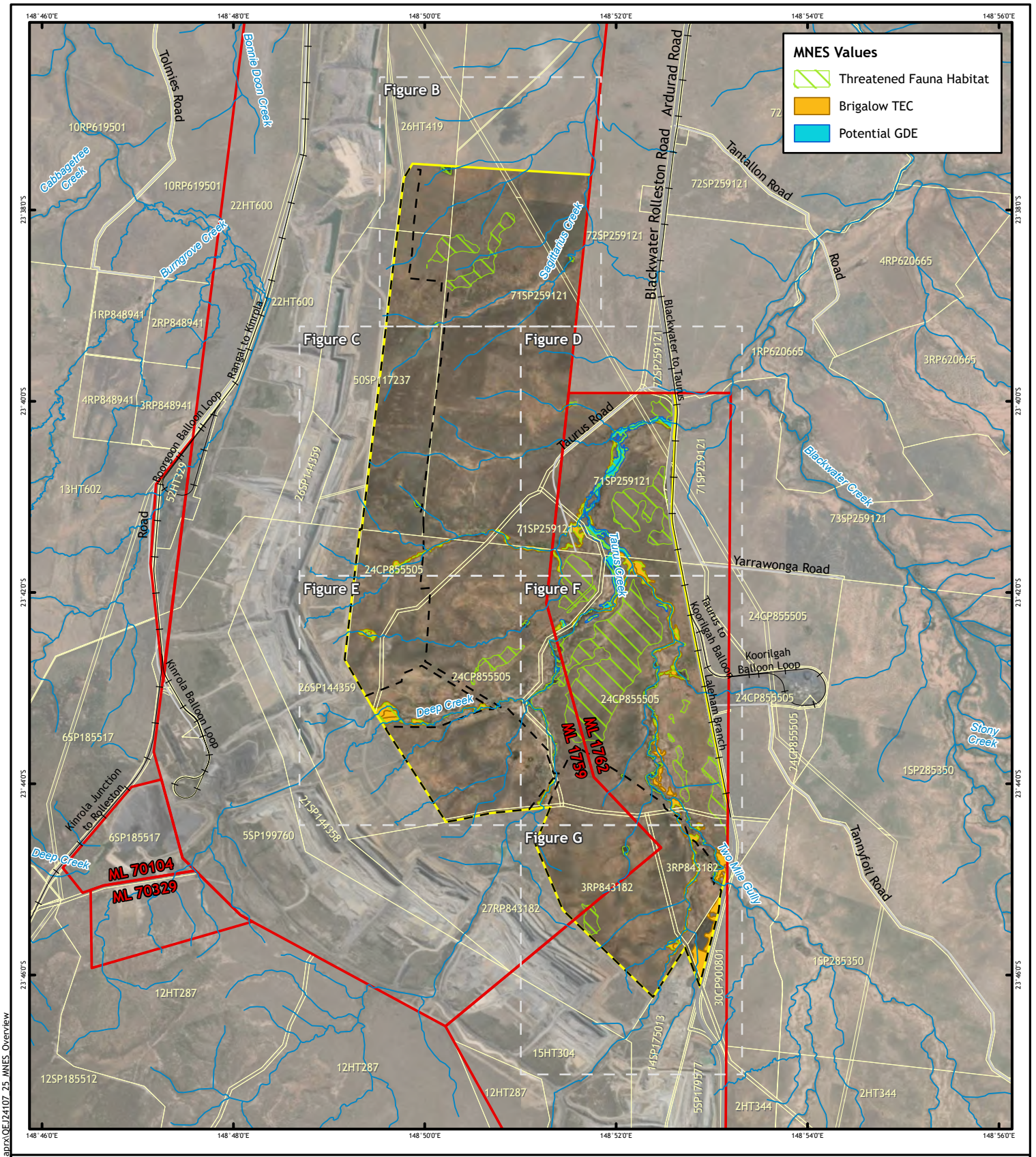
A summary of the MNES as defined in the EPBC Act EO Policy (DSEWPC, 2012) that were identified as known or likely to occur within the Study Area and Disturbance Footprint is provided in Table 22 and depicted in Figure 25.

Table 22: MNES identified within the Study Area

MNES	NC Act status[1]	EPBC Act status[1]	Area within Study Area (ha)[2]	Area within Disturbance Footprint (ha)[2]	Likelihood of occurrence within the Disturbance Footprint	Relevant section
Threatened ecological communities						
Brigalow (*Acacia harpophylla* dominant and co-dominant)	-	E	148.88	40.29	Known to occur	Section 4.1.2.1
Threatened fauna species						
Ornamental snake	V	V	Breeding and foraging t: 497.52	Breeding and foraging: 0	Unlikely to occur	Section 4.2.3.1
Australian painted snipe	E	E	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Known to occur	Section 4.2.3.2
Latham's snipe	V	V, M	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Likely to occur	Section 4.2.3.3
Squatter pigeon (southern subspecies)	V	V	Breeding and foraging: 239.01 Foraging: 30.46 Dispersal: 990.75	Breeding and foraging: 26.05 Foraging: 6.41 Dispersal: 262.34	Likely to occur	Section 4.2.3.4
White-throated needletail	V	V, M	Foraging (aerial): 6,907.49	Foraging (aerial): 2,316.58	Likely to occur as a flyover	Section 4.2.3.5

MNES	NC Act status[1]	EPBC Act status[1]	Area within Study Area (ha)[2]	Area within Disturbance Footprint (ha)[2]	Likelihood of occurrence within the Disturbance Footprint	Relevant section
Koala	E	E	Breeding and foraging: 103.38 Dispersal: 209.24	Breeding and foraging: 2.72 Dispersal: 48.29	Likely to occur	Section 4.2.3.6
Migratory (only) species						
Fork-tailed swift	SLC	M	Foraging (aerial): 6,907.49	Foraging (aerial): 2,316.58	Likely to occur as a flyover	Section 4.2.4.1
Glossy ibis	LC	M	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Likely to occur	Section 4.2.4.2

[1] E = Endangered, V = Vulnerable, M = Migratory, SLC = Special Least Concern, LC = Least Concern
[2] Breeding = Breeding and foraging habitat, Foraging = Foraging habitat, Dispersal = Dispersal habitat



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre
- Figure Extent

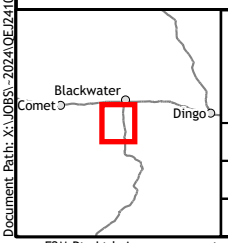
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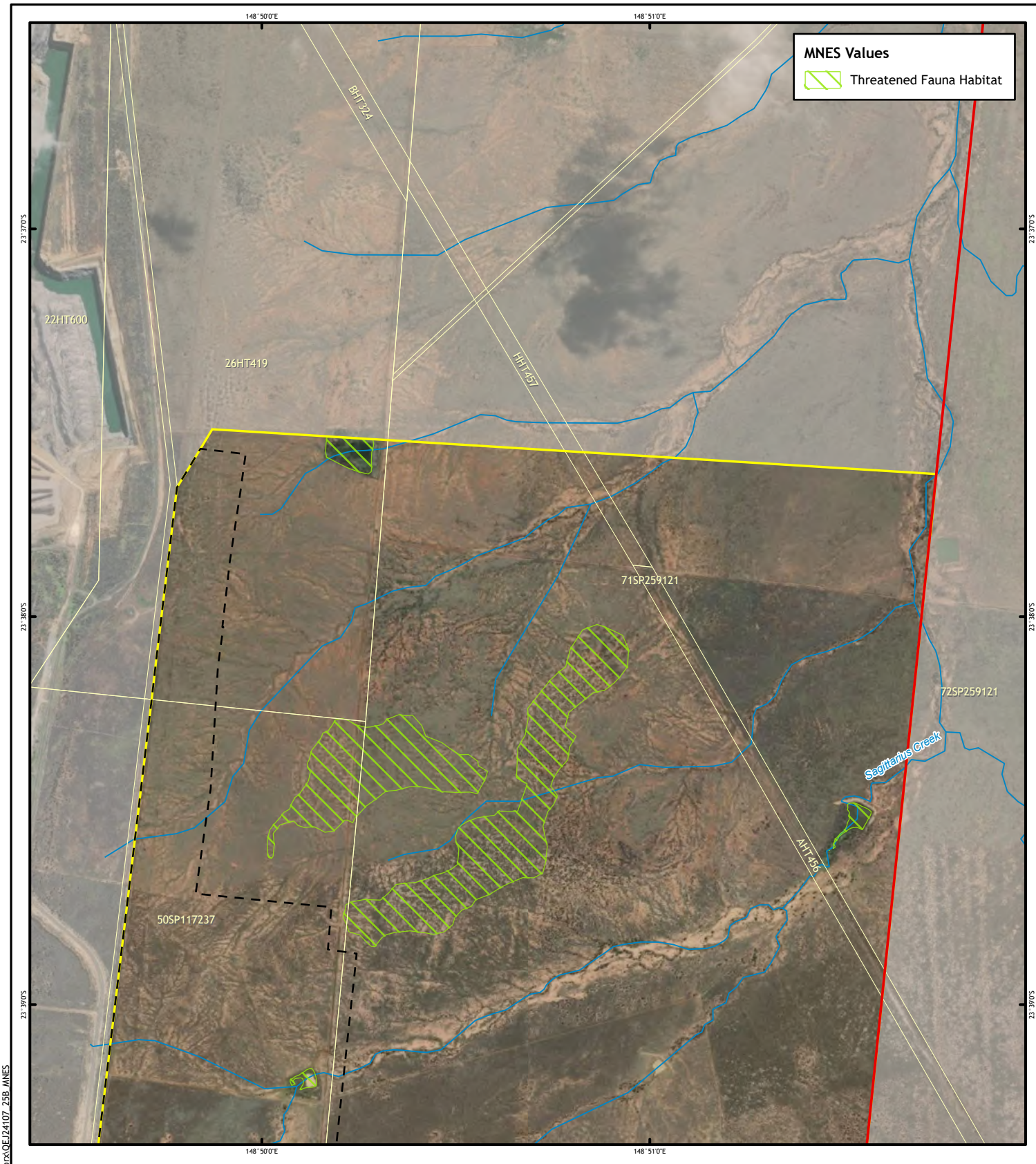
FIGURE 25A: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA - OVERVIEW

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

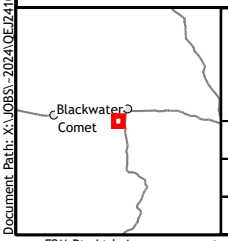
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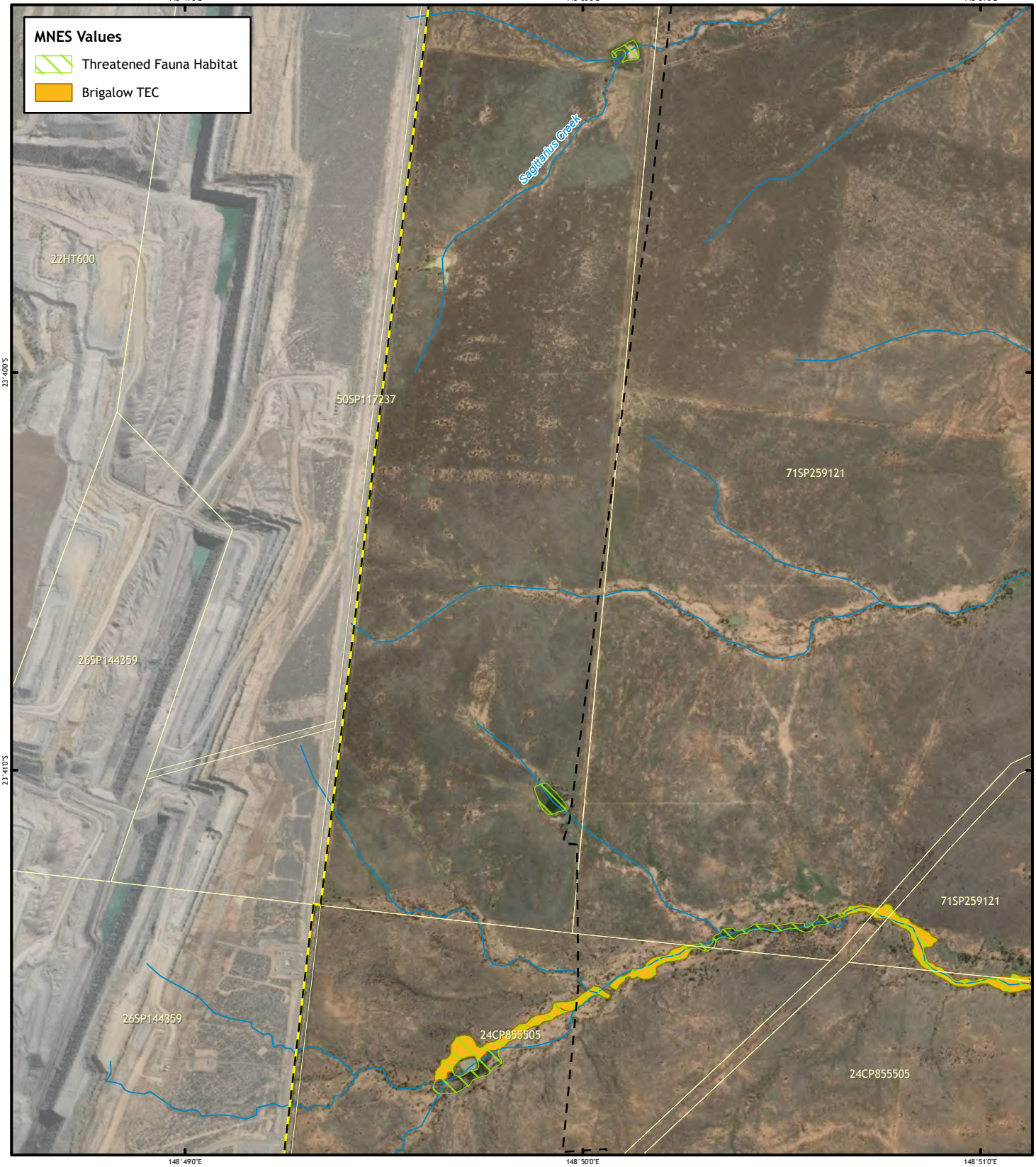
FIGURE 25B: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
2 of 7	QEJ24107	1

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

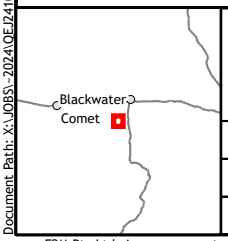
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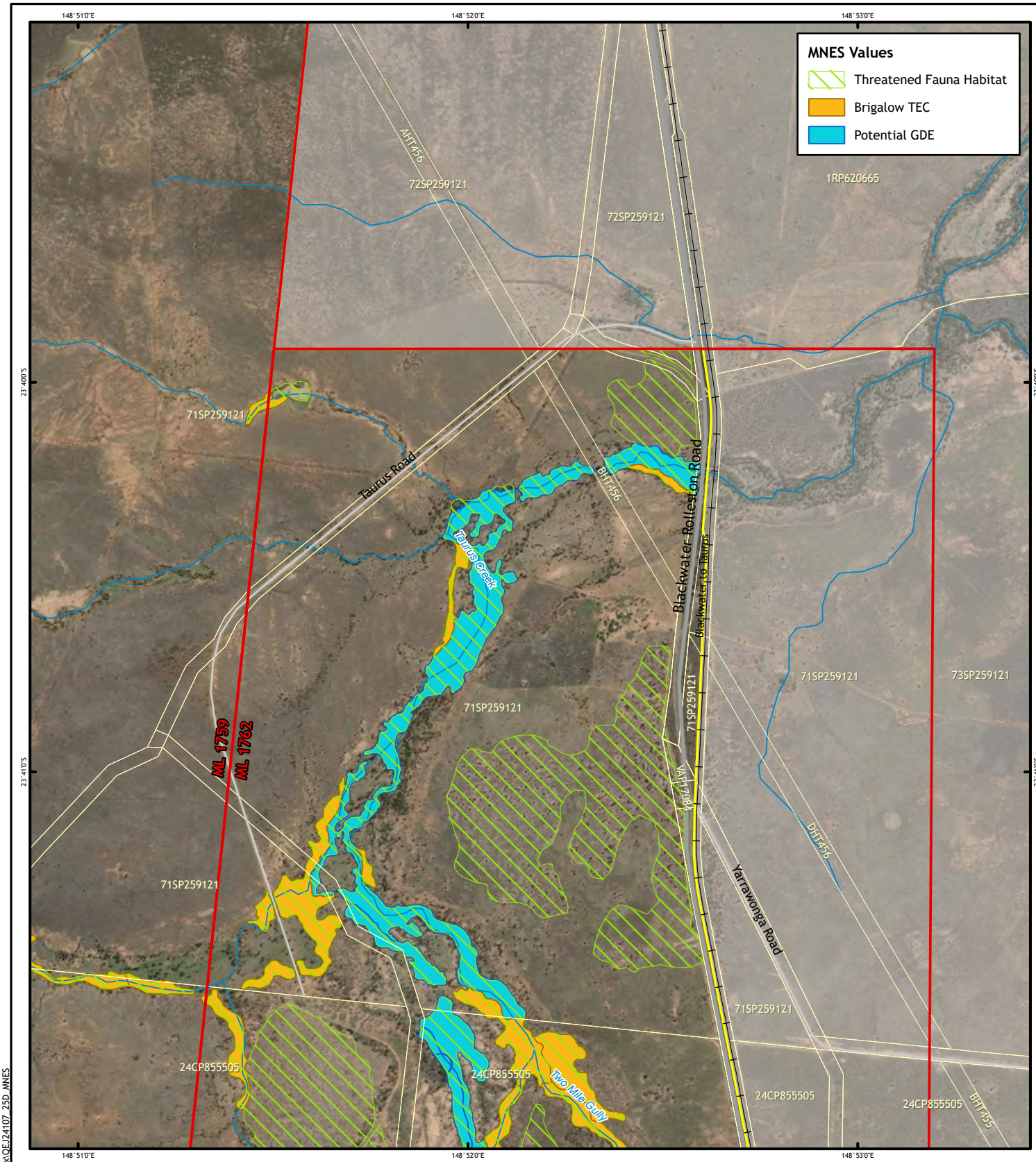
FIGURE 25C: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
3 of 7	QEJ24107	1

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Blackwater Mining Lease
- Cadastre

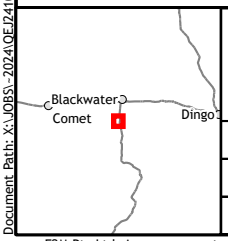
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



Notes:
Topographic: © ESRI 2025
Cadastre: © DNRMMRRD 2025
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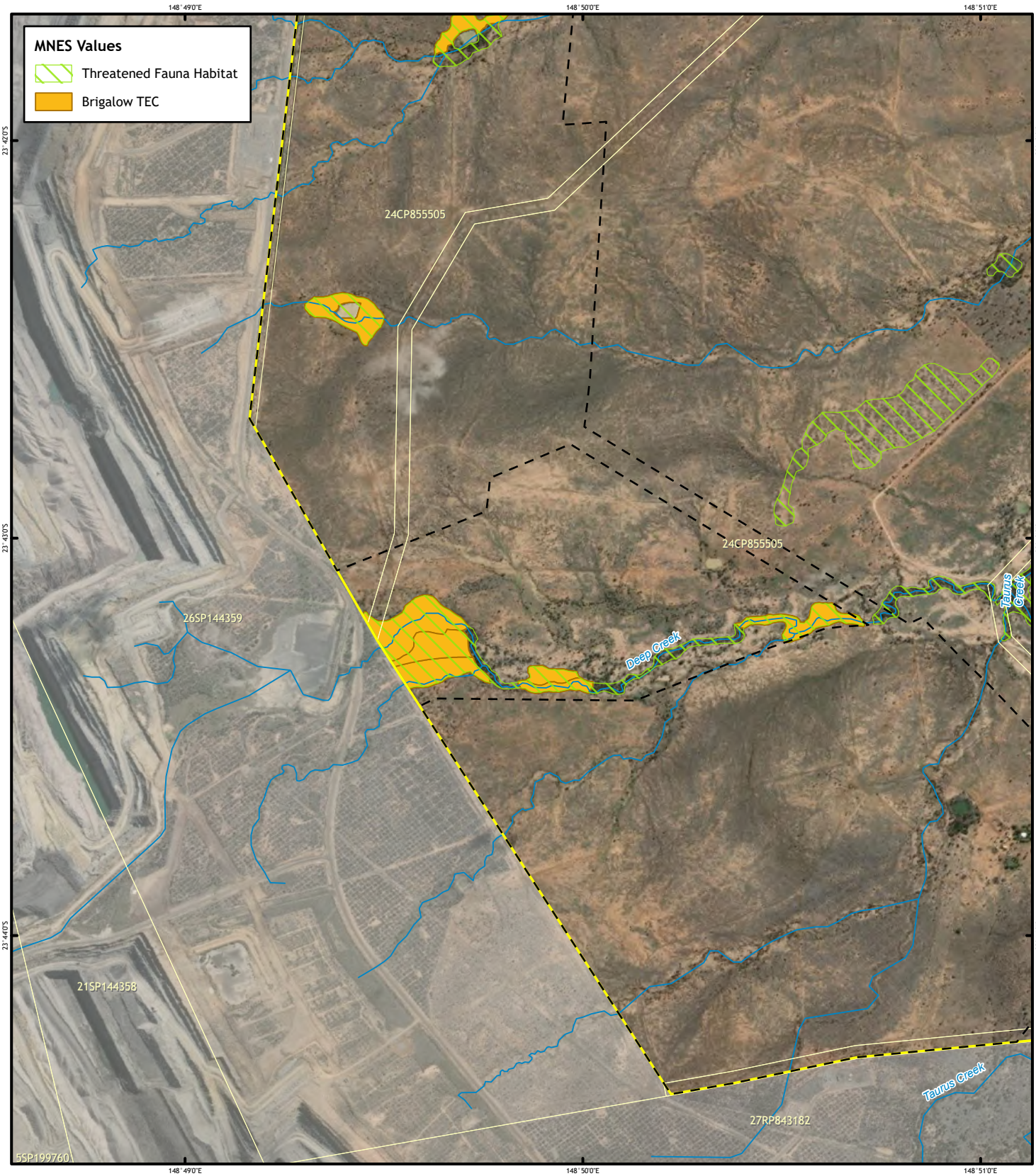
FIGURE 25D: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
4 of 7	QEJ24107	1

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

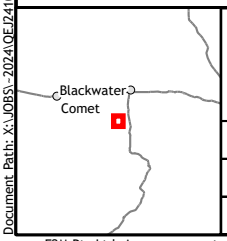
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Scale 1:25,000 (A4)

0 1

Kilometres

Coordinate System: GDA2020



Notes:
Topographic: © ESRI 2025
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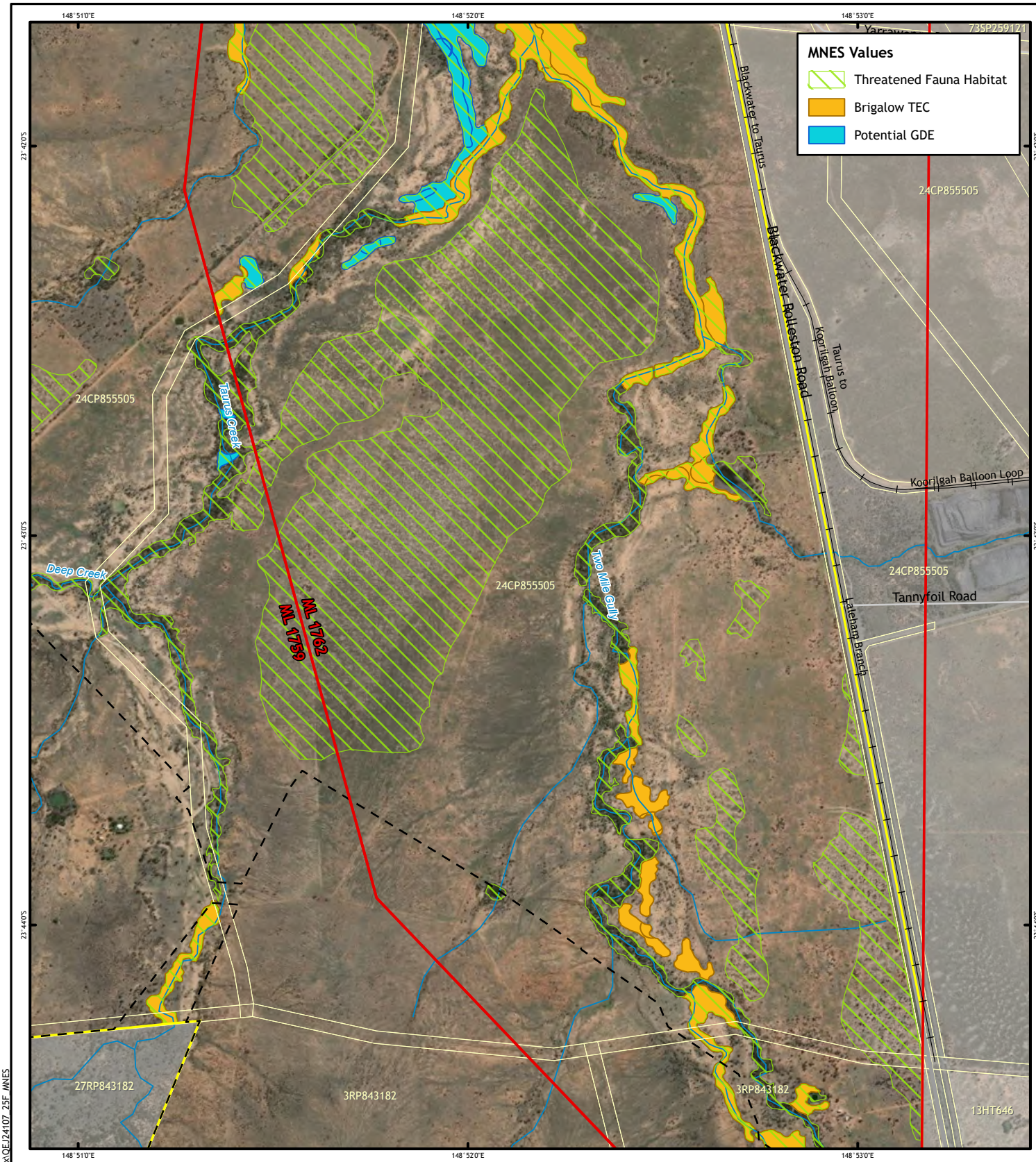
FIGURE 25E: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
5 of 7	QEJ24107	1

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

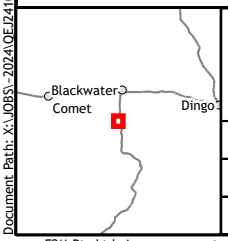
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



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Topographic: © ESRI 2025
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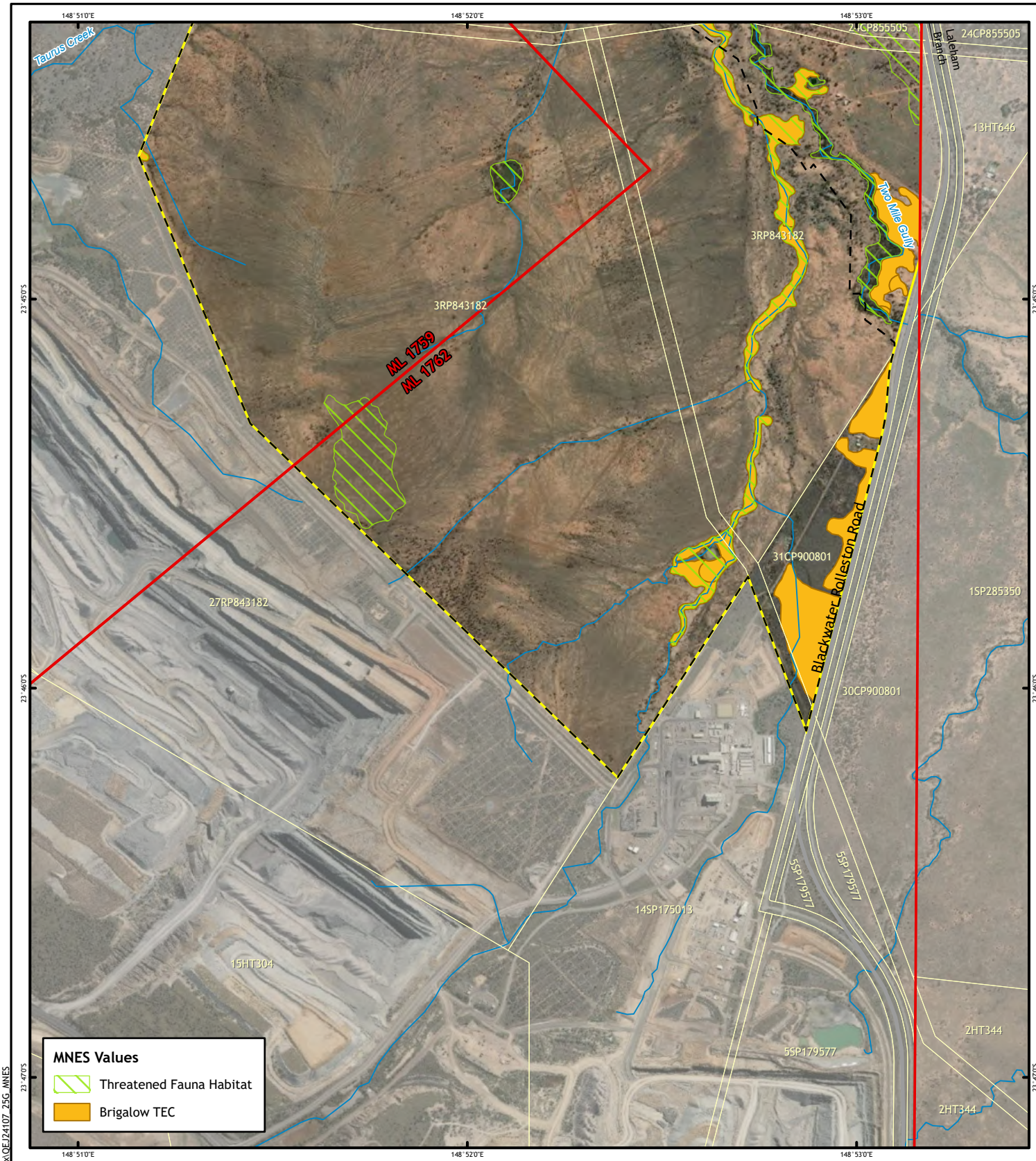
FIGURE 25F: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
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Legend

- Railway
- Secondary Road
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

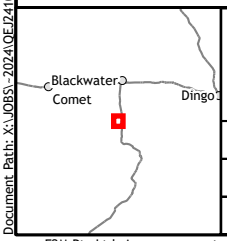
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



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FIGURE 25G: FIELD VERIFIED MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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6.2 Summary of MSES

The following MSES as defined in the Queensland *Environmental Offsets Regulation 2014* (EO Regulation) were identified within the Study Area:

- regulated vegetation
- connectivity areas; and
- protected wildlife habitat.

A summary of the MSES within the Study Area is provided in Table 23 and Table 24.

Table 23: MSES ground-truthed regulated vegetation

MSES	VM Act status	Broad vegetation group	Structure category	Area within Study Area (ha)	Area within Disturbance Footprint (ha)
Endangered and of concern REs					
11.3.1	Endangered	25a	Mid-dense	99.73	1.21
11.3.2	Of concern	17a	Sparse	11.07	0.0
REs within the defined distance of a Vegetation Management watercourse					
11.3.1	Endangered	25a	Mid-dense	10.99	0.06
11.3.2	Of concern	17a	Sparse	0.02	0.0
11.3.3	Of concern	16c	Sparse	4.21	0.0
11.3.6	Least concern	17b	Sparse	7.40	0.18
11.3.27	Least concern	34d	Sparse	0.0	0.0

Table 24: MSES protected wildlife habitat within the Study Area

Species	EPBC Act Status	NC Act status	Area within Study Area (ha)	Area within Disturbance Footprint (ha)	Relevant section
Flora					
Solanum elachophyllum	Least concern	Endangered	Known: 30.32 Potential: 6,853.65	Known: 6.00 Potential: 2,299.78	Section 4.1.3.1
Fauna					
Ornamental snake (*Denisonia maculata*)	Vulnerable	Vulnerable	Breeding and foraging: 497.52	Breeding and foraging: 0.0	Section 4.2.3.1
Australian painted snipe (*Rostratula australis*)	Endangered	Endangered	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Section 4.2.3.2
Latham's snipe *(Gallinago hardwickii)*	Vulnerable	Vulnerable	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Section 4.2.3.3
Squatter pigeon (southern) (*Geophaps scripta scripta)*	Vulnerable	Vulnerable	Breeding and foraging: 239.01 Foraging: 30.46 Dispersal: 990.75	Breeding and foraging: 26.05 Foraging: 6.41 Dispersal: 262.34	Section 4.2.3.4
White-throated needletail *(Hirundapus caudacutus)*	Vulnerable	Vulnerable	Foraging (aerial): 6,907.49	Foraging (aerial): 2,316.58	Section 4.2.3.5
Koala (*Phascolarctos cinereus*)	Endangered	Endangered	Breeding and foraging: 103.38 Dispersal: 209.24	Breeding and foraging: 2.72 Dispersal: 48.29	Section 4.2.3.6
Short-beaked echidna (*Tachyglossus aculeatus*)	Least concern	Special least concern	Breeding and foraging: 501.13	Breeding and foraging: 122.11	Section 4.2.3.7

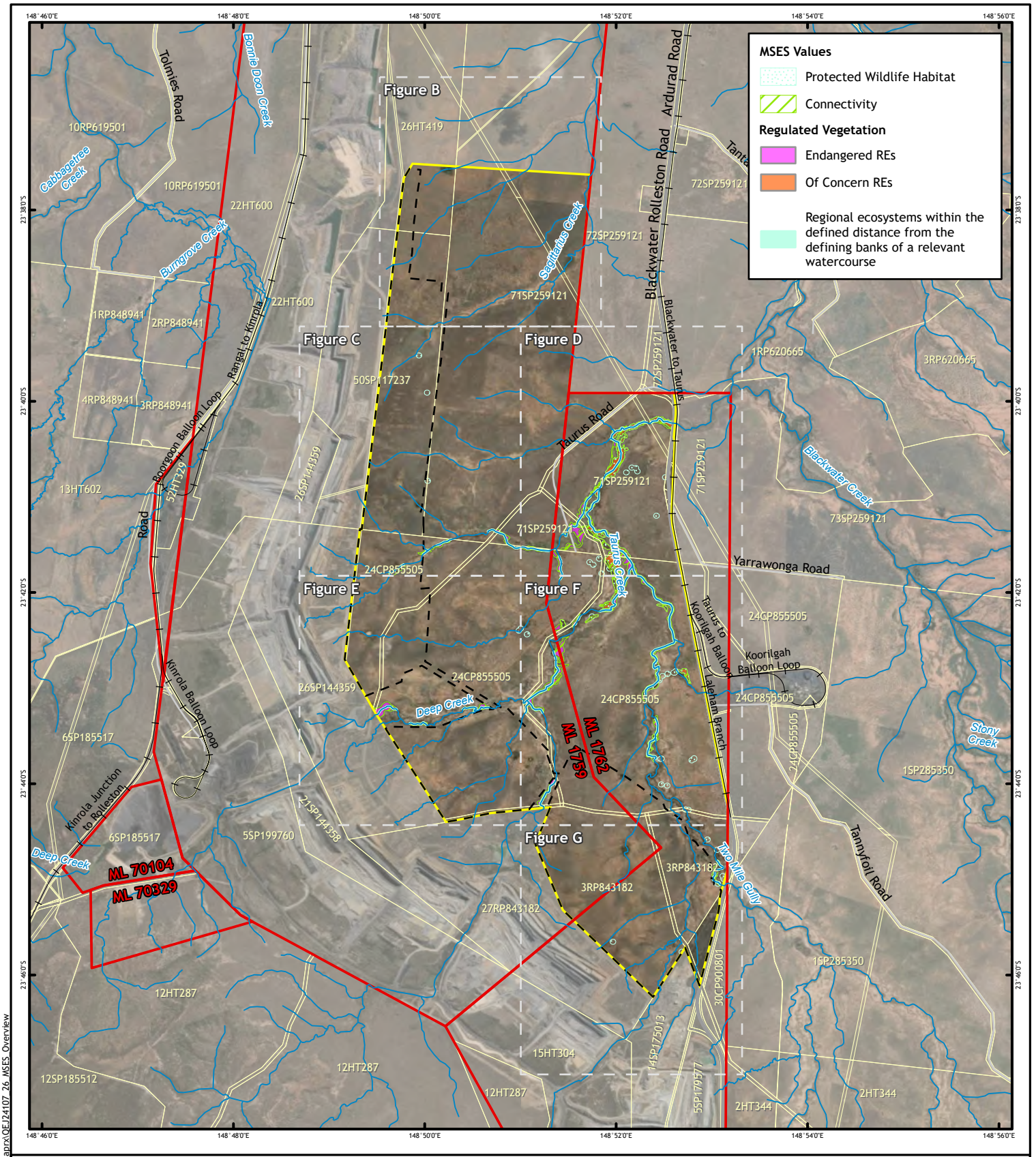
6.2.1 Regulated vegetation

MSES regulated vegetation under the EO Regulation includes prescribed REs containing remnant vegetation. MSES regulated vegetation within the Study Area was assessed using a combination of Queensland Government supplied mapping and RE ground-truthing. The specific methods to map regulated vegetation within the Study Area include:

- REs listed as endangered or of concern under the VM Act, using E2M ground-truthed remnant REs.
- REs located within the defined distance from the defining banks of Vegetation Management watercourse were mapped by buffering DNRMMRR mapped VM Act watercourses and drainage features by a defined distance[3] to estimate the defining banks (DNRMMRRD, 2025d). The size of the buffer was determined by the SO; a 2.5m buffer was applied to SO 1 and 2, a 5 m buffer was applied to SO 3 and 4, and SO 5 or greater were buffered by 10 m. E2M ground-truthed remnant REs within these defined distances and were included as MSES regulated vegetation.

Essential habitat for Ornamental snake (*Denisonia maculata*) occurs within the Study Area however it has not been included as it is assessed and offset as Protected Wildlife habitat for resource projects (Department of the Environment, Tourism, Science (DETSI), 2025). MSES regulated vegetation within the Study Area is depicted in Figure 26.

[3] *defined distance*, for a RE, means a distance identified in the EO Policy as the relevant distance from the defining banks of a relevant watercourse or relevant drainage feature.



Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Disturbance Footprint
- Blackwater Mining Lease
- Cadastre

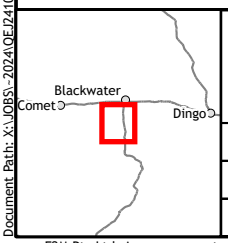
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0 2.5 5

Kilometres

Coordinate System: GDA2020



Notes:
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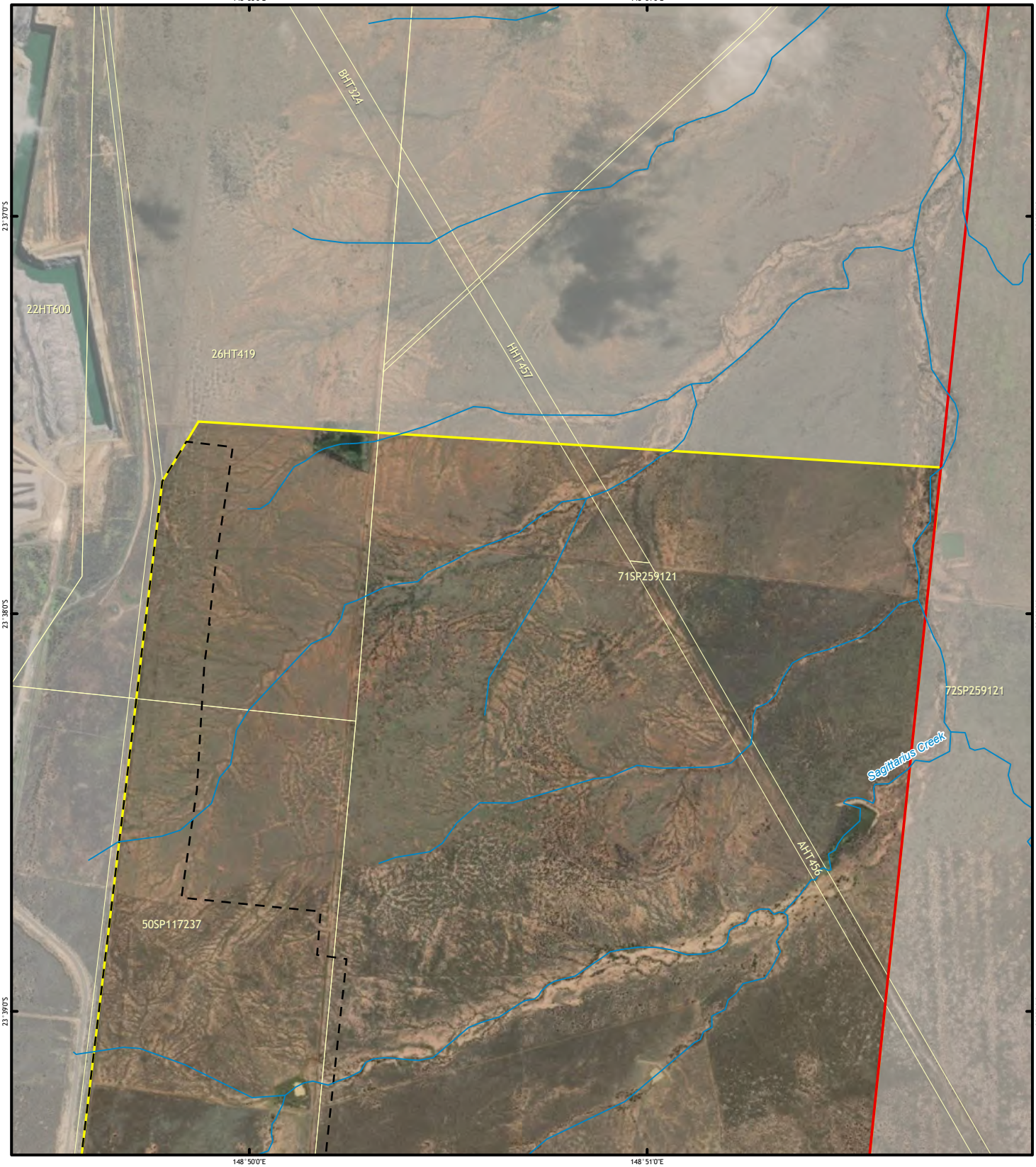
FIGURE 26A: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA - OVERVIEW

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
1 of 7	QEJ24107	1

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Legend

- Watercourse
- Study Area
- Blackwater Mining Lease
- Disturbance Footprint
- Cadastre

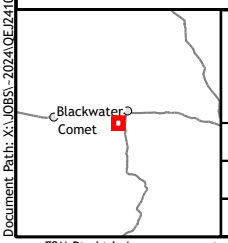
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



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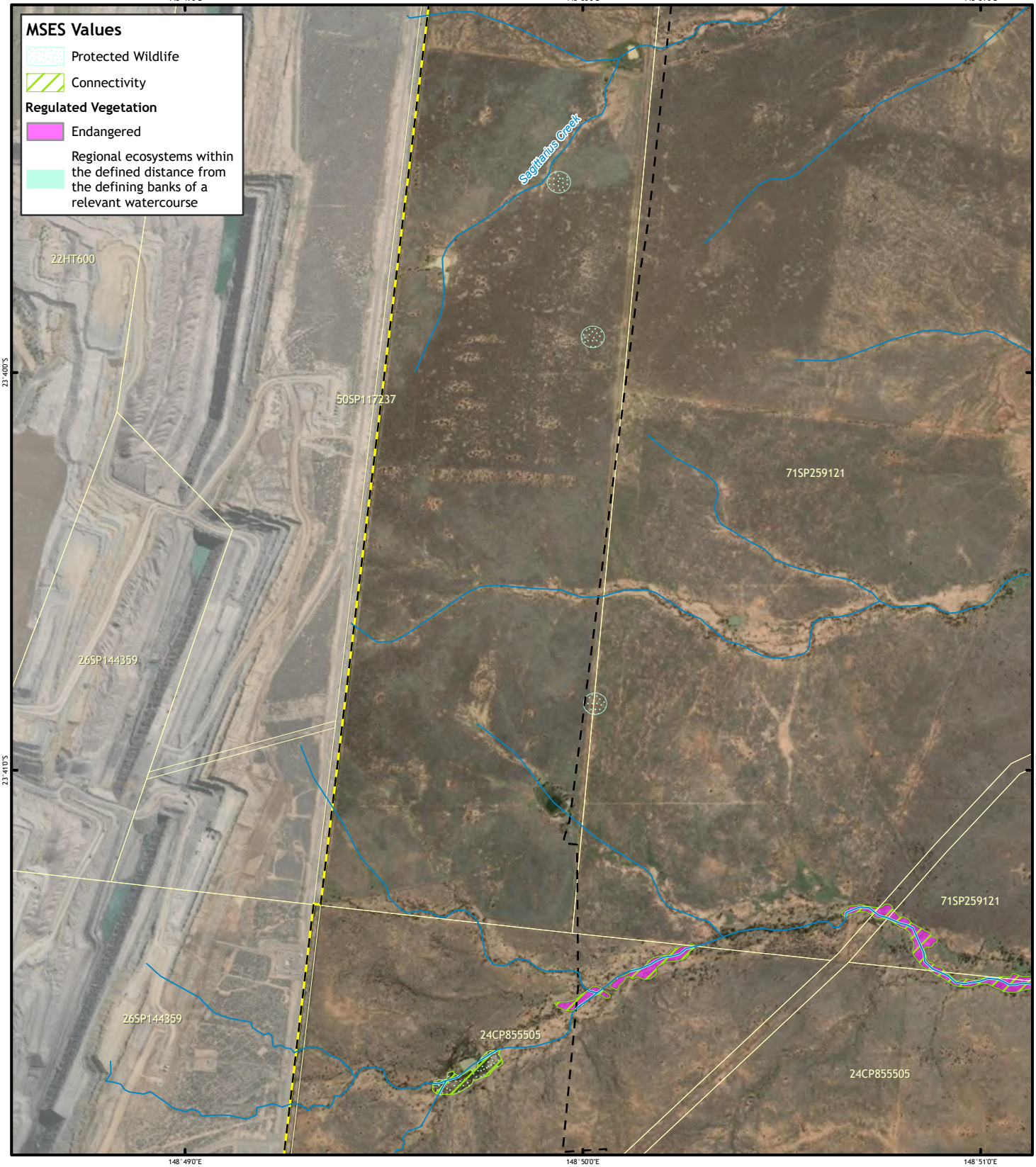
FIGURE 26B: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
2 of 7	QEJ24107	1

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

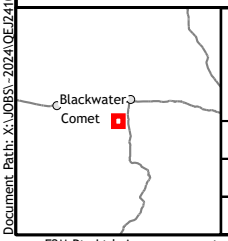
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Kilometres

Coordinate System: GDA2020



Notes:
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Mining Lease: © DNRMMRRD 2025

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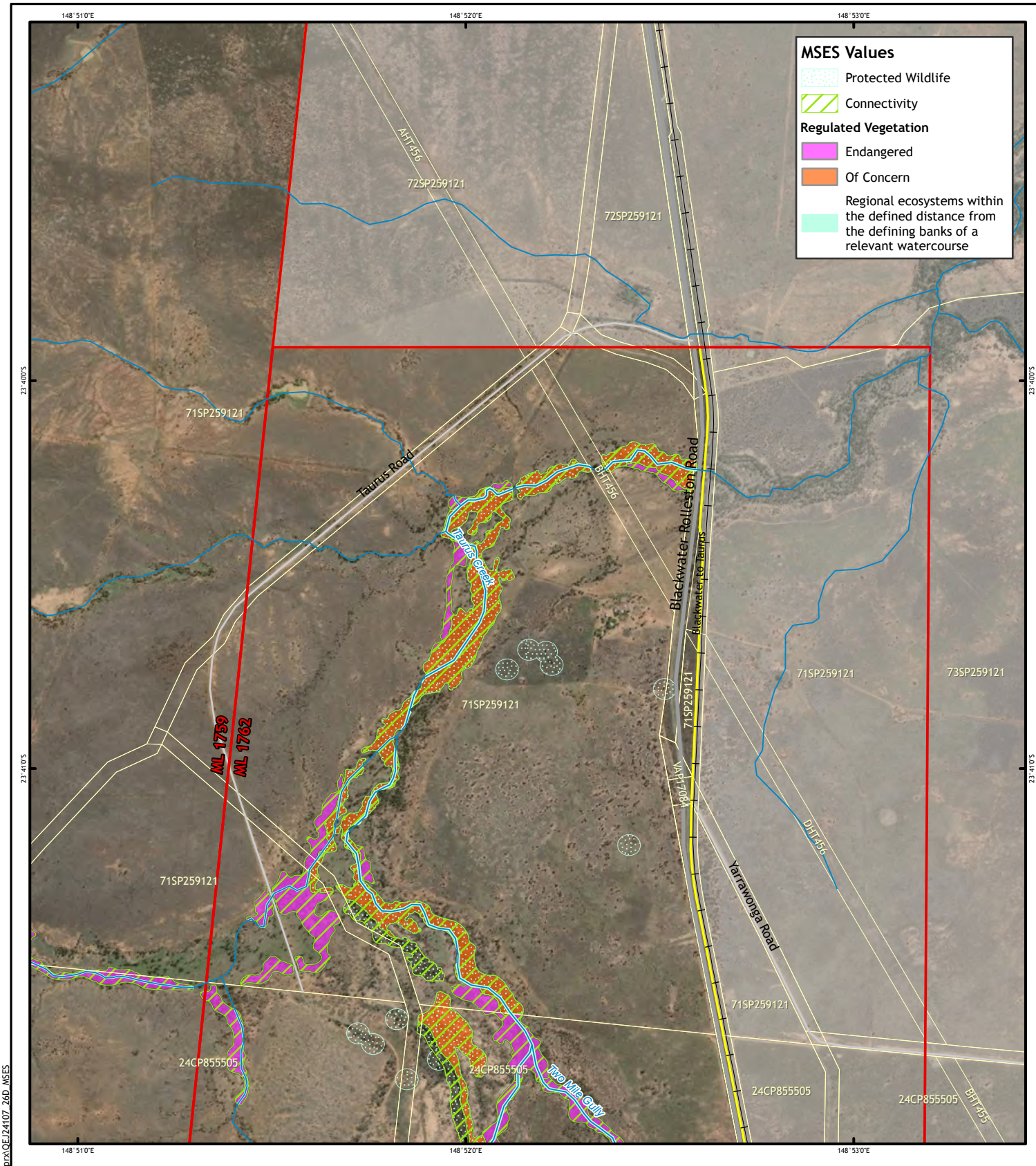
FIGURE 26C: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Blackwater Mining Lease
- Cadastre

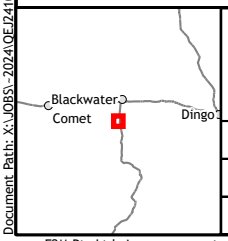
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



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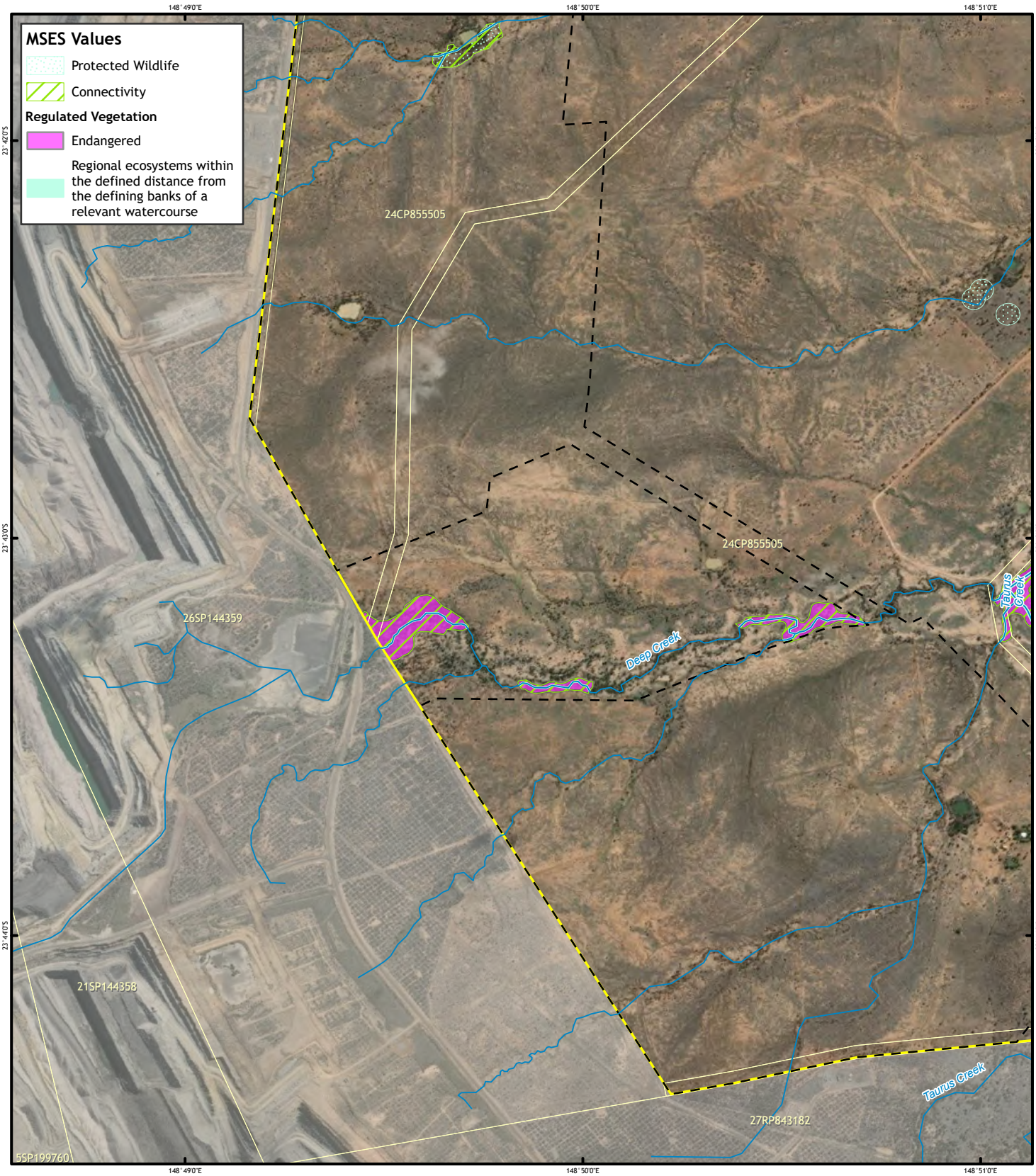
FIGURE 26D: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
4 of 7	QEJ24107	1

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Legend

- Watercourse
- Study Area
- Disturbance Footprint
- Cadastre

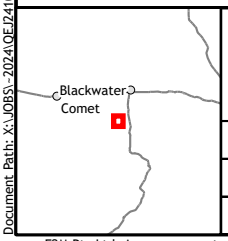
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



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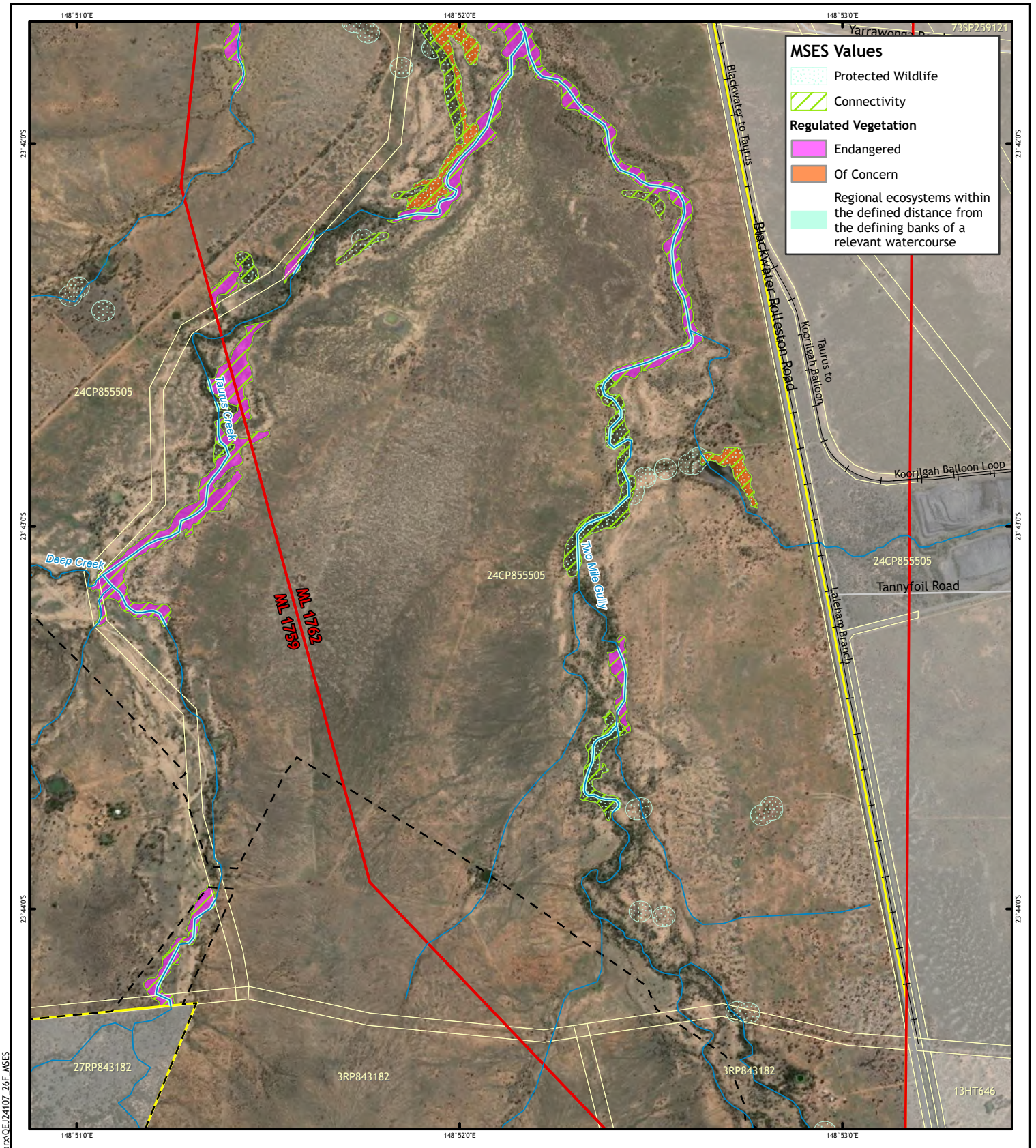
FIGURE 26E: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

Map Number	Job Number	Rev
5 of 7	QEJ24107	1

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Legend

- Railway
- Secondary Road
- Property Access
- Watercourse
- Study Area
- Blackwater Mining Lease
- Disturbance Footprint
- Cadastre

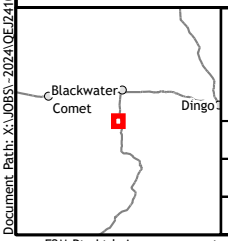
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Kilometres

Coordinate System: GDA2020



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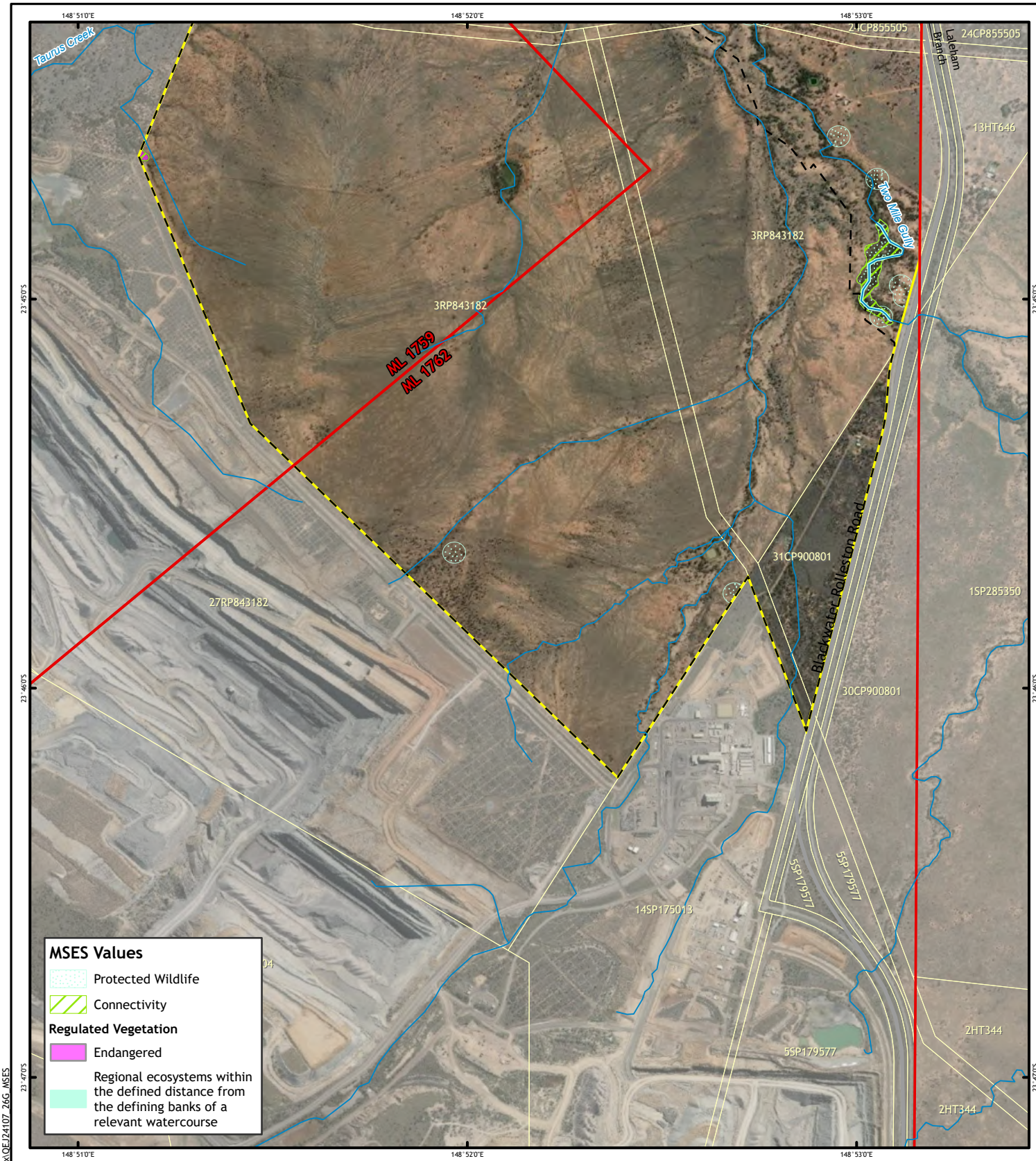
FIGURE 26F: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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Legend

- Railway
- Secondary Road
- Watercourse
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- Blackwater Mining Lease
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- Cadastre

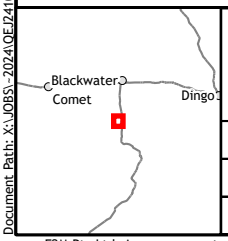
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Scale 1:25,000 (A4)

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Kilometres

Coordinate System: GDA2020



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FIGURE 26G: FIELD VERIFIED MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE WITHIN THE STUDY AREA

Blackwater North Ecological Assessment
Whitehaven Coal

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6.2.2 Connectivity areas

Connectivity areas are defined under the EO Regulation as prescribed REs that contain remnant vegetation and an area of land that is required for ecosystem functioning. Therefore, all ground-truthed remnant vegetation within the Study Area and Disturbance Footprint is considered to potentially contain connectivity values. The Study Area contains approximately 203.11 ha of remnant vegetation/connectivity areas and the Disturbance Footprint contains 3.93 ha of remnant vegetation/connectivity areas.

6.2.3 Protected wildlife habitat

Protected wildlife habitat is defined in the EO Regulation as:

- an area that contains flora that are listed as critically endangered, endangered or vulnerable; and
- an area that contains fauna that are listed as critically endangered, endangered, vulnerable or special least concern (non-migratory).

The EO Policy: *Significant Residual Impact Guideline* (DEHP, 2014) (SRI Guideline) defines habitat as '*the area occupied, or periodically or occasionally occupied, by any species, population or ecological community and includes all the different aspects (both biotic and abiotic) used by species during the different stages of their life cycles*'.

The MSES protected wildlife habitat summarised in Section 6.2 comprises those species that were identified as known or likely to occur within the Study Area.

7 Impacts and mitigation

7.1 Native vegetation clearing

7.1.1 Impact

The overall extent of surface disturbance associated with the Project is approximately 2,316.58 ha. The majority of this disturbance (97.65%, 2,262.07 ha) comprises non-remnant areas that have historically been cleared for livestock grazing and agriculture. The remnant and high value regrowth vegetation that would require removal for the Project totals 43.71 ha and is detailed in Table 25.

Table 25: Summary of direct impact to ground-truthed vegetation communities

RE	VM Act class	Area within Study Area (ha)	Area within Disturbance Footprint (ha) Ground-truthed Regional Ecosystem (GTRE)	RE mapped area within Isaac Comet Downs	Percent of disturbance within Isaac Comet Downs (%)
Remnant					
11.3.1	Endangered	99.73	1.21	21,832.42	0.0055
11.3.2	Of concern	11.07	0.0	34,854.35	0.0
11.3.3	Of concern	38.28	0.0	41,098.88	0.0
11.3.6	Least concern	45.32	2.72	1,315.35	0.21
11.3.27	Least concern	8.71	0.0	1,142.78	0.0
Sub-total		203.11	3.93	100,243.78	0.0039
High Value Regrowth					
11.3.1	Endangered	40.99	18.35	3,917.28	0.47
11.4.9	Endangered	32.16	17.66	3,826.97	0.46
11.9.5	Endangered	10.62	3.77	754.60	0.49
Sub-total		83.77	39.78	8,498.85	0.46

Clearance of remnant vegetation within the Disturbance Footprint is unavoidable due to the fixed location of the mining pits and the requirement to position supporting infrastructure around these operational areas. As a result, the project will necessitate the removal of approximately 3.93 ha of remnant vegetation for mining activities and associated infrastructure. The layout has been refined where possible to minimise impacts; however, complete avoidance is not feasible given operational, safety and engineering constraints.

The final landform concept incorporates a multifunctional landscape that will support a mix of pastoral, agricultural, ecological, and hydrological land uses. Key landform elements include areas rehabilitated for cattle grazing and suitable for dryland cropping as well as woodland habitat to provide ecological connectivity. The land will also provide dedicated water storage features to support agricultural use and ecological function, and a stabilised watercourses that maintain natural drainage patterns.

Vegetation clearing for the Project would result in disturbance of habitat for threatened flora species and TECs. Within the Disturbance Footprint, 40.29 ha of Brigalow TEC habitat, and 6.00 ha of known and 2,299.78 ha of potential *Solanum elachophyllum* habitat, will be affected. These impacts are unavoidable due to the reasons discussed above. Table 26 summarises these impacts and significant impact assessments are detailed in Appendix D.1 and E.3.

Table 26: Threatened flora and TECs impacted by the Project

Species	EPBC Act status	NC Act status	Area within Study Area (ha)	Area within Disturbance Footprint (ha)	Percentage impacted (%)
Threatened ecological communities					
Brigalow TEC	Endangered	-	148.88	40.29	27.06
Threatened flora					
Solanum elachophyllum	-	Endangered	Known: 30.32 Potential: 6,853.65	Known: 6.00 Potential: 2,299.78	Known: 19.80 Potential: 33.56

7.1.2 Avoidance Measures

Field surveys were undertaken early in the design process such that ecological constraints could be considered as part of design and direct impacts to native vegetation could be minimised. The Disturbance Footprint has been designed to avoid impacting areas of vegetation where possible, including avoiding Taurus Creek and the ecological values along its riparian corridor.

7.1.3 Mitigation

While the Project would result in unavoidable impacts on native vegetation, a range of vegetation clearing measures would be implemented during both the construction and operation phases of the Project. These include the following:

- Vegetation clearing extents would be kept to the minimum area necessary for construction to minimise the removal of S. *elachophyllum* habitat and Brigalow TEC.
- Areas that must not be cleared or damaged outside of the Disturbance Area would be clearly identified on construction plans. Where necessary, signage, flagging and/or barricade fencing will be used to demarcate areas not to be cleared and this information clearly communicated to all necessary construction personnel.
- Implementation of weed hygiene protocols (e.g. wash-down, weed hygiene certification) for all vehicles, equipment and materials to be used in areas of native vegetation. This will help reduce the indirect impacts on the remaining Brigalow TEC in the Study Area by minimising further increases in weed density.

- Development of a Rehabilitation Management Plan, including a specification that rehabilitation commence as soon as practicable for all areas containing temporary infrastructure and cleared areas which are no longer required.
- Re-spread cleared vegetation and vegetation mulch on rehabilitated land to suppress weeds and assist in regrowth of S. *elachophyllum* and Brigalow community species.

7.2 Fauna habitat removal

7.2.1 Impact

7.2.1.1 Habitat removal

Habitat for eight conservation significant fauna species will be disturbed due to clearing within the Disturbance Footprint, including disturbance or removal of animal breeding places as well as foraging and dispersal habitat. This is summarised in Table 27. The Project's Disturbance Footprint encompasses areas of remnant Brigalow and Eucalypt woodland, as well as both mature and young Brigalow regrowth, which serve as habitats for a range of species. It will also impact extensive sections of non-remnant vegetation (with and without gilgai), however, the gilgai present within the Disturbance Footprint does not provide suitable habitat for the Ornamental snake. In addition, several wetlands and dams are present within the Disturbance Footprint which support various bird species.

Clearance of fauna habitat within the Disturbance Footprint is unavoidable due to the fixed location of the mining pits and the requirement to position supporting infrastructure around these operational areas. The layout has been refined where possible to minimise impacts; however, complete avoidance is not feasible given operational, safety and engineering constraints.

Table 27: Threatened and migratory fauna habitat impacted by the Project

Species	EPBC Act status	NC Act status	Area within Study Area (ha)	Area within Disturbance Footprint (ha)	Percentage impacted (%)
Australian painted snipe (*Rostratula australis)*	Endangered	Endangered	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Permanent Foraging: 38.97 Intermittent Foraging: 2.43
Koala (*Phascolarctos cinereus*)	Endangered	Endangered	Breeding and foraging: 103.38 Dispersal: 209.24	Breeding and foraging: 2.72 Dispersal: 48.29	Breeding and foraging: 2.63 Dispersal: 23.08
Latham's snipe *(Gallinago hardwickii)*	Vulnerable, migratory	Vulnerable	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Permanent Foraging: 38.97 Intermittent Foraging: 2.43
Ornamental snake (*Denisonia maculata*)	Vulnerable	Vulnerable	Breeding and foraging: 497.52	Breeding and foraging: 0	Breeding and foraging: 0

Species	EPBC Act status	NC Act status	Area within Study Area (ha)	Area within Disturbance Footprint (ha)	Percentage impacted (%)
Squatter pigeon (southern subspecies) (*Geophaps scripta scripta)*	Vulnerable	Vulnerable	Breeding and foraging: 239.01 Foraging: 30.46 Dispersal: 990.75	Breeding and foraging: 26.05 Foraging: 6.41 Dispersal: 262.34	Breeding and foraging: 10.90 Foraging: 21.04 Dispersal: 26.48
White-throated needletail *(Hirundapus caudacutus)*	Vulnerable, migratory	Vulnerable	Foraging (aerial): 6,907.48	Foraging (aerial): 2,316.58	Foraging (aerial): 33.54
Short-beaked echidna (*Tachyglossus aculeatus*)	-	Special least concern	Breeding and foraging: 501.13	Breeding and foraging: 122.11	Breeding and foraging: 24.37
Glossy ibis (*Plegadis falcinellus*)	Migratory	-	Permanent Foraging: 16.45 Intermittent Foraging: 593.55	Permanent Foraging: 6.41 Intermittent Foraging: 14.45	Permanent Foraging: 38.97 Intermittent Foraging: 2.43
Fork-tailed swift (*Apus pacificus*)	Migratory	-	Foraging (aerial): 6,907.48	Foraging (aerial): 2,316.58	Foraging (aerial): 33.54

7.2.1.2 Habitat degradation and edge effects

In general, construction activities and vegetation removal have the potential to indirectly degrade adjacent fauna habitat through edge effects. These occur where newly created habitat boundaries are subject to altered microclimate, vegetation structure and resource availability, leading to changes in habitat quality (Laurance & Yensen, 1991). For fauna, edge effects can increase exposure to weeds, noise, light, dust, as well as reduced foraging resources and shifts in species assemblages (Laurance & Yensen, 1991). Prolonged exposure to edge effects can degrade or reduce the quality of habitat, potentially impacting the abundance, richness and diversity of fauna species.

Habitat surrounding the Disturbance Footprint is largely fragmented from agricultural development and the existing mine area. Edge effects are not likely to be present in non-remnant or regrowth areas as the land is already disturbed with reduced foraging resources and altered vegetation structures. Edge effects are likely to be present within remnant vegetation as these communities have not previously been disturbed. However, remnant areas along Taurus creek adjacent to the Disturbance Footprint are very narrow and impact to this vegetation is not likely to cause a significant increase in edge effects within the greater landscape.

7.2.1.3 Habitat connectivity and fragmentation

Habitat connectivity within the Study Area (i.e. physical linkages between remnant and regrowth areas) is limited, attributed largely to the disturbance and fragmentation associated with historical and ongoing agricultural development and land use practices. Landscape connectivity values have largely been avoided for the Project with clearing of 3.93 ha of remnant connectivity areas being removed within the

Disturbance Footprint (Section 6.2.2). In particular, the remnant riparian vegetation associated with Taurus Creek and Two Mile Gully have largely been avoided.

Clearance of connectivity areas within the Disturbance Footprint is unavoidable due to the fixed location of the mining pits and the requirement to position supporting infrastructure around these operational areas. The layout has been refined where possible to minimise impacts; however, complete avoidance is not feasible given operational, safety and engineering constraints.

7.2.1.4 Fauna mortality and injury

Construction and operation activities associated with the Project have the potential to result in fauna injury or mortality. Vehicles and machinery operating within the Disturbance Footprint may inadvertently strike fauna residing in these areas, leading to direct harm. Similarly, fauna that are unable to disperse away from areas under active clearing are also particularly susceptible to injury or mortality, which may include threated species present in the area, such as Koala, Ornamental snake and Short-beaked echidna. Other potential causes of injury or mortality include animals becoming trapped in excavations/trenches. Additionally, following the completion of construction works, fauna that remain within the Study Area may face an elevated risk of being struck by vehicles or machinery operating adjacent to the Disturbance Footprint.

Impact avoidance measures currently being practiced to avoid fauna mortality during disturbance include (Whitehaven, 2020):

- Consideration of restrictions in relation to the presence of critical habitat for listed threatened species or ecological communities, triggering the referral process as per EPBC Act.
- Presence of a fauna spotter/catcher during clearing of vegetation or fauna habitat.

7.2.2 Avoidance Measures

Field surveys were undertaken early in the design process such that ecological constraints could be considered as part of design and the direct impact to native vegetation could be minimised. The disturbance footprint for the Project has been defined to avoid impacting areas of fauna habitat where possible.

7.2.3 Mitigation

In order to mitigate unavoidable impacts on fauna habitat values associated with the Project, a range of vegetation clearing measures will be implemented over the course of the Project. Measures associated with the spread of environmental weeds, noise, light and dust are discussed in Sections 7.3.2. Mitigation measures include the following:

- Vegetation clearing would be carried out sequentially over the life of the Project to allow fauna species the opportunity to disperse away from clearing areas.
- Directional clearing towards habitat to be retained to prevent fauna from becoming trapped in the clearing front.
- Identified fauna would be left in place with dispersal routes and connecting trees available until the individual has moved on without interference.
- Pre-clearance fauna surveys would be undertaken by suitably experienced and qualified persons to identify individual fauna at direct risk from clearing activities and provide advice to avoid/minimise the impacts.

- A suitably experienced and qualified fauna spotter/catcher would be present during the clearing of any habitat features (e.g trees, woody debris, logs and rocks) that may serve as habitat or refugia for animals, particularly in remnant and regrowth habitat areas.
- Prior to removal, all hollow-bearing trees would be thoroughly checked for large hollow-dwelling fauna prior to felling. If presence is identified, it is recommended that the tree be left overnight to allow for self-dispersal.
- Management of fauna identified during clearing would include relocating individuals to adjacent habitat or treating injuries.
- Select habitat features (e.g. hollow bearing trees, woody debris, logs and rocks) would be salvaged for re-use in rehabilitation areas.

The existing Blackwater Mine Land and Biodiversity Management Plan (Whitehaven Coal Pty Ltd, 2020) will be updated to include both the mitigation measures above as well as species-specific management measures for relevant MNES and MSES species, including:

- Australian painted snipe
- Koala
- Latham's snipe
- Squatter pigeon (southern)
- White-throated needletail; and
- Short-beaked echidna.

7.3 Introduction and spread of weeds and pests

7.3.1 Impacts

Introduced flora species disrupt ecosystems by outcompeting and replacing native species, resulting in altered ecosystem diversity and function. Proliferation and spread of environmental weeds and pests may occur with vegetation clearing, soil disturbance and increased movement of heavy machinery and vehicles. Seven weed species listed as WoNS and/or restricted matters under the Biosecurity Act were recorded within the Study Area as scattered individuals and groups:

- *Bryophyllum delagoense;*
- *Cryptostegia grandiflora;*
- *Harrisia martinii;*
- *Opuntia streptacantha;*
- *Opuntia stricta;*
- *Opuntia tomentosa;*
- *Parkinsonia aculeata;* and
- *Parthenium hysterophorus*.

Weed seeds can be transported in contaminated landfill, and as seed and material on machinery, vehicles or personnel. Construction activities have the potential to spread or introduce weeds throughout adjacent areas, resulting in a degradation of vegetation/habitat quality and native species assemblages.

The Project may also result in an increase in the presence and abundance of feral animals due to increased permanency of water sources (e.g. dams and troughs). These pests can result in adverse impacts to native fauna through increased habitat degradation, predation pressure and competition for resources. Environmental pests recorded in the Study Area during the field survey are:

- Cane toad (*Rhinella marina*);
- Wild dog (*Canis lupus familiaris*);
- Feral cat (*Felis catus*);
- Common myna (*Acridotheres tristis*);
- Rabbit (*Oryctolagus cuniculus*); and
- Feral pig (*Sus scrofa*).

7.3.2 Mitigation

Management and control of environmental weeds and pests will be required during the construction and operational phases of the Project. Associated management measures will include:

- Prior to vegetation clearing activities, a pre-clearance survey would be undertaken to identify and map infestations of WoNS and biosecurity matters to minimise spread during clearing works and the operational phase.
- Monitor and respond early with regular inspections, mapping, and rapid treatment of new outbreaks
- Treat established weeds using appropriate manual, mechanical, chemical, or biological methods
- Implementation of weed hygiene protocols (e.g. wash-down, weed hygiene certification) for all vehicles, equipment and materials to be used in areas of native vegetation.
- Weeds or soil removed as a result of construction activities would be removed from the area to minimise potential spread and proliferation of weed species.
- Continuation of waste management measures described in the Blackwater Mine Waste Management Plan (Whitehaven Coal, 2021). Waste management measures would be identified and enacted to minimise occurrences of pest fauna. Food scraps, which attract pest fauna, would be disposed of in designated bins. The contents of the bins would be transferred to the industrial bins which are then emptied by the designated contractor directly to the designated landfill onsite.
- Control feral animals through monitored programs (trapping and 1080 baiting) when thresholds are me
- Educate and report via toolbox talks, training, record-keeping, and landholder notification

An existing Weed and Feral Animal Management Plan (Whitehaven Coal, 2022a) has been developed to monitor the distribution and density of listed invasive flora and fauna. This plan oversees the implementation of the mitigation methods described above, ensuring that all recommended actions are carried out effectively.

7.4 Modification of hydrology

7.4.1 Impacts

7.4.1.1 Surface water quality

Changes in the surface water quality and quantity may impact terrestrial ecosystems downstream of disturbance associated with the Project. Sedimentation and chemicals can enter downstream environments resulting from overland flow patterns (Evans, 2000). Based on the water level data collected to date, groundwater interaction with ephemeral creeks is considered to be unlikely (SLR, 2026).

7.4.1.2 Groundwater drawdown

Changes to groundwater quality and quantity can have an indirect impact on ecosystems surrounding the Study Area, including ecosystems that are dependant or partially dependent on groundwater (terrestrial GDEs). The process of mining reduces water levels in the surrounding groundwater units. The extent of the zone affected is dependent on the properties of the aquifers/aquitards and is referred to as the zone of drawdown. The potential impacts to groundwater have been assessed in accordance with the Blackwater Mine - North Extension Project Groundwater Impact Assessment (SLR, 2026). Groundwater will not leave the mine lease permanently and the final voids anticipated to act as a groundwater sink, capturing water associated with in-pit rejects (SLR, 2026).

7.4.2 Mitigation

Mitigation measures to minimise potential impacts to hydrology associated with the Project include:

- A Groundwater Monitoring and Management Program (GMMP) exists for the BWM (WSP, 2024). The purpose of the GMMP is to monitor the scale and distribution of shifts to groundwater resources due to existing operations at BWM and to provide early detection of any unforeseen impacts to groundwater levels or groundwater quality.
- Groundwater inflows to the open cut pits during mining operations would be pumped out (along with any surface water) via in-pit sumps if the groundwater doesn't passively evaporate on the pit face or from the pit floor (SLR, 2026). The groundwater inflows would be collected and contained within the mine water management system (SLR, 2026).
- Erosion and sediment control monitoring would be implemented to reduce the amount of sediment laden run-off entering downstream waterways. The following general principles should apply to the erosion and sediment controls:
  - minimise the surface disturbance areas
  - where possible, apply local temporary erosion control measures
  - intercept run-off from undisturbed areas and divert around surface disturbance areas, through the use of up-catchment diversions; and
  - where temporary measures are likely to be ineffective, direct surface water run-off from surface disturbance areas to sediment dams prior to release from the Project area.
- Active haul roads are to be regularly watered (or applied with dust suppressants) to minimise dust generation potential.

- Bunding and appropriate storage of fuels and other hazardous and flammable materials will be undertaken in accordance with Australian Standard (AS)1940:2004, and where practical, will be located away from any waterbodies.
- Oil spill recovery equipment will be available when working adjacent to drainage channels with the ability to discharge off site. Spill kits will be located with construction crews conducting activities with the potential for significant spills.
- As soon as practical, disturbed areas will be rehabilitated to reduce the amount of exposed soils.

7.5 Proliferation of noise, light and dust

7.5.1 Impacts

Construction and operation activities can disrupt local fauna roosting, breeding and foraging activities as a result of increased exposure to artificial lighting, noise and vibration. Artificial lighting poses risks to fauna, as increased light allows predators to locate prey more easily. In particular, threatened fauna within the Study Area may be at increased risk of predation, such as Ornamental Snake, Australian painted snipe, Latham's snipe, Squatter pigeon and Short-beaked echidna. As the Project brings operational areas closer to the more heavily vegetated sections of Taurus Creek, these impacts may affect the fauna species that inhabit and utilise this watercourse.

7.5.2 Mitigation

To minimise potential impacts associated with proliferation of dust the following management measures would be implemented:

- Dust suppression activities are to be carried out where required and managed in accordance with the limits and risk levels identified within the Blackwater *Air Emissions Management Plan*. The Project would continue to implement the measures described in the Blackwater Air Emissions Management Plan (Whitehaven Coal, 2022b), including:
  - Availability of water trucks to provide dust suppression on haul and light vehicle roads
  - Water sprays on stacker/reclaimer unites; and
  - Train loadout to incorporate veneering.
- Topsoil stockpiles are to be kept to a maximum height of 3 m and side slopes profiled to 3H:1V to decrease wind impact.
- Active mining areas and haul roads are to be maintained in good condition to minimise emissions.
- Blasting operations are to be monitored in relation to wind speed and direction to ensure that emissions do not adversely impact on sensitive receivers.
- Completed mining areas and any other cleared areas would be rehabilitated as soon as possible after use.
- Other controls listed in the Blackwater Air Emissions Management Plan include (Whitehaven Coal, 2022b):
  - minimising the area of disturbance;
  - progressive backfilling of overburden and rejects to in pit spoil dumps;
  - ongoing implementation of the WHC-QLD-PRO Permit to Disturb; and
  - avoid burning cleared vegetation.

To minimise potential impacts associated with proliferation of noise and light the following management measures would be implemented:

- Where artificial lighting is required, directional lighting would be implemented in a way to:
  - focus on disturbance/work areas
  - minimise/avoid lighting of remnant vegetation; and
  - implemented in accordance with AS including consideration of *National Light Pollution Guidelines for Wildlife* (DCCEEW, 2023).
- Regular maintenance of machinery and plant would be undertaken to minimise unnecessary noise.
- The Blackwater Air Emissions Management Plan states the following measures should be implemented during operational activities (Whitehaven Coal, 2022b):
  - upgrading silencing of mobile equipment
  - limiting speed of heavy vehicle traffic on haul roads
  - implement maintenance and operation procedures to minimise nuisance noise emissions from equipment
  - only carry out blasting during daylight hours
  - restricting blasts to favourable weather conditions; and
  - alteration of number of blast holes; stemming depth, spacing etc. of blasts.

7.6 Bushfire event

7.6.1 Impacts

Accidental ignitions in the Project area may be caused by machinery, an accident or collision, scheduled burns getting out of control, hot works, spontaneous combustion of coal or from the incorrect disposal of flammable items. These ignitions have the potential to cause uncontrollable fires that can have pronounced impacts on vegetation and habitat within and adjacent to the Project area.

The majority of vegetation surrounding the Disturbance Footprint are Brigalow dominated vegetation types, which typically do not carry fire, except where invaded by exotic species, such as Buffel grass (Butler & Fairfax, 2008).

7.6.2 Mitigation

To minimise potential impacts from a bushfire event, the following management measures would be implemented:

- Implement a Bushfire Management Plan, which includes strategies for fuel load management. The Bushfire Management Plan should include an assessment of appropriate fire strategies to maintain the ecological values of surrounding vegetation communities, some of which are sensitive to uncontrolled burns (i.e. brigalow communities).
- Any chemicals used in the Project area would be handled and disposed of in accordance with the relevant Safety Data Sheet.
- Access tracks would be constructed and maintained for ready use by Queensland Fire and Rescue Service in emergency situations. These tracks could also be used as fire breaks if appropriately maintained. The designation of fire breaks is to be specified within the Bushfire Management Plan.
- An Emergency Response Procedure would be prepared in consultation with emergency services and implemented.

7.7 Cumulative impacts

Land use in the Isaac - Comet Downs sub-bioregion consists primarily of mining, cattle grazing and grain production. The Project area comprises of patches of remnant and regrowth vegetation and agricultural land, primarily used for cattle grazing.

The Project's impact on the environment is additive to that from past and present grazing, agriculture and mining activities within the Northern Bowen Basin and Isaac - Comet Downs sub-bioregions. As such, this section focusses on evaluating the Project's impact inclusive of other local and regional disturbances, which allows a broad-scale assessment on impacts to MNES habitat.

The Isaac – Comet Downs subregion includes extensive agricultural practices and large-scale regional development comprising several existing and approved EPBC Act Referrals. Referrals within 30 km of the Project are detailed in Table 28.

Table 28: Approved EPBC Act Referrals within 30 km of the Project

EPBC Act referral title	Referral number	Distance to Blackwater North	Date of Referral	Approval status
Bowen Gas Project	2012/6377	Incorporates the northern extent of the Study Area	09/05/2012	Active Project, with condition variation being considered
Blackwater to Rolleston 132 kV transmission line	2002/880	Immediately west of the Study Area	25/11/2002	Active Project
Development and operation of a new multi-seam underground coal mine with associated on-site infrastructure	2011/5811	Immediately east of the Study Area	16/01/2011	Active Project
Blackwater to Emerald Dual Circuit 132kV Powerline, QLD	2012/6480	0.37 km	23/07/2012	Active Project
Curragh Extension Project, Blackwater, QLD	2015/7508	0.5 km	02/07/2015	Active Project
Rail track to link the proposed MIM Rolleston coal mine to existing rail network	2002/637	3.26 km	08/04/2002	Active Project
Curragh West Project	2011/6187	5.93 km	08/11/2011	Active Project
Blackwater creek diversion and coal mine	2007/3925	8.79 km	17/12/2007	Active Project
Curragh North Coal Mine	2003/1096	12.62 km	12/06/2003	Active Project
Springsure Creek 132kV powerline and switchyards	2012/6385	14.97 km	15/05/2012	Active Project
Development and operation of the Star Coal Project Bulk Sample Project	2023/09502	15.03 km	23/03/2023	Active Project
Santos GLNG Gas Field Development Project, QLD	2012/6615	19.70 km	07/11/2012	Active Project
Bluff open cut coal mine project, central Queensland	2013/7064	20.16 km	24/11/2013	Active Project

EPBC Act referral title	Referral number	Distance to Blackwater North	Date of Referral	Approval status
Blackwater System Rail Expansion	2011/6209	21.07 km	29/11/2011	Active Project
Expansion of Ensham Mine	2004/1822	24.91 km	13/10/2004	Approval decision made
Jellinbah Coal Mine-Central North Extension, QLD	2018/8139	25.25 km	02/01/2018	Approval decision made
Coal Seam Gas Field Development for Natural Gas Liquefaction Park, Curtis Island	2008/4059	26.34 km	27/02/2008	Approval decision made
Blackwater Mine South Coking Coal Project	2022/09279	26.68 km	09/06/2022	Under Assessment

The Project would result in the removal of 43.71 ha of remnant and high value regrowth vegetation.

The potential cumulative impacts on threatened species arising from the Project are minimal because of the localised nature of the Project compared to the wider distribution of the species and associated habitats and communities in the surrounding landscapes and subregions, together with the highly disturbed existing character of the habitats within the Disturbance Footprint. A total of 3.93 ha of remnant vegetation will be removed within the Disturbance Footprint, comprising 0.17% of the total disturbance.

The cumulative impact on the MNES and MSES identified within the Study Area was estimated by comparing the Project's direct impact to the area of habitat present within the Central Highlands. The available habitat for each MNES was calculated across the Isaac – Comet Downs subregion using similar habitat definitions applied on the Study Area with the exception of field-based criteria (such as species diversity, ground cover, etc) (Table 29). Species profiles and listing advice were used to identify REs and Broad Vegetation Groups (BVGs) within the subregion that provide suitable habitat for each MNES. Threatened matters habitat listed in Table 29 generally cover the entire Isaac - Comet Downs sub-bioregion, extending from Nebo in the north, to Rolleston in the south (Atlas of Living Australia (ALA), 2025; DCCEEW, 2025k).

For threatened fauna species, it was conservatively assumed that all remnant REs contains the necessary microhabitat for each species. Therefore, for species and communities that occur in regrowth areas, which are detailed in the broad habitat descriptions in the table below, this assessment is an under-estimate of available habitat in the region.

Table 29: MNES and MSES regional habitat associations

MNES and MSES	Qualifying RE/BVG[1]	Broad habitat description
Threatened ecological communities		
Brigalow TEC	11.3.1, 11.4.8, 11.4.9, 11.5.16, 11.9.1, 11.9.5	Remnant and regrowth *Acacia harpophylla* dominated woodlands and open forests
Conservation significant species		
Solanum elachophyllum	11.3.1, 11.3.6, 11.4.9 and 11.5.16	Remnant and regrowth *Eucalyptus thozetiana*, *Acacia harpophylla* open forests or *E. crebra and E. tenuipes* woodland.
Ornamental snake *Denisonia maculata*	11.4.3, 11.4.6, 11.4.8, 11.4.9, 11.3.3 and 11.5.16	Remnant and regrowth *Acacia harpophylla* and/or *Casuarina cristata* dominated vegetation where gilgai occur
Australian painted snipe *Rostratula australis*	11.2.4, 11.2.5, 11.3.2, 11.3.12, 11.3.15, 11.3.22, 11.3.23, 11.3.24, 11.3.27, 11.3.37, 11.3.40, 11.4.3, 11.4.8, 11.4.9, 11.5.16, 11.5.17 and 11.10.14	Remnant and regrowth REs providing palustrine or lacustrine wetland habitat in the brigalow belt bioregion
Latham's snipe *Gallinago hardwickii*	11.2.4, 11.2.5, 11.3.2, 11.3.12, 11.3.15, 11.3.22, 11.3.23, 11.3.24, 11.3.27, 11.3.37, 11.3.40, 11.4.3, 11.4.8, 11.4.9, 11.5.16, 11.5.17 and 11.10.14	Remnant and regrowth REs providing palustrine or lacustrine wetland habitat in the brigalow belt bioregion
Squatter pigeon (southern) *Geophaps scripta scripta*	11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.7, 11.3.11, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.25, 11.3.26, 11.3.27, 11.3.37, 11.3.39, 11.5.1, 11.5.10, 11.5.12, 11.5.16, 11.5.17, 11.5.2, 11.5.20, 11.5.2a, 11.5.3, 11.5.3b, 11.5.5c, 11.5.8c, 11.5.9, 11.5.9a, 11.5.9b, 11.5.9c, 11.7.1, 11.7.2, 11.7.3 and 11.7.4	Remnant and regrowth eucalypt woodland
White-throated needletail *Hirundapus caudacutus*	-	All remnant and regrowth woodland where the species forages in airspace above
Koala *Phascolarctos cinereus*	8a, 9e, 10a, 11a, 12a, 13c, 13d, 16a, 16c, 17a, 17b, 18b, 19d and 34d	Remnant and regrowth eucalypt dominated woodland
Fork-tailed swift *Apus pacificus*	-	All remnant and regrowth woodland where the species forages in airspace above

MNES and MSES	Qualifying RE/BVG[1]	Broad habitat description
Glossy Ibis *Plegadis falcinellus*	11.2.4, 11.2.5, 11.3.2, 11.3.12, 11.3.15, 11.3.22, 11.3.23, 11.3.24, 11.3.27, 11.3.37, 11.3.40, 11.4.3, 11.4.8, 11.4.9, 11.5.16, 11.5.17 and 11.10.14	Remnant and regrowth REs providing palustrine or lacustrine wetland habitat in the brigalow belt bioregion
Short-beaked echidna *Tachyglossus aculeata*	-	All remnant and regrowth vegetation

[1] BVGs used as surrogate habitat values, when applicable

Based on the analysis of Project-related disturbance, approved disturbance from nearby major resource projects (Table 30) and the available habitat/area in the region, the Project is predicted to have minor increase on cumulative impacts on threatened matters.

Table 30: Proportion of regional habitat to be affected by cumulative impacts

Species	Estimate of remnant habitat available within 30km of the Project (ha)[1]	Total habitat impacted within EPBC Projects in Table 28 (ha)	Total habitat removed for the Project (ha)	Project percentage affected (%)	Cumulative impacts percentage affected (%)[2]
TECs					
Brigalow TEC	6,339	1,480.01	40.29	0.64	19.44
Conservation significant species					
Solanum elachophyllum	6,520	2,328.19	6.00 (known habitat)	0.06	26.38
Ornamental snake *Denisonia maculata*	4,550	1,580.61	0.0	0.0	25.78
Australian painted snipe *Rostratula australis*	6,969	267.9	20.86	0.28	3.99
Latham's snipe *Gallinago hardwickii*	6,969	0	20.86	0.30	0.3
Squatter pigeon (southern) *Geophaps scripta scripta*	69,942	7,584	32.46 (breeding and foraging)	0.05	9.82
White-throated needletail *Hirundapus caudacutus*	130,359	0	2,316.58	1.77	1.77
Koala *Phascolarctos cinereus*	81,344	13,333	2.72 (breeding and foraging)	0.003	14.09

Species	Estimate of remnant habitat available within 30km of the Project (ha)[1]	Total habitat impacted within EPBC Projects in Table 28 (ha)	Total habitat removed for the Project (ha)	Project percentage affected (%)	Cumulative impacts percentage affected (%)[2]
Fork-tailed swift *Apus pacificus*	130,359	0	2,316.58	1.77	1.77
Glossy Ibis *Plegadis falcinellus*	6,969	168	20.86	0.29	2.65
Short beaked echidna *Tachyglossus aculeatus*	125,589	0	122.11	0.1	0.1

[1] Habitat for threatened matters are an estimate only. On ground surveys would be required to verify the extent of available habitat.

[2] Cumulative impact percentages are calculated by adding the estimate of remnant habitat within 30 km, with total habitat impacted by EPBC projects, and dividing by the total of cumulative impacts and Project impacts.

8 Significant impact assessments

8.1 MNES significant impact assessment

The field surveys identified that the Study Area contains one TEC and affords habitat for six threatened fauna and two migratory species listed under the EPBC Act. The Australian Government has produced the EPBC Act *Matters of Environmental Significance: Significant Impact Guidelines 1.1* (DotE, 2013b) (MNES SIA Guidelines) to assist in determining if significant impacts associated with a Project require referral to the DCCEEW and associated offsetting. Self-assessments against the MNES SIA Guidelines are provided in Appendix D. An assessment against the MNES SIA Guidelines determined that the Project is likely to result in a significant impact on one MNES. A significant impact was considered likely to occur on Brigalow TEC.

The remaining eight MNES considered known or likely to occur within the Study Area were considered unlikely to be significantly impacted by the Project, as below:

- Australian painted snipe (*Rostratula australis*);
- Latham's snipe (*Gallinago hardwickii*);
- Koala (*Phascolarctos cinereus*);
- Ornamental snake (*Denisonia maculata*);
- Squatter Pigeon (southern) (*Geophaps scripta scripta*);
- White-throated needletail (*Hirundapus caudacutus*);
- Fork-tailed swift (*Apus pacificus*); and
- Glossy ibis (*Plegadis falcinellus*).

8.2 MSES significant residual impact assessment

Field surveys identified that the Study Area contains three MSES (i.e. Regulated vegetation, protected wildlife habitat and connectivity areas) identified under the Queensland *Environmental Offsets Act 2014* (EO Act). The Queensland Government has produced the *Queensland Environmental Offsets Policy - Significant Residual Impact Guideline* (DEHP, 2014) (MSES SRI Guideline) to assist in determining if significant residual impacts associated with a Project would require offsetting. Self-assessments against the MSES SRI Guideline are provided in Appendix E. An assessment against the MSES SRI Guideline determined that the Project is likely to result in a significant residual impact on:

- Regulated vegetation, comprising:
    - Endangered prescribed REs (RE 11.3.1)
- Protected wildlife habitat, comprising:
    - *Solanum elachophyllum*

The remaining MSES identified within the Study Area were considered unlikely to result a significant residual impact from the Project. It was determined that a significant residual impact was unlikely for:

- Regulated vegetation, comprising:
    - Of Concern prescribed RE 11.3.2

- Of Concern prescribed RE 11.3.3
- Prescribed REs within the defined distance of the defining banks of a relevant watercourse or drainage feature:
  - RE 11.3.1;
  - RE 11.3.2;
  - RE 11.3.3;
  - RE 11.3.6; and
  - RE 11.3.27.

- Protected wildlife habitat, comprising:
  - Australian painted snipe (*Rostratula australis*)
  - Koala *(Phascolarctos cinereus*)
  - Latham's snipe (*Gallinago hardwickii*)
  - Ornamental snake (*Denisonia maculata*)
  - Squatter pigeon (southern) (*Geophaps scripta scripta*)
  - White-throated needletail (*Hirundapus caudacutus*); and
  - Short-beaked echidna (*Tachyglossus aculeatus*).
- Connectivity areas

9 Biodiversity offsets

An environmental offset is required to address the significant residual impacts on MNES and MSES that are likely as a result of the Project. The offset requirements are considerate of the residual impact to each MNES and MSES, as well as their habitat quality.

The overall environmental offset requirements include the total disturbance area for each matter and the habitat quality scores for these matters in the impact area (Table 31).

A number of offsetable matters relevant to the Project are protected under both Commonwealth and State legislation. As per Section 15 of the EO Act, an administering agency may impose an offset condition on an authority only if:

- the same, or substantially the same, impact has not been assessed under a relevant Commonwealth Act; and
- the same, or substantially the same, prescribed environmental matters has not been assessed under a relevant Commonwealth Act.

As such, MSES that are also a MNES are unlikely to require any additional offsets under the EO Act for impacts on MSES, if the Commonwealth Government has assessed impacts for the same values under the EPBC Act. These matters have been included in the MNES offset requirements only, to avoid duplication of offsets at the State level.

Habitat quality scores derived for MNES and MSES likely to be significantly impacted by the Project (refer to Section 8) using the Commonwealth Government *Modified Habitat Quality Assessment* method, as detailed in Section 3.2.5.

Table 31: Summary of habitat quality for MNES and MSES likely to have a significant residual impact

Environmental matter	Assessment unit (AU)	AU description	Disturbance Footprint area (ha)	Weighted habitat quality score	Overall habitat quality score (/10)
Matters of National Environmental Significance					
Threatened Ecological Communities					
Brigalow TEC	1c	High value regrowth RE 11.3.1, 11.4.9 and 11.9.5	39.60	4.08	4.17
	1d	Remnant RE 11.3.1, 11.4.9 and 11.9.5	0.69	0.08	
Matters of State Environmental Significance					
Protected wildlife habitat					
Solanum elachophyllum	1b	Young regrowth RE 11.3.1, 11.4.9 and 11.9.5	0.88	0.52	3.18

Environmental matter	Assessment unit (AU)	AU description	Disturbance Footprint area (ha)	Weighted habitat quality score	Overall habitat quality score (/10)
	1c	High value regrowth RE 11.3.1, 11.4.9 and 11.9.5	0.98	0.71	
	7b	Non-remnant	4.14	1.95	
Regulated vegetation					
Endangered RE 11.3.1	1d	Remnant RE 11.3.1	1.21	4.40	4.40

10 Conclusion

Whitehaven Blackwater is proposing to expand the current BWM, to extent the current open cut mining development at the BWM to within SA 7 on ML 1762 and SA 10 on ML 1759. This report presents the terrestrial ecological assessment conducted to support a submission for a major EA amendment.

The Disturbance Footprint covers approximately 2,316.58 ha (rounded to 2,317 ha). The majority (97.65%, 2,262.07 ha) comprises non-remnant areas that have historically been cleared, primarily for agricultural use. This includes non-remnant areas with gilgai's. A further 39.78 ha (1.72%) comprises vegetation ground-truthed as high value regrowth. The remaining disturbance comprises 10.80 ha (0.47%) wetlands and dams and 3.93 ha (0.17%) remnant vegetation.

While the Project would avoid, mitigate, and manage environmental impacts associated with construction and operation, residual impacts on conservation significant matters will still occur. Assessment of residual impacts against relevant guidelines determine the Project is likely to result in a significant impact on:

- One MNES: Brigalow TEC
- Two MSES, including:
  - Regulated vegetation, comprising endangered RE 11.3.1; and
  - Protected wildlife habitat for *Solanum elachophyllum*.

Habitat quality scoring has been undertaken for those MNES and MSES matters that are likely to significantly impacted by the Project in line with the State and Commonwealth guidelines. Residual impacts on these matters would be offset in accordance the EPBC Act Environmental Offsets Policy and Queensland Environmental Offsets Policy.

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Appendix A Desktop search results

Australian Government

Department of Climate Change, Energy, the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 17-Feb-2025

Summary

Details

- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat

Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	41
Listed Migratory Species:	10

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:	1
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:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	24
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
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	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
Weeping Myall Woodlands	Endangered	Community likely to occur within area	In feature area

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 likely to 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
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 likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
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 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
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In buffer area only
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
Onychogalea fraenata Bridled Nail-tail Wallaby, Bridled Nailtail Wallaby [239]	Endangered	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 likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to 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 likely to occur within area	In feature area
PLANT			
Aristida annua [17906]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
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
Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Daviesia discolor [3567]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dichanthium queenslandicum King Blue-grass [5481]	Endangered	Species or species habitat may occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Homoranthus decumbens a shrub [55186]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Logania diffusa [24159]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Macrozamia platyrhachis cycad [3412]	Endangered	Species or species habitat known to occur within area	In buffer area only
Polianthion minutiflorum [82772]	Vulnerable	Species or species habitat known to occur within area	In feature area
Solanum dissectum [75720]	Endangered	Species or species habitat known to occur within area	In buffer area only
REPTILE			
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 known to occur within area	In feature area
Elseya albagula Southern Snapping Turtle, White-throated Snapping Turtle [81648]	Critically Endangered	Species or species habitat likely to 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 feature area
Rheodytes leukops Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver [1761]	Endangered	Species or species habitat known to occur within area	In feature area

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 likely to occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos			
Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii			
Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Pandion haliaetus			
Osprey [952]		Species or species habitat likely to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Defence		
Defence - BLACKWATER TRAINING DEPOT [30270]	QLD	In buffer area only

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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 likely to 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
[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 may occur within area overfly marine area	In feature area
[Haliaeetus leucogaster](#) White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 likely 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 may 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
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may 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
Blackdown Tableland	National Park	QLD	In buffer area only
Blackwater	Conservation Park	QLD	In buffer area only

Protected Area Name	Reserve Type	State	Buffer Status
Kenmare	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Blackwater Mine ? North Extension Project	2023/09723		Assessment	In feature area
Comet Ridge Coal Mine, Comet, QLD	2015/7507		Post-Approval	In buffer area only
Development and operation of the Star Coal Project Bulk Sample Project	2023/09502		Completed	In buffer area only
rail track to link the proposed MIM Rolleston coal mine to existing rail network	2002/637		Post-Approval	In buffer area only
Walton Coal Project, Bowen Basin, Qld	2017/8077		Post-Approval	In buffer area only
Controlled action				
Blackwater creek diversion and coal mine	2007/3925	Controlled Action	Post-Approval	In buffer area only
Blackwater to Gladstone Gas Pipeline Project	2011/6034	Controlled Action	Completed	In buffer area only
Bluff open cut coal mine project, central Queensland	2013/7064	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In feature area
Construct and operate a coal gasification plant and carbon dioxide capture and storage	2006/3040	Controlled Action	Completed	In feature area
Curragh Extension Project, Blackwater, QLD	2015/7508	Controlled Action	Post-Approval	In feature area
Curragh North Coal Mine	2003/1096	Controlled Action	Post-Approval	In buffer area only
Norwich Park & Blackwater CSG Fields & supporting infrastructure Bowen Basin	2011/6032	Controlled Action	Completed	In feature area
Norwich Park to Blackwater Gas Pipeline	2011/6031	Controlled Action	Completed	In buffer area only
Santos GLNG Gas Field Development Project, QLD	2012/6615	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Washpool Coal Mine Project	2009/5240	Controlled Action	Completed	In buffer area only
ZeroGen Integrated Gasification Combined Cycle Power Plant and CO2 Capture, Transport and Storage	2009/5195	Controlled Action	Completed	In feature area
Not controlled action				
Blackwater to Emerald Dual Circuit 132kV Powerline, QLD	2012/6480	Not Controlled Action	Completed	In feature area
Development and operation of a new multi-seam underground coal mine with associated on-site infrastr	2011/5811	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
Springsure Creek 132kV powerline and switchyards	2012/6385	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Blackwater to Rolleston 132 kV transmission line	2002/880	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Curragh West Project	2011/6187	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Proposal for open cut coal mining operation, central QLD	2013/6946	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 is 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 on the contents of this report.

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 point locations and environmental data layers.

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 when time permits.

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 breeding sites; and
- 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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Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Queensland status: All
Records: All
Date: Since 1980
Latitude: -23.6759
Longitude: 148.8496
Distance: 20
Email: kaylee.pitt@e2m.com.au
Date submitted: Tuesday 18 Feb 2025 09:52:01
Date extracted: Tuesday 18 Feb 2025 10:00:03

The number of records retrieved = 867

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The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (https://www.qld.gov.au/environment/plants-animals/species-information/wildnet) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	*Rhinella marina*	cane toad	Y			9
animals	amphibians	Hylidae	*Cyclorana alboguttata*	greenstripe frog		C		4
animals	amphibians	Hylidae	*Cyclorana cultripes*	grassland collared frog		C		3/3
animals	amphibians	Hylidae	*Cyclorana novaehollandiae*	eastern snapping frog		C		2
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		4
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		1
animals	amphibians	Hylidae	*Litoria inermis*	bumpy rocketfrog		C		2
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		7
animals	amphibians	Hylidae	*Litoria peronii*	emerald spotted treefrog		C		1
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		2
animals	amphibians	Hylidae	*Litoria wilcoxii*	eastern stony creek frog		C		1
animals	amphibians	Limnodynastidae	*Limnodynastes salmini*	salmon striped frog		C		3
animals	amphibians	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog		C		2
animals	amphibians	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk		C		1
animals	amphibians	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog		C		1
animals	amphibians	Myobatrachidae	*Crinia signifera*	clicking froglet		C		1
animals	amphibians	Myobatrachidae	*Pseudophryne major*	great brown broodfrog		C		1
animals	amphibians	Myobatrachidae	*Uperoleia laevigata*	eastern gungan		C		1
animals	amphibians	Myobatrachidae	*Uperoleia rugosa*	chubby gungan		C		3
animals	birds	Acanthizidae	*Acanthiza apicalis*	inland thornbill		C		5
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		8
animals	birds	Acanthizidae	*Gerygone olivacea*	white-throated gerygone		C		15
animals	birds	Acanthizidae	*Pyrrholaemus sagittatus*	speckled warbler		C		4
animals	birds	Acanthizidae	*Sericornis frontalis*	white-browed scrubwren		C		1
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		8
animals	birds	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk		C		1
animals	birds	Accipitridae	*Accipiter fasciatus*	brown goshawk		C		3
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		3
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		1
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Haliaeetus leucogaster*	white-bellied sea-eagle		C		1
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		5
animals	birds	Accipitridae	*Hieraaetus morphnoides*	little eagle		C		2
animals	birds	Accipitridae	*Milvus migrans*	black kite		C		5
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		C		3
animals	birds	Aegothelidae	*Aegotheles cristatus*	Australian owlet-nightjar		C		8
animals	birds	Alaudidae	*Mirafra javanica*	Horsfield's bushlark		C		4
animals	birds	Alcedinidae	*Dacelo leachii*	blue-winged kookaburra		C		10
animals	birds	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra		C		23
animals	birds	Alcedinidae	*Todiramphus macleayii*	forest kingfisher		C		6
animals	birds	Alcedinidae	*Todiramphus sanctus*	sacred kingfisher		C		3
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		1
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		4
animals	birds	Anatidae	*Aythya australis*	hardhead		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		1
animals	birds	Anatidae	*Cygnus atratus*	black swan		C		1
animals	birds	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck		C		1
animals	birds	Anatidae	*Nettapus coromandelianus*	cotton pygmy-goose		C		1
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		1
animals	birds	Ardeidae	*Ardea alba modesta*	eastern great egret		C		2
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		2
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		3
animals	birds	Ardeidae	*Ixobrychus flavicollis*	black bittern		C		1
animals	birds	Artamidae	*Artamus cinereus inkermani*	black-faced woodswallow (east-central Queensland)		C		1
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		3
animals	birds	Artamidae	*Artamus personatus*	masked woodswallow		C		1
animals	birds	Artamidae	*Artamus superciliosus*	white-browed woodswallow		C		2
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		12
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		12
animals	birds	Artamidae	*Gymnorhina tibicen*	Australian magpie		C		17
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		19/3
animals	birds	Burhinidae	*Burhinus grallarius*	bush stone-curlew		C		2
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		24
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		3
animals	birds	Cacatuidae	*Calyptorhynchus banksii banksii*	red-tailed black-cockatoo (Cape York & Eastern Aust)		C		1
animals	birds	Cacatuidae	*Eolophus roseicapilla*	galah		C		6
animals	birds	Cacatuidae	*Nymphicus hollandicus*	cockatiel		C		2
animals	birds	Campephagidae	*Coracina maxima*	ground cuckoo-shrike		C		1
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		14
animals	birds	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike		C		2
animals	birds	Campephagidae	*Edolisoma tenuirostre*	common cicadabird		C		6
animals	birds	Campephagidae	*Lalage tricolor*	white-winged triller		C		9
animals	birds	Casuariidae	*Dromaius novaehollandiae*	emu		C		3
animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		1
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		3
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		1
animals	birds	Cinclosomatidae	*Cinclosoma punctatum*	spotted quail-thrush		C		2
animals	birds	Cisticolidae	*Cisticola exilis*	golden-headed cisticola		C		2
animals	birds	Climacteridae	*Climacteris picumnus*	brown treecreeper		C		1
animals	birds	Climacteridae	*Cormobates leucophaea metastasis*	white-throated treecreeper (southern)		C		3
animals	birds	Columbidae	*Geopelia cuneata*	diamond dove		C		1
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		6
animals	birds	Columbidae	*Geopelia placida*	peaceful dove		C		10
animals	birds	Columbidae	*Geophaps scripta scripta*	squatter pigeon (southern subspecies)		V	V	1
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		6
animals	birds	Columbidae	*Phaps chalcoptera*	common bronzewing		C		1
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		17
animals	birds	Corcoracidae	*Corcorax melanorhamphos*	white-winged chough		C		8

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Corcoracidae	*Struthidea cinerea*	apostlebird		C		13
animals	birds	Corvidae	*Corvus coronoides*	Australian raven		C		8
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		30
animals	birds	Corvidae	*Corvus sp.*			C		2
animals	birds	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo		C		1
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		7
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		4
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		5
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		3
animals	birds	Cuculidae	*Chalcites minutillus barnardi*	Eastern little bronze-cuckoo		C		4
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		1
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		7
animals	birds	Dicaeidae	*Dicaeum hirundinaceum*	mistletoebird		C		13
animals	birds	Dicruridae	*Dicrurus bracteatus*	spangled drongo		C		1
animals	birds	Dicruridae	*Dicrurus bracteatus bracteatus*	spangled drongo (eastern Australia)		C		2
animals	birds	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin		C		2
animals	birds	Estrildidae	*Neochmia modesta*	plum-headed finch		C		1
animals	birds	Estrildidae	*Neochmia temporalis*	red-browed finch		C		1
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		12
animals	birds	Estrildidae	*Taeniopygia guttata*	zebra finch		C		2
animals	birds	Eurostopodidae	*Eurostopodus argus*	spotted nightjar		C		1
animals	birds	Eurostopodidae	*Eurostopodus mystacalis*	white-throated nightjar		C		2
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		4
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		5
animals	birds	Falconidae	*Falco longipennis*	Australian hobby		C		4
animals	birds	Falconidae	*Falco peregrinus macropus*	Australian peregrine falcon		C		3
animals	birds	Falconidae	*Falco subniger*	black falcon		C		1
animals	birds	Gruidae	*Antigone rubicunda*	brolga		C		1
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		7
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		4
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		1
animals	birds	Jacanidae	*Irediparra gallinacea*	comb-crested jacana		C		1
animals	birds	Laridae	*Hydroprogne caspia*	Caspian tern		SL		1
animals	birds	Locustellidae	*Cincloramphus cruralis*	brown songlark		C		2
animals	birds	Locustellidae	*Cincloramphus mathewsi*	rufous songlark		C		3
animals	birds	Locustellidae	*Cincloramphus timoriensis*	tawny grassbird		C		1
animals	birds	Maluridae	*Malurus assimilis*	purple-backed fairy-wren		C		4
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		1
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		11
animals	birds	Meliphagidae	*Acanthagenys rufogularis*	spiny-cheeked honeyeater		C		2
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		2
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		17
animals	birds	Meliphagidae	*Gavicalis virescens*	singing honeyeater		C		10
animals	birds	Meliphagidae	*Grantiella picta*	painted honeyeater		V	V	2
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		11
animals	birds	Meliphagidae	*Manorina flavigula*	yellow-throated miner		C		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		19
animals	birds	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater		C		4
animals	birds	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater		C		9
animals	birds	Meliphagidae	*Melithreptus brevirostris*	brown-headed honeyeater		C		4
animals	birds	Meliphagidae	*Melithreptus gularis gularis*	black-chinned honeyeater (eastern)		C		1
animals	birds	Meliphagidae	*Melithreptus lunatus*	white-naped honeyeater		C		1
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		1
animals	birds	Meliphagidae	*Nesoptilotis leucotis*	white-eared honeyeater		C		2
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		8
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		21
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		9
animals	birds	Meliphagidae	*Ptilotula fusca*	fuscous honeyeater		C		1
animals	birds	Meliphagidae	*Ptilotula penicillata*	white-plumed honeyeater		C		1
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		6
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		11
animals	birds	Monarchidae	*Monarcha melanopsis*	black-faced monarch		C		2
animals	birds	Monarchidae	*Myiagra inquieta*	restless flycatcher		C		1
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		17
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		3
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		1
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		6
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		2
animals	birds	Otididae	*Ardeotis australis*	Australian bustard		C		3
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		12
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		9
animals	birds	Pandionidae	*Pandion haliaetus cristatus*	eastern osprey		SL		1
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		1
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		18
animals	birds	Passeridae	*Passer domesticus*	house sparrow	Y			3
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		1
animals	birds	Petroicidae	*Microeca fascinans*	jacky winter		C		3
animals	birds	Petroicidae	*Petroica goodenovii*	red-capped robin		C		1
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		1
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		1
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		2
animals	birds	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant		C		1
animals	birds	Phasianidae	*Synoicus ypsilophorus*	brown quail		C		5
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		7
animals	birds	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe		C		2
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		8
animals	birds	Pomatostomidae	*Pomatostomus temporalis temporalis*	grey-crowned babbler (eastern)		C		4
animals	birds	Psittaculidae	*Alisterus scapularis*	Australian king-parrot		C		1
animals	birds	Psittaculidae	*Aprosmictus erythropterus*	red-winged parrot		C		14
animals	birds	Psittaculidae	*Melopsittacus undulatus*	budgerigar		C		2
animals	birds	Psittaculidae	*Parvipsitta pusilla*	little lorikeet		C		2
animals	birds	Psittaculidae	*Platycercus adscitus*	pale-headed rosella		C		16

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Psittaculidae	*Platycercus adscitus palliceps*	pale-headed rosella (southern form)		C		4
animals	birds	Psittaculidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		7
animals	birds	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet		C		19
animals	birds	Ptilonorhynchidae	*Chlamydera maculata*	spotted bowerbird		C		1
animals	birds	Rallidae	*Fulica atra*	Eurasian coot		C		1
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		2
animals	birds	Rallidae	*Porphyrio melanotus*	purple swamphen		C		1
animals	birds	Rallidae	*Tribonyx ventralis*	black-tailed native-hen		C		1
animals	birds	Recurvirostridae	*Himantopus leucocephalus*	pied stilt		C		1
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		4
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		7
animals	birds	Rhipiduridae	*Rhipidura leucophrys leucophrys*	willie wagtail (southern)		C		4
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		5
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		1
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		1
animals	birds	Threskiornithidae	*Plegadis falcinellus*	glossy ibis		SL		1
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		1
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		2
animals	birds	Turnicidae	*Turnix varius*	painted button-quail		C		1
animals	birds	Tytonidae	*Tyto javanica*	eastern barn owl		C		2
animals	birds	Zosteropidae	*Zosterops lateralis*	silvereye		C		4
animals	birds	Zosteropidae	*Zosterops lateralis cornwalli*	silvereye (eastern)		C		1
animals	mammals	Bovidae	*Bos taurus*	European cattle	Y			3
animals	mammals	Canidae	*Canis familiaris*	dog	Y			6
animals	mammals	Canidae	*Canis familiaris (dingo)*	dingo				1
animals	mammals	Dasyuridae	*Antechinus flavipes flavipes*	yellow-footed antechinus (south-east Queensland)		C		2
animals	mammals	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat		C		3
animals	mammals	Equidae	*Equus caballus*	horse	Y			1
animals	mammals	Felidae	*Felis catus*	cat	Y			4
animals	mammals	Leporidae	*Lepus europaeus*	European brown hare	Y			4
animals	mammals	Leporidae	*Oryctolagus cuniculus*	rabbit	Y			5
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		9
animals	mammals	Macropodidae	*Notamacropus parryi*	whiptail wallaby		C		2
animals	mammals	Macropodidae	*Osphranter robustus*	common wallaroo		C		4
animals	mammals	Macropodidae	*Petrogale herberti*	Herbert's rock-wallaby		C		3/3
animals	mammals	Macropodidae	*Petrogale inornata*	unadorned rock-wallaby		C		4
animals	mammals	Macropodidae	*Wallabia bicolor*	swamp wallaby		C		2
animals	mammals	Miniopteridae	*Miniopterus orianae oceanensis*	eastern bent-wing bat		C		2
animals	mammals	Molossidae	*Mormopterus petersi*	inland free-tailed bat		C		1
animals	mammals	Muridae	*Hydromys chrysogaster*	water rat		C		1
animals	mammals	Muridae	*Melomys cervinipes*	fawn-footed melomys		C		3
animals	mammals	Muridae	*Mus musculus*	house mouse	Y			2
animals	mammals	Muridae	*Pseudomys patrius*	eastern pebble-mound mouse		C		2
animals	mammals	Muridae	*Pseudomys sp.*			C		1/1
animals	mammals	Petauridae	*Petaurus australis australis*	yellow-bellied glider (southern subspecies)		V	V	1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Petauridae	*Petaurus norfolcensis*	squirrel glider		C		1
animals	mammals	Petauridae	*Petaurus notatus*	Krefft's glider		C		2
animals	mammals	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum		C		1
animals	mammals	Potoroidae	*Aepyprymnus rufescens*	rufous bettong		C		4
animals	mammals	Pseudocheiridae	*Petauroides volans volans*	southern greater glider		E	E	2
animals	mammals	Pteropodidae	*Pteropus scapulatus*	little red flying-fox		C		1
animals	mammals	Suidae	*Sus scrofa*	pig	Y			1
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		SL		9
animals	mammals	Vespertilionidae	*Chalinolobus dwyeri*	large-eared pied bat		E	E	1
animals	mammals	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat		C		3
animals	mammals	Vespertilionidae	*Chalinolobus morio*	chocolate wattled bat		C		4
animals	mammals	Vespertilionidae	*Chalinolobus picatus*	little pied bat		C		3
animals	mammals	Vespertilionidae	*Nyctophilus geoffroyi*	lesser long-eared bat		C		1
animals	mammals	Vespertilionidae	*Nyctophilus gouldi*	Gould's long-eared bat		C		4
animals	mammals	Vespertilionidae	*Scotorepens balstoni*	inland broad-nosed bat		C		1
animals	mammals	Vespertilionidae	*Scotorepens greyii*	little broad-nosed bat		C		5
animals	mammals	Vespertilionidae	*Vespadelus pumilus*	eastern forest bat		C		1
animals	mammals	Vespertilionidae	*Vespadelus sp.*			C		1
animals	ray-finned fishes	Ambassidae	*Ambassis agassizii*	Agassiz's glassfish				5
animals	ray-finned fishes	Atherinidae	*Craterocephalus stercusmuscarum*	flyspecked hardyhead				1
animals	ray-finned fishes	Clupeidae	*Nematalosa erebi*	bony bream				2
animals	ray-finned fishes	Eleotridae	*Hypseleotris klunzingeri*	western carp gudgeon				2
animals	ray-finned fishes	Eleotridae	*Hypseleotris sp.*					4
animals	ray-finned fishes	Eleotridae	*Mogurnda adspersa*	southern purplespotted gudgeon				5
animals	ray-finned fishes	Melanotaeniidae	*Melanotaenia splendida splendida*	eastern rainbowfish				5
animals	ray-finned fishes	Plotosidae	*Neosilurus hyrtlii*	Hyrtl's catfish				4
animals	ray-finned fishes	Poeciliidae	*Gambusia holbrooki*	mosquitofish	Y			2
animals	ray-finned fishes	Terapontidae	*Leiopotherapon unicolor*	spangled perch				5
animals	reptiles	Agamidae	*Diporiphora nobbi*	nobbi		C		5
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		1
animals	reptiles	Boidae	*Antaresia maculosa*	spotted python		C		1
animals	reptiles	Boidae	*Aspidites melanocephalus*	black-headed python		C		1
animals	reptiles	Boidae	*Morelia spilota*	carpet python		C		1
animals	reptiles	Carphodactylidae	*Nephrurus asper*	spiny knob-tailed gecko		C		3
animals	reptiles	Carphodactylidae	*Saltuarius salebrosus*	rough-throated leaf-tailed gecko		C		1
animals	reptiles	Carphodactylidae	*Underwoodisaurus milii*	thick-tailed gecko		C		1
animals	reptiles	Chelidae	*Emydura macquarii krefftii*	Krefft's river turtle		C		2
animals	reptiles	Chelidae	*Wollumbinia latisternum*	saw-shelled turtle		C		1
animals	reptiles	Colubridae	*Boiga irregularis*	brown tree snake		C		1
animals	reptiles	Colubridae	*Dendrelaphis punctulatus*	green tree snake		C		1
animals	reptiles	Colubridae	*Tropidonophis mairii*	freshwater snake		C		2
animals	reptiles	Diplodactylidae	*Diplodactylus platyurus*	eastern fat-tailed gecko		C		4/1
animals	reptiles	Diplodactylidae	*Diplodactylus vittatus*	wood gecko		C		2
animals	reptiles	Diplodactylidae	*Lucasium steindachneri*	Steindachner's gecko		C		2/1
animals	reptiles	Diplodactylidae	*Oedura monilis sensu lato*	ocellated velvet gecko		C		6/1
animals	reptiles	Elapidae	*Furina diadema*	red-naped snake		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Elapidae	*Furina ornata*	orange-naped snake		C		1
animals	reptiles	Elapidae	*Suta suta*	myall snake		C		1
animals	reptiles	Elapidae	*Vermicella annulata*	bandy-bandy		C		1
animals	reptiles	Gekkonidae	*Gehyra catenata*	chain-backed dtella		C		5
animals	reptiles	Gekkonidae	*Gehyra dubia*	dubious dtella		C		11/1
animals	reptiles	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko		C		21/1
animals	reptiles	Pygopodidae	*Lialis burtonis*	Burton's legless lizard		C		1
animals	reptiles	Pygopodidae	*Paradelma orientalis*	brigalow scaly-foot		C		1
animals	reptiles	Scincidae	*Carlia pectoralis*	open-litter rainbow skink		C		6
animals	reptiles	Scincidae	*Carlia pectoralis sensu lato*			C		15
animals	reptiles	Scincidae	*Carlia schmeltzii*	robust rainbow-skink		C		7/2
animals	reptiles	Scincidae	*Concinnia sokosoma*	stout bar-sided skink		C		1
animals	reptiles	Scincidae	*Concinnia tenuis*	bar-sided skink		C		3/1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		1
animals	reptiles	Scincidae	*Cryptoblepharus sp.*			C		1
animals	reptiles	Scincidae	*Cryptoblepharus virgatus sensu lato*			C		8
animals	reptiles	Scincidae	*Ctenotus ingrami*	unspotted yellow-sided ctenotus		C		1
animals	reptiles	Scincidae	*Ctenotus taeniolatus*	copper-tailed skink		C		18/1
animals	reptiles	Scincidae	*Eulamprus sp.*			C		2/1
animals	reptiles	Scincidae	*Lampropholis delicata*	dark-flecked garden sunskink		C		1/1
animals	reptiles	Scincidae	*Lerista fragilis*	eastern mulch slider		C		3
animals	reptiles	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink		C		3
animals	reptiles	Scincidae	*Menetia greyii*	common dwarf skink		C		1
animals	reptiles	Scincidae	*Morethia boulengeri*	south-eastern morethia skink		C		1
animals	reptiles	Scincidae	*Morethia taeniopleura*	fire-tailed skink		C		8/2
animals	reptiles	Typhlopidae	*Anilios nigrescens*	blackish blind snake		C		1/1
animals	reptiles	Varanidae	*Varanus tristis*	black-tailed monitor		C		1
plants	land plants	Acanthaceae	*Brunoniella australis*	blue trumpet		C		3
plants	land plants	Acanthaceae	*Dipteracanthus australasicus*			C		1
plants	land plants	Acanthaceae	*Dipteracanthus australasicus subsp. corynothecus*			C		3/1
plants	land plants	Acanthaceae	*Pseuderanthemum variabile*	pastel flower		C		3/1
plants	land plants	Acanthaceae	*Rostellularia adscendens*			C		6/1
plants	land plants	Acanthaceae	*Rostellularia adscendens var. adscendens*			C		1
plants	land plants	Acanthaceae	*Ruellia simplex*		Y			1/1
plants	land plants	Agavaceae	*Agave americana var. americana*		Y			1
plants	land plants	Aizoaceae	*Trianthema portulacastrum*	black pigweed	Y			6
plants	land plants	Aizoaceae	*Trianthema triquetrum*	red spinach		C		3
plants	land plants	Aizoaceae	*Zaleya galericulata subsp. galericulata*			C		1
plants	land plants	Alismataceae	*Caldesia oligococca*			SL		1
plants	land plants	Amaranthaceae	*Achyranthes aspera*			C		4/1
plants	land plants	Amaranthaceae	*Alternanthera denticulata*	lesser joyweed		C		6
plants	land plants	Amaranthaceae	*Alternanthera nana*	hairy joyweed		C		4
plants	land plants	Amaranthaceae	*Alternanthera nodiflora*	joyweed		C		1
plants	land plants	Amaranthaceae	*Amaranthus viridis*	green amaranth	Y			1
plants	land plants	Amaranthaceae	*Gomphrena celosioides*	gomphrena weed	Y			3
plants	land plants	Amaranthaceae	*Nyssanthes erecta*			C		2/2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Amaranthaceae	*Ptilotus*					1
plants	land plants	Amaranthaceae	*Ptilotus semilanatus*			C		1/1
plants	land plants	Amaryllidaceae	*Crinum*					1
plants	land plants	Amaryllidaceae	*Crinum flaccidum*	Murray lily		SL		3
plants	land plants	Anacardiaceae	*Schinus terebinthifolius*		Y			1/1
plants	land plants	Annonaceae	*Melodorum leichhardtii*			C		1/1
plants	land plants	Apiaceae	*Centella asiatica*			C		1/1
plants	land plants	Apiaceae	*Platysace ericoides*	heath platysace		C		1/1
plants	land plants	Apocynaceae	*Alstonia constricta*	bitterbark		C		7
plants	land plants	Apocynaceae	*Asclepias curassavica*	red-head cottonbush	Y			2/1
plants	land plants	Apocynaceae	*Carissa ovata*	currantbush		C		21/1
plants	land plants	Apocynaceae	*Cerbera dumicola*			NT		2/2
plants	land plants	Apocynaceae	*Cryptostegia grandiflora*	rubber vine	Y			1
plants	land plants	Apocynaceae	*Cynanchum viminale*			C		1
plants	land plants	Apocynaceae	*Cynanchum viminale subsp. brunonianum*			C		1/1
plants	land plants	Apocynaceae	*Hoya australis subsp. australis*			C		3/3
plants	land plants	Apocynaceae	*Leichhardtia microlepis*			C		1/1
plants	land plants	Apocynaceae	*Leichhardtia viridiflora subsp. viridiflora*			C		3/1
plants	land plants	Apocynaceae	*Parsonsia eucalyptophylla*	gargaloo		C		1
plants	land plants	Apocynaceae	*Parsonsia lanceolata*	northern silkpod		C		1
plants	land plants	Aristolochiaceae	*Aristolochia meridionalis subsp. centralis*			C		2/2
plants	land plants	Asteraceae	*Acmella grandiflora var. brachyglossa*			C		1
plants	land plants	Asteraceae	*Bidens bipinnata*	bipinnate beggar's ticks	Y			2
plants	land plants	Asteraceae	*Bidens pilosa*		Y			1
plants	land plants	Asteraceae	*Brachyscome*					1
plants	land plants	Asteraceae	*Brachyscome dalbyensis*			C		1
plants	land plants	Asteraceae	*Calotis cuneata*			C		1
plants	land plants	Asteraceae	*Calotis dentex*	white burr daisy		C		3/3
plants	land plants	Asteraceae	*Calyptocarpus vialis*	creeping cinderella weed	Y			1
plants	land plants	Asteraceae	*Centipeda minima*			C		1
plants	land plants	Asteraceae	*Centipeda minima subsp. minima*			C		3/2
plants	land plants	Asteraceae	*Cyanthillium cinereum*			C		3/3
plants	land plants	Asteraceae	*Euchiton sphaericus*			C		1
plants	land plants	Asteraceae	*Flaveria trinervia*		Y			1
plants	land plants	Asteraceae	*Gynura drymophila var. drymophila*			C		1/1
plants	land plants	Asteraceae	*Lactuca serriola forma serriola*		Y			1/1
plants	land plants	Asteraceae	*Minuria integerrima*	smooth minuria		C		2/1
plants	land plants	Asteraceae	*Parthenium hysterophorus*	parthenium weed	Y			9
plants	land plants	Asteraceae	*Pluchea xanthina*			C		1/1
plants	land plants	Asteraceae	*Pterocaulon serrulatum var. serrulatum*			C		1/1
plants	land plants	Asteraceae	*Senecio*					1
plants	land plants	Asteraceae	*Sonchus asper*	rough sowthistle	Y			1
plants	land plants	Asteraceae	*Sphaeromorphaea australis*			C		1/1
plants	land plants	Asteraceae	*Sphaeromorphaea subintegra*			C		1
plants	land plants	Asteraceae	*Tagetes minuta*	stinking roger	Y			1/1
plants	land plants	Asteraceae	*Verbesina encelioides var. encelioides*		Y			1/1

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plants	land plants	Asteraceae	*Vittadinia pustulata*			C		1
plants	land plants	Asteraceae	*Vittadinia sulcata*	native daisy		C		1
plants	land plants	Asteraceae	*Xanthium occidentale*		Y			5/2
plants	land plants	Bignoniaceae	*Pandorea pandorana*	wonga vine		C		1/1
plants	land plants	Boraginaceae	*Ehretia membranifolia*	weeping koda		C		5
plants	land plants	Boraginaceae	*Heliotropium indicum*		Y			1
plants	land plants	Byttneriaceae	*Hannafordia shanesii*			C		1/1
plants	land plants	Byttneriaceae	*Melochia pyramidata*		Y			1
plants	land plants	Byttneriaceae	*Seringia collina*			C		1/1
plants	land plants	Byttneriaceae	*Seringia corollata*			C		1/1
plants	land plants	Byttneriaceae	*Seringia hookeriana*			C		1/1
plants	land plants	Byttneriaceae	*Waltheria indica*			C		2
plants	land plants	Cactaceae	*Harrisia*					1
plants	land plants	Cactaceae	*Harrisia martinii*		Y			10
plants	land plants	Cactaceae	*Opuntia*					1
plants	land plants	Cactaceae	*Opuntia stricta*		Y			2
plants	land plants	Cactaceae	*Opuntia tomentosa*	velvety tree pear	Y			9
plants	land plants	Campanulaceae	*Lobelia concolor*			SL		1
plants	land plants	Campanulaceae	*Wahlenbergia gracilis*	sprawling bluebell		SL		2
plants	land plants	Capparaceae	*Capparis anomala*			C		5
plants	land plants	Capparaceae	*Capparis canescens*			C		1/1
plants	land plants	Capparaceae	*Capparis lasiantha*	nipan		C		7/1
plants	land plants	Capparaceae	*Capparis loranthifolia*			C		7
plants	land plants	Capparaceae	*Capparis loranthifolia var. bancroftii*			C		1/1
plants	land plants	Capparaceae	*Capparis loranthifolia var. loranthifolia*			C		2/2
plants	land plants	Capparaceae	*Capparis mitchellii*			C		4
plants	land plants	Caryophyllaceae	*Cerastium glomeratum*	mouse ear chickweed	Y			1
plants	land plants	Casuarinaceae	*Allocasuarina torulosa*			C		1/1
plants	land plants	Casuarinaceae	*Casuarina cristata*	belah		C		2/1
plants	land plants	Celastraceae	*Denhamia cunninghamii*			C		2/1
plants	land plants	Celastraceae	*Denhamia disperma*			C		2
plants	land plants	Celastraceae	*Denhamia oleaster*			C		4
plants	land plants	Celastraceae	*Elaeodendron australe*			C		4
plants	land plants	Celastraceae	*Elaeodendron australe var. integrifolium*			C		1/1
plants	land plants	Chenopodiaceae	*Atriplex elachophylla*			C		1
plants	land plants	Chenopodiaceae	*Atriplex muelleri*	lagoon saltbush		C		4
plants	land plants	Chenopodiaceae	*Atriplex semibaccata*	creeping saltbush		C		3
plants	land plants	Chenopodiaceae	*Chenopodium desertorum subsp. anidiophyllum*			C		1
plants	land plants	Chenopodiaceae	*Dysphania carinata*			C		2/1
plants	land plants	Chenopodiaceae	*Dysphania glomulifera subsp. glomulifera*			C		2/2
plants	land plants	Chenopodiaceae	*Einadia nutans*			C		4
plants	land plants	Chenopodiaceae	*Einadia nutans subsp. linifolia*			C		1/1
plants	land plants	Chenopodiaceae	*Einadia polygonoides*	knotweed goosefoot		C		4
plants	land plants	Chenopodiaceae	*Enchylaena tomentosa*			C		9
plants	land plants	Chenopodiaceae	*Maireana microphylla*			C		1
plants	land plants	Chenopodiaceae	*Rhagodia spinescens*	thorny saltbush		C		1

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plants	land plants	Chenopodiaceae	*Salsola australis*			C		11
plants	land plants	Chenopodiaceae	*Sclerolaena anisacanthoides*	yellow burr		C		1
plants	land plants	Chenopodiaceae	*Sclerolaena bicornis var. horrida*			C		3
plants	land plants	Chenopodiaceae	*Sclerolaena muricata*			C		1
plants	land plants	Cleomaceae	*Arivela viscosa*			C		1
plants	land plants	Combretaceae	*Terminalia oblongata*			C		11
plants	land plants	Combretaceae	*Terminalia oblongata subsp. oblongata*			C		11
plants	land plants	Commelinaceae	*Commelina ensifolia*	scurvy grass		C		1
plants	land plants	Convolvulaceae	*Convolvulus arvensis*		Y			1
plants	land plants	Convolvulaceae	*Evolvulus alsinoides*			C		5
plants	land plants	Convolvulaceae	*Ipomoea calobra*			C		1/1
plants	land plants	Convolvulaceae	*Ipomoea plebeia*	bellvine		C		5
plants	land plants	Convolvulaceae	*Polymeria pusilla*			C		3
plants	land plants	Crassulaceae	*Bryophyllum delagoense*		Y			8/1
plants	land plants	Crassulaceae	*Bryophyllum x houghtonii*		Y			1/1
plants	land plants	Crassulaceae	*Crassula tetramera*			C		1/1
plants	land plants	Cyperaceae	*Caustis sp. (Robinson Gorge P.I.Forster+ PIF11256)*			C		1/1
plants	land plants	Cyperaceae	*Cyperus betchei*			C		6
plants	land plants	Cyperaceae	*Cyperus concinnus*			C		2
plants	land plants	Cyperaceae	*Cyperus difformis*	rice sedge		C		1
plants	land plants	Cyperaceae	*Cyperus exaltatus*	tall flatsedge		C		1
plants	land plants	Cyperaceae	*Cyperus fulvus*			C		2/1
plants	land plants	Cyperaceae	*Cyperus gracilis*			C		3
plants	land plants	Cyperaceae	*Cyperus gymnocaulos*	spiny flatsedge		C		1
plants	land plants	Cyperaceae	*Cyperus haspan*			C		1
plants	land plants	Cyperaceae	*Cyperus involucratus*		Y			1/1
plants	land plants	Cyperaceae	*Cyperus iria*			C		4
plants	land plants	Cyperaceae	*Cyperus isabellinus*			C		1/1
plants	land plants	Cyperaceae	*Cyperus rigidellus*			C		1
plants	land plants	Cyperaceae	*Eleocharis plana*	ribbed spikerush		C		1
plants	land plants	Cyperaceae	*Fimbristylis dichotoma*	common fringe-rush		C		2/2
plants	land plants	Cyperaceae	*Schoenus kennyi*			C		4/4
plants	land plants	Cyperaceae	*Scleria sphacelata*			C		1/1
plants	land plants	Dilleniaceae	*Hibbertia ferox*			C		2/2
plants	land plants	Ebenaceae	*Diospyros humilis*	small-leaved ebony		C		9/1
plants	land plants	Elatinaceae	*Elatine gratioloides*	waterwort		C		1
plants	land plants	Ericaceae	*Melichrus sp. (Isla Gorge P.Sharpe+ 601)*			C		1/1
plants	land plants	Ericaceae	*Styphelia mitchellii*			C		1/1
plants	land plants	Erythroxylaceae	*Erythroxylum australe*	cocaine tree		C		7/2
plants	land plants	Euphorbiaceae	*Acalypha capillipes*	small-leaved acalypha		C		6
plants	land plants	Euphorbiaceae	*Acalypha eremorum*	soft acalypha		C		5/2
plants	land plants	Euphorbiaceae	*Bertya opponens*			C	V	1/1
plants	land plants	Euphorbiaceae	*Croton insularis*	Queensland cascarilla		C		3/2
plants	land plants	Euphorbiaceae	*Croton phebalioides*	narrow-leaved croton		C		6/2
plants	land plants	Euphorbiaceae	*Euphorbia*					3
plants	land plants	Euphorbiaceae	*Euphorbia drummondii*			C		1

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plants	land plants	Euphorbiaceae	*Euphorbia hyssopifolia*		Y			1/1
plants	land plants	Euphorbiaceae	*Euphorbia tannensis subsp. eremophila*			C		2/1
plants	land plants	Euphorbiaceae	*Euphorbia tannensis subsp. tannensis*			C		1
plants	land plants	Euphorbiaceae	*Ricinocarpos linearifolius*			C		2/2
plants	land plants	Goodeniaceae	*Brunonia australis*	blue pincushion		SL		1
plants	land plants	Goodeniaceae	*Dampiera adpressa*			C		2/2
plants	land plants	Goodeniaceae	*Goodenia glabra*			C		1/1
plants	land plants	Goodeniaceae	*Goodenia grandiflora*			C		3/3
plants	land plants	Goodeniaceae	*Goodenia rotundifolia*			C		1/1
plants	land plants	Gyrostemonaceae	*Codonocarpus attenuatus*			C		1
plants	land plants	Gyrostemonaceae	*Codonocarpus cotinifolius*			C		1
plants	land plants	Haloragaceae	*Gonocarpus elatus*			C		1/1
plants	land plants	Haloragaceae	*Haloragis stricta*			C		1
plants	land plants	Hemerocallidaceae	*Dianella longifolia*			C		1
plants	land plants	Hemerocallidaceae	*Geitonoplesium cymosum*	scrambling lily		C		1
plants	land plants	Hemerocallidaceae	*Tricoryne muricata*			C		1/1
plants	land plants	Hydrocharitaceae	*Ottelia ovalifolia*	swamp lily		SL		1
plants	land plants	Juncaceae	*Juncus*					1
plants	land plants	Juncaceae	*Juncus aridicola*	tussock rush		C		2
plants	land plants	Lamiaceae	*Basilicum polystachyon*			C		1
plants	land plants	Lamiaceae	*Chloanthes parviflora*			C		1/1
plants	land plants	Lamiaceae	*Clerodendrum floribundum*			C		2
plants	land plants	Lamiaceae	*Coleus australis*			C		1
plants	land plants	Lamiaceae	*Coleus blakei*			NT		3/3
plants	land plants	Lamiaceae	*Ocimum*					1
plants	land plants	Lamiaceae	*Ocimum tenuiflorum*			C		4
plants	land plants	Lamiaceae	*Prostanthera collina*			C		2/2
plants	land plants	Lamiaceae	*Prostanthera cryptandroides subsp. euphrasioides*			C		2/2
plants	land plants	Lamiaceae	*Prostanthera parvifolia*			C		2/2
plants	land plants	Lamiaceae	*Prostanthera suborbicularis*			C		1/1
plants	land plants	Lamiaceae	*Teucrium puberulum*			C		1/1
plants	land plants	Lauraceae	*Cassytha pubescens*	downy devil's twine		C		1
plants	land plants	Laxmanniaceae	*Eustrephus latifolius*	wombat berry		C		3
plants	land plants	Laxmanniaceae	*Lomandra confertifolia subsp. pallida*			C		1/1
plants	land plants	Laxmanniaceae	*Lomandra longifolia*			C		5
plants	land plants	Laxmanniaceae	*Lomandra multiflora subsp. multiflora*			C		1/1
plants	land plants	Leguminosae	*Acacia burrowii*			C		1/1
plants	land plants	Leguminosae	*Acacia caroleae*			C		1
plants	land plants	Leguminosae	*Acacia catenulata*	bendee		C		7
plants	land plants	Leguminosae	*Acacia cretata*			C		5/3
plants	land plants	Leguminosae	*Acacia cretata x Acacia fodinalis*			C		2/2
plants	land plants	Leguminosae	*Acacia everistii*			C		1/1
plants	land plants	Leguminosae	*Acacia excelsa*			C		6
plants	land plants	Leguminosae	*Acacia gittinsii*			C		1/1
plants	land plants	Leguminosae	*Acacia harpophylla*	brigalow		C		21
plants	land plants	Leguminosae	*Acacia juncifolia*			C		1/1

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plants	land plants	Leguminosae	*Acacia leichhardtii*			C		1/1
plants	land plants	Leguminosae	*Acacia leptostachya*	Townsville wattle		C		1/1
plants	land plants	Leguminosae	*Acacia macradenia*	zig-zag wattle		C		1/1
plants	land plants	Leguminosae	*Acacia melanoxylon*	blackwood		C		1
plants	land plants	Leguminosae	*Acacia neriifolia*	pechey wattle		C		1/1
plants	land plants	Leguminosae	*Acacia oswaldii*	miljee		C		3
plants	land plants	Leguminosae	*Acacia pendula*	myall		C		1
plants	land plants	Leguminosae	*Acacia rhodoxylon*	ringy rosewood		C		1
plants	land plants	Leguminosae	*Acacia salicina*	doolan		C		11
plants	land plants	Leguminosae	*Acacia shirleyi*	lancewood		C		3
plants	land plants	Leguminosae	*Acacia sp. (Comet L.Pedley 4091)*			C		1/1
plants	land plants	Leguminosae	*Acacia storyi*			NT		1/1
plants	land plants	Leguminosae	*Acacia triptera*			C		1/1
plants	land plants	Leguminosae	*Acacia venulosa*	veined wattle		C		1/1
plants	land plants	Leguminosae	*Aeschynomene indica*	budda pea		C		2
plants	land plants	Leguminosae	*Albizia lebbeck*	Indian siris		C		1
plants	land plants	Leguminosae	*Bossiaea carinalis*			C		1/1
plants	land plants	Leguminosae	*Canavalia papuana*	wild jack bean		C		2/1
plants	land plants	Leguminosae	*Cassia brewsteri*			C		11/3
plants	land plants	Leguminosae	*Cassia queenslandica*			C		2
plants	land plants	Leguminosae	*Clitoria ternatea*	butterfly pea	Y			1
plants	land plants	Leguminosae	*Crotalaria dissitiflora subsp. dissitiflora*			C		1
plants	land plants	Leguminosae	*Crotalaria incana subsp. incana*		Y			2/1
plants	land plants	Leguminosae	*Cullen tenax*	emu-foot		C		1
plants	land plants	Leguminosae	*Delonix regia*	poinciana	Y			1/1
plants	land plants	Leguminosae	*Desmodium campylocaulon*			C		1
plants	land plants	Leguminosae	*Dillwynia phylicoides*			C		1/1
plants	land plants	Leguminosae	*Glycine clandestina var. clandestina*			C		1
plants	land plants	Leguminosae	*Glycine clandestina var. sericea*			C		1/1
plants	land plants	Leguminosae	*Glycine falcata*			C		1
plants	land plants	Leguminosae	*Glycine tabacina*	glycine pea		C		1
plants	land plants	Leguminosae	*Glycine tomentella*	woolly glycine		C		5/2
plants	land plants	Leguminosae	*Hardenbergia perbrevidens*			C		1/1
plants	land plants	Leguminosae	*Heliodendron basalticum*			C		4
plants	land plants	Leguminosae	*Hovea linearis x Hovea planifolia*			C		1/1
plants	land plants	Leguminosae	*Hovea longipes*	brush hovea		C		2/1
plants	land plants	Leguminosae	*Hovea tholiformis*			C		1/1
plants	land plants	Leguminosae	*Indigofera australis*			C		2
plants	land plants	Leguminosae	*Indigofera brevidens*			C		3/2
plants	land plants	Leguminosae	*Indigofera colutea*	sticky indigo		C		1/1
plants	land plants	Leguminosae	*Indigofera linifolia*			C		2
plants	land plants	Leguminosae	*Indigofera pratensis*			C		1
plants	land plants	Leguminosae	*Kennedia sp. (Blackdown Tableland R.J.Henderson+ H747)*			C		1/1
plants	land plants	Leguminosae	*Leucaena leucocephala*		Y			1
plants	land plants	Leguminosae	*Leucaena leucocephala subsp. glabrata*		Y			1/1

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plants	land plants	Leguminosae	*Leucaena leucocephala subsp. leucocephala*		Y			1/1
plants	land plants	Leguminosae	*Lotus australis*	Australian trefoil		C		1
plants	land plants	Leguminosae	*Lysiphyllum*					1
plants	land plants	Leguminosae	*Lysiphyllum carronii*	ebony tree		C		12/1
plants	land plants	Leguminosae	*Lysiphyllum hookeri*	Queensland ebony		C		14/3
plants	land plants	Leguminosae	*Macroptilium atropurpureum*	siratro	Y			1
plants	land plants	Leguminosae	*Mirbelia pungens*			C		1/1
plants	land plants	Leguminosae	*Mirbelia speciosa subsp. ringrosei*			C		1/1
plants	land plants	Leguminosae	*Neptunia gracilis*			C		1
plants	land plants	Leguminosae	*Neptunia gracilis forma gracilis*			C		2
plants	land plants	Leguminosae	*Parkinsonia aculeata*	parkinsonia	Y			9/5
plants	land plants	Leguminosae	*Petalostylis labicheoides*			C		1/1
plants	land plants	Leguminosae	*Pultenaea cunninghamii*	prickly pea		C		2/2
plants	land plants	Leguminosae	*Pultenaea petiolaris*			C		1/1
plants	land plants	Leguminosae	*Rhynchosia minima var. minima*			C		1
plants	land plants	Leguminosae	*Senna aciphylla*	Australian senna		C		1/1
plants	land plants	Leguminosae	*Senna artemisioides subsp. coriacea*			C		1
plants	land plants	Leguminosae	*Senna barclayana*			C		1/1
plants	land plants	Leguminosae	*Senna circinnata*			C		1
plants	land plants	Leguminosae	*Senna occidentalis*	coffee senna	Y			1/1
plants	land plants	Leguminosae	*Sesbania cannabina*			C		1
plants	land plants	Leguminosae	*Sesbania cannabina var. cannabina*			C		1
plants	land plants	Leguminosae	*Stylosanthes scabra*		Y			4
plants	land plants	Leguminosae	*Tephrosia brachyodon*			C		1
plants	land plants	Leguminosae	*Tephrosia filipes subsp. filipes*			C		1/1
plants	land plants	Leguminosae	*Vachellia farnesiana*		Y			2
plants	land plants	Leguminosae	*Zornia muriculata subsp. angustata*			C		1/1
plants	land plants	Loganiaceae	*Mitrasacme paludosa*			C		1/1
plants	land plants	Loranthaceae	*Amyema quandang var. bancroftii*	broad-leaved grey mistletoe		C		2
plants	land plants	Loranthaceae	*Amyema quandang var. quandang*			C		1
plants	land plants	Loranthaceae	*Lysiana filifolia*			C		1/1
plants	land plants	Loranthaceae	*Lysiana subfalcata*			C		5
plants	land plants	Lythraceae	*Lythrum paradoxum*			C		1
plants	land plants	Lythraceae	*Rotala*			C		1
plants	land plants	Macarthuriaceae	*Macarthuria ephedroides*			C		1/1
plants	land plants	Malvaceae	*Abutilon auritum*	Chinese lantern		C		1
plants	land plants	Malvaceae	*Abutilon fraseri*	dwarf lantern flower		C		1
plants	land plants	Malvaceae	*Abutilon fraseri subsp. fraseri*			C		1
plants	land plants	Malvaceae	*Abutilon malvifolium*	bastard marshmallow		C		2
plants	land plants	Malvaceae	*Abutilon nobile*			C		1/1
plants	land plants	Malvaceae	*Abutilon otocarpum*			C		1
plants	land plants	Malvaceae	*Abutilon oxycarpum*			C		1
plants	land plants	Malvaceae	*Abutilon oxycarpum var. oxycarpum*			C		1
plants	land plants	Malvaceae	*Abutilon oxycarpum var. subsagittatum*			C		2
plants	land plants	Malvaceae	*Gossypium australe*			C		2/1
plants	land plants	Malvaceae	*Hibiscus*					3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Malvaceae	*Hibiscus brachysiphonius*			C		2/1
plants	land plants	Malvaceae	*Hibiscus divaricatus*			C		1/1
plants	land plants	Malvaceae	*Hibiscus heterophyllus*			C		1
plants	land plants	Malvaceae	*Hibiscus krichauffianus*			C		1/1
plants	land plants	Malvaceae	*Hibiscus sp. (Emerald S.L.Everist 2124)*			C		1/1
plants	land plants	Malvaceae	*Hibiscus sturtii*			C		3/1
plants	land plants	Malvaceae	*Hibiscus sturtii var. sturtii*			C		3/1
plants	land plants	Malvaceae	*Malvastrum americanum*		Y			6
plants	land plants	Malvaceae	*Malvastrum americanum var. americanum*		Y			1
plants	land plants	Malvaceae	*Sida aprica var. aprica*			C		2/2
plants	land plants	Malvaceae	*Sida atherophora*			C		1/1
plants	land plants	Malvaceae	*Sida cordifolia*		Y			2/1
plants	land plants	Malvaceae	*Sida corrugata*			C		2
plants	land plants	Malvaceae	*Sida corrugata var. angustifolia*			C		1
plants	land plants	Malvaceae	*Sida cunninghamii*			C		1
plants	land plants	Malvaceae	*Sida fibulifera*			C		1
plants	land plants	Malvaceae	*Sida rhombifolia*		Y			4
plants	land plants	Malvaceae	*Sida rohlenae*			C		2
plants	land plants	Malvaceae	*Sida rohlenae subsp. rohlenae*			C		1
plants	land plants	Malvaceae	*Sida sp. (Musselbrook M.B.Thomas+ MRS437)*			C		1
plants	land plants	Malvaceae	*Sida trichopoda*			C		9/1
plants	land plants	Marsileaceae	*Marsilea costulifera*	narrow-leaved nardoo		C		2
plants	land plants	Marsileaceae	*Marsilea drummondii*	common nardoo		C		1
plants	land plants	Marsileaceae	*Marsilea hirsuta*	hairy nardoo		C		2
plants	land plants	Meliaceae	*Owenia acidula*	emu apple		C		7/1
plants	land plants	Molluginaceae	*Glinus lotoides*	hairy carpet weed		C		1/1
plants	land plants	Moraceae	*Ficus opposita*			C		3
plants	land plants	Myrtaceae	*Angophora floribunda*	rough-barked apple		C		1
plants	land plants	Myrtaceae	*Blakella dallachiana*			C		6/1
plants	land plants	Myrtaceae	*Blakella leichhardtii*			C		1/1
plants	land plants	Myrtaceae	*Blakella tessellaris*			C		5
plants	land plants	Myrtaceae	*Corymbia aureola*			C		1/1
plants	land plants	Myrtaceae	*Corymbia citriodora subsp. citriodora*			C		4
plants	land plants	Myrtaceae	*Corymbia citriodora subsp. variegata*			C		1
plants	land plants	Myrtaceae	*Corymbia clarksoniana*			C		1
plants	land plants	Myrtaceae	*Corymbia hendersonii*			C		1/1
plants	land plants	Myrtaceae	*Corymbia intermedia*	pink bloodwood		C		1
plants	land plants	Myrtaceae	*Corymbia trachyphloia subsp. trachyphloia*			C		2/1
plants	land plants	Myrtaceae	*Eucalyptus acmenoides*			C		2/2
plants	land plants	Myrtaceae	*Eucalyptus camaldulensis subsp. acuta*			C		1
plants	land plants	Myrtaceae	*Eucalyptus cambageana*	Dawson gum		C		8/1
plants	land plants	Myrtaceae	*Eucalyptus coolabah*	coolabah		C		10
plants	land plants	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark		C		9/2
plants	land plants	Myrtaceae	*Eucalyptus decorticans*			C		1/1
plants	land plants	Myrtaceae	*Eucalyptus exserta*	Queensland peppermint		C		3/2
plants	land plants	Myrtaceae	*Eucalyptus melanophloia*			C		11

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Myrtaceae	*Eucalyptus orgadophila*	mountain coolibah		C		1
plants	land plants	Myrtaceae	*Eucalyptus populnea*	poplar box		C		10
plants	land plants	Myrtaceae	*Eucalyptus tenuipes*	narrow-leaved white mahogany		C		1/1
plants	land plants	Myrtaceae	*Eucalyptus tereticornis*			C		5
plants	land plants	Myrtaceae	*Eucalyptus tereticornis subsp. tereticornis*			C		2
plants	land plants	Myrtaceae	*Eucalyptus tholiformis*			C		1/1
plants	land plants	Myrtaceae	*Eucalyptus thozetiana*			C		7
plants	land plants	Myrtaceae	*Lophostemon suaveolens*	swamp box		C		1/1
plants	land plants	Myrtaceae	*Lysicarpus angustifolius*	budgeroo		C		1/1
plants	land plants	Myrtaceae	*Melaleuca bracteata*			C		3
plants	land plants	Myrtaceae	*Melaleuca decora*			C		1/1
plants	land plants	Myrtaceae	*Melaleuca lazaridis*			C		1/1
plants	land plants	Myrtaceae	*Melaleuca linariifolia*	snow-in summer		C		1/1
plants	land plants	Myrtaceae	*Melaleuca nodosa*			C		1/1
plants	land plants	Myrtaceae	*Melaleuca tamariscina*			C		3/3
plants	land plants	Myrtaceae	*Melaleuca trichostachya*			C		1/1
plants	land plants	Myrtaceae	*Micromyrtus capricornia*			C		5/5
plants	land plants	Myrtaceae	*Ochrosperma adpressum*			C		1/1
plants	land plants	Myrtaceae	*Triplarina paludosa*			C		1/1
plants	land plants	Nyctaginaceae	*Boerhavia burbidgeana*			C		1/1
plants	land plants	Nyctaginaceae	*Boerhavia dominii*			C		7
plants	land plants	Nyctaginaceae	*Boerhavia pubescens*			C		1
plants	land plants	Nyctaginaceae	*Boerhavia sp. (St George A.Hill AQ399299)*			C		1/1
plants	land plants	Olacaceae	*Ximenia americana*			C		1/1
plants	land plants	Oleaceae	*Jasminum didymum*			C		1
plants	land plants	Oleaceae	*Jasminum didymum subsp. lineare*			C		9
plants	land plants	Oleaceae	*Jasminum didymum subsp. racemosum*			C		2
plants	land plants	Oleaceae	*Jasminum simplicifolium subsp. australiense*			C		1/1
plants	land plants	Oleaceae	*Notelaea microcarpa*			C		3/1
plants	land plants	Onagraceae	*Ludwigia octovalvis*	willow primrose		C		2
plants	land plants	Onagraceae	*Ludwigia peploides subsp. montevidensis*			C		1
plants	land plants	Orchidaceae	*Corunastylis valida*			V		1/1
plants	land plants	Orchidaceae	*Cymbidium canaliculatum*			SL		4
plants	land plants	Oxalidaceae	*Oxalis*					1
plants	land plants	Oxalidaceae	*Oxalis corniculata*		Y			1
plants	land plants	Oxalidaceae	*Oxalis radicosa*			C		1/1
plants	land plants	Papaveraceae	*Argemone ochroleuca subsp. ochroleuca*	Mexican poppy	Y			1
plants	land plants	Passifloraceae	*Passiflora aurantia var. aurantia*			C		2/2
plants	land plants	Phyllanthaceae	*Breynia oblongifolia*			C		1/1
plants	land plants	Phyllanthaceae	*Flueggea*					1
plants	land plants	Phyllanthaceae	*Phyllanthus*					1/1
plants	land plants	Phyllanthaceae	*Phyllanthus maderaspatensis*			C		4
plants	land plants	Phyllanthaceae	*Phyllanthus maderaspatensis var. maderaspatensis*			C		1
plants	land plants	Phyllanthaceae	*Phyllanthus mitchellii*			C		1/1
plants	land plants	Phyllanthaceae	*Phyllanthus virgatus*			C		1
plants	land plants	Phyllanthaceae	*Synostemon spinosus*			C		2/2

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plants	land plants	Picrodendraceae	*Petalostigma pachyphyllum*			C		1/1
plants	land plants	Picrodendraceae	*Petalostigma pubescens*	quinine tree		C		4/1
plants	land plants	Pittosporaceae	*Pittosporum angustifolium*			C		2
plants	land plants	Pittosporaceae	*Pittosporum spinescens*			C		4/1
plants	land plants	Pittosporaceae	*Rhytidosporum diosmoides*			C		1/1
plants	land plants	Plantaginaceae	*Plantago cunninghamii*	sago weed		C		1
plants	land plants	Plantaginaceae	*Scoparia dulcis*	scoparia	Y			1
plants	land plants	Plumbaginaceae	*Plumbago zeylanica*	native plumbago		C		2
plants	land plants	Poaceae	*Alloteropsis cimicina*			C		1/1
plants	land plants	Poaceae	*Alloteropsis semialata*	cockatoo grass		C		1
plants	land plants	Poaceae	*Ancistrachne uncinulata*	hooky grass		C		4/3
plants	land plants	Poaceae	*Aristida caput-medusae*			C		6/2
plants	land plants	Poaceae	*Aristida holathera*			C		1
plants	land plants	Poaceae	*Aristida holathera var. holathera*			C		1
plants	land plants	Poaceae	*Aristida jerichoensis var. subspinulifera*			C		5
plants	land plants	Poaceae	*Aristida leptopoda*	white speargrass		C		1
plants	land plants	Poaceae	*Aristida lignosa*			C		1/1
plants	land plants	Poaceae	*Aristida polyclados*			C		3
plants	land plants	Poaceae	*Aristida queenslandica var. dissimilis*			C		2/2
plants	land plants	Poaceae	*Aristida ramosa*	purple wiregrass		C		1
plants	land plants	Poaceae	*Aristida vagans*			C		2
plants	land plants	Poaceae	*Arundinella nepalensis*	reedgrass		C		1/1
plants	land plants	Poaceae	*Astrebla lappacea*	curly mitchell grass		C		1
plants	land plants	Poaceae	*Astrebla squarrosa*	bull mitchell grass		C		3
plants	land plants	Poaceae	*Bothriochloa bladhii subsp. bladhii*			C		2
plants	land plants	Poaceae	*Bothriochloa decipiens var. decipiens*			C		1
plants	land plants	Poaceae	*Bothriochloa ewartiana*	desert bluegrass		C		6
plants	land plants	Poaceae	*Bothriochloa pertusa*		Y			3
plants	land plants	Poaceae	*Brachyachne convergens*	common native couch		C		5
plants	land plants	Poaceae	*Calyptochloa sphaerocarpa*			C		4/4
plants	land plants	Poaceae	*Cenchrus*					1
plants	land plants	Poaceae	*Cenchrus ciliaris*		Y			17
plants	land plants	Poaceae	*Chloris gayana*	rhodes grass	Y			1
plants	land plants	Poaceae	*Chloris inflata*	purpletop chloris	Y			3
plants	land plants	Poaceae	*Chloris ventricosa*	tall chloris		C		2
plants	land plants	Poaceae	*Chloris virgata*	feathertop rhodes grass	Y			1
plants	land plants	Poaceae	*Chrysopogon fallax*			C		1
plants	land plants	Poaceae	*Cleistochloa subjuncea*			C		1/1
plants	land plants	Poaceae	*Cymbopogon refractus*	barbed-wire grass		C		1
plants	land plants	Poaceae	*Cynodon dactylon*		Y			3
plants	land plants	Poaceae	*Cynodon dactylon var. dactylon*		Y			1
plants	land plants	Poaceae	*Dactyloctenium radulans*	button grass		C		8
plants	land plants	Poaceae	*Dichanthium sericeum subsp. sericeum*			C		1
plants	land plants	Poaceae	*Digitaria bicornis*			C		1
plants	land plants	Poaceae	*Digitaria brownii*			C		2
plants	land plants	Poaceae	*Digitaria diffusa*			C		1/1

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plants	land plants	Poaceae	*Dinebra decipiens var. asthenes*			C		1
plants	land plants	Poaceae	*Dinebra decipiens var. decipiens*			C		4/1
plants	land plants	Poaceae	*Diplachne fusca var. fusca*			C		2/1
plants	land plants	Poaceae	*Echinochloa colona*	awnless barnyard grass	Y			4
plants	land plants	Poaceae	*Echinochloa esculenta*	Japanese millet	Y			1
plants	land plants	Poaceae	*Enneapogon gracilis*	slender nineawn		C		5
plants	land plants	Poaceae	*Enneapogon nigricans*	niggerheads		C		2
plants	land plants	Poaceae	*Enteropogon acicularis*	curly windmill grass		C		5
plants	land plants	Poaceae	*Enteropogon ramosus*			C		1
plants	land plants	Poaceae	*Enteropogon unispiceus*			C		9/1
plants	land plants	Poaceae	*Eragrostis elongata*			C		1
plants	land plants	Poaceae	*Eragrostis lacunaria*	purple lovegrass		C		2
plants	land plants	Poaceae	*Eragrostis leptostachya*			C		1
plants	land plants	Poaceae	*Eragrostis megalosperma*			C		1
plants	land plants	Poaceae	*Eragrostis minor*	smaller stinkgrass	Y			2
plants	land plants	Poaceae	*Eriachne*					1
plants	land plants	Poaceae	*Eriochloa crebra*	spring grass		C		6
plants	land plants	Poaceae	*Heteropogon contortus*	black speargrass		C		1
plants	land plants	Poaceae	*Hyparrhenia rufa subsp. rufa*		Y			2/2
plants	land plants	Poaceae	*Iseilema vaginiflorum*	red flinders grass		C		2
plants	land plants	Poaceae	*Leptochloa digitata*			C		4
plants	land plants	Poaceae	*Megathyrsus maximus*		Y			1
plants	land plants	Poaceae	*Megathyrsus maximus var. pubiglumis*		Y			8
plants	land plants	Poaceae	*Melinis repens*	red natal grass	Y			2
plants	land plants	Poaceae	*Panicum decompositum*			C		1
plants	land plants	Poaceae	*Panicum decompositum var. tenuius*			C		2
plants	land plants	Poaceae	*Panicum effusum*			C		1/1
plants	land plants	Poaceae	*Paspalidium albovillosum*			C		1/1
plants	land plants	Poaceae	*Paspalidium caespitosum*	brigalow grass		C		8
plants	land plants	Poaceae	*Paspalidium constrictum*			C		1
plants	land plants	Poaceae	*Paspalidium distans*	shotgrass		C		1
plants	land plants	Poaceae	*Paspalidium jubiflorum*	warrego grass		C		1
plants	land plants	Poaceae	*Paspalum distichum*	water couch	Y			2
plants	land plants	Poaceae	*Paspalum longifolium*			C		1
plants	land plants	Poaceae	*Setaria paspalidioides*			C		1/1
plants	land plants	Poaceae	*Setaria surgens*			C		1/1
plants	land plants	Poaceae	*Sorghum x almum*		Y			1/1
plants	land plants	Poaceae	*Sporobolus actinocladus*	katoora grass		C		1
plants	land plants	Poaceae	*Sporobolus caroli*	fairy grass		C		8
plants	land plants	Poaceae	*Sporobolus creber*			C		1/1
plants	land plants	Poaceae	*Sporobolus elongatus*			C		2
plants	land plants	Poaceae	*Sporobolus laxus*			C		1
plants	land plants	Poaceae	*Themeda triandra*	kangaroo grass		C		2
plants	land plants	Poaceae	*Thyridolepis xerophila*			C		1/1
plants	land plants	Poaceae	*Tragus australianus*	small burr grass		C		5
plants	land plants	Poaceae	*Triodia mitchellii*	buck spinifex		C		4/3

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plants	land plants	Poaceae	*Urochloa mosambicensis*	sabi grass	Y			5
plants	land plants	Polygalaceae	*Polygala rhinanthoides*			C		1/1
plants	land plants	Polygonaceae	*Duma florulenta*			C		2
plants	land plants	Polygonaceae	*Emex*			C		1
plants	land plants	Polygonaceae	*Persicaria attenuata*			C		1
plants	land plants	Polygonaceae	*Persicaria orientalis*	princes feathers		C		1
plants	land plants	Polygonaceae	*Polygonum plebeium*	small knotweed		C		1/1
plants	land plants	Pontederiaceae	*Pontederia cyanea*			C		2
plants	land plants	Portulacaceae	*Calandrinia pickeringii*			C		2/1
plants	land plants	Portulacaceae	*Portulaca bicolor*			C		1/1
plants	land plants	Portulacaceae	*Portulaca filifolia*			C		4
plants	land plants	Portulacaceae	*Portulaca oleracea*	pigweed	Y			7
plants	land plants	Portulacaceae	*Portulaca pilosa*		Y			3
plants	land plants	Potamogetonaceae	*Potamogeton tricarinatus*	floating pondweed		SL		1
plants	land plants	Proteaceae	*Grevillea longistyla*			C		3/3
plants	land plants	Proteaceae	*Grevillea sessilis*			C		1/1
plants	land plants	Proteaceae	*Hakea*					2/2
plants	land plants	Proteaceae	*Hakea lorea*			C		1
plants	land plants	Proteaceae	*Hakea lorea subsp. lorea*			C		2/1
plants	land plants	Proteaceae	*Persoonia subtilis*			C		1/1
plants	land plants	Proteaceae	*Xylomelum cunninghamianum*			C		1
plants	land plants	Pteridaceae	*Cheilanthes sieberi subsp. sieberi*			C		2
plants	land plants	Rhamnaceae	*Alphitonia excelsa*	soap tree		C		4
plants	land plants	Rhamnaceae	*Polianthion minutiflorum*			V	V	2/2
plants	land plants	Rhamnaceae	*Ventilago viminalis*	supplejack		C		7/1
plants	land plants	Rubiaceae	*Coelospermum reticulatum*			C		1/1
plants	land plants	Rubiaceae	*Everistia vacciniifolia var. vacciniifolia*			C		2/2
plants	land plants	Rubiaceae	*Larsenaikia ochreata*			C		2/2
plants	land plants	Rubiaceae	*Opercularia diphylla*			C		1/1
plants	land plants	Rubiaceae	*Psydrax johnsonii*			C		1/1
plants	land plants	Rubiaceae	*Psydrax odorata*			C		1
plants	land plants	Rubiaceae	*Psydrax odorata forma buxifolia*			C		2
plants	land plants	Rubiaceae	*Psydrax odorata subsp. australiana*			C		1/1
plants	land plants	Rubiaceae	*Psydrax oleifolia*			C		2
plants	land plants	Rutaceae	*Acronychia pauciflora*	soft acronychia		C		1/1
plants	land plants	Rutaceae	*Boronia odorata*			C		1/1
plants	land plants	Rutaceae	*Boronia splendida*			C		1/1
plants	land plants	Rutaceae	*Citrus glauca*			C		4
plants	land plants	Rutaceae	*Cyanothamnus occidentalis*			C		3/3
plants	land plants	Rutaceae	*Flindersia dissosperma*			C		3/1
plants	land plants	Rutaceae	*Geijera parviflora*	wilga		C		9/2
plants	land plants	Rutaceae	*Phebalium glandulosum subsp. glandulosum*			C		1/1
plants	land plants	Rutaceae	*Phebalium nottii*	pink phebalium		C		3/3
plants	land plants	Rutaceae	*Philotheca difformis subsp. difformis*			C		3/3
plants	land plants	Santalaceae	*Santalum lanceolatum*			SL		3
plants	land plants	Santalaceae	*Viscum articulatum*	flat mistletoe		C		1

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plants	land plants	Sapindaceae	*Alectryon connatus*	grey birds-eye		C		2/1
plants	land plants	Sapindaceae	*Alectryon diversifolius*	scrub boonaree		C		14/2
plants	land plants	Sapindaceae	*Alectryon oleifolius subsp. elongatus*			C		4
plants	land plants	Sapindaceae	*Atalaya hemiglauca*			C		10
plants	land plants	Sapindaceae	*Dodonaea*					2/2
plants	land plants	Sapindaceae	*Dodonaea filifolia*			C		1/1
plants	land plants	Sapindaceae	*Dodonaea lanceolata var. subsessilifolia*			C		1/1
plants	land plants	Sapindaceae	*Dodonaea vestita*			C		1/1
plants	land plants	Sapindaceae	*Dodonaea viscosa subsp. viscosa*			C		1
plants	land plants	Scrophulariaceae	*Eremophila latrobei*			C		2/1
plants	land plants	Scrophulariaceae	*Eremophila latrobei subsp. glabra*			C		4/4
plants	land plants	Scrophulariaceae	*Eremophila latrobei subsp. latrobei*			C		1/1
plants	land plants	Scrophulariaceae	*Eremophila longifolia*	berrigan		C		2/1
plants	land plants	Scrophulariaceae	*Eremophila maculata*			C		1
plants	land plants	Scrophulariaceae	*Eremophila maculata subsp. maculata*			C		1/1
plants	land plants	Scrophulariaceae	*Eremophila mitchellii*			C		12/1
plants	land plants	Scrophulariaceae	*Myoporum acuminatum*	coastal boobialla		C		3
plants	land plants	Solanaceae	*Physalis lanceifolia*		Y			1
plants	land plants	Solanaceae	*Solanum*					1
plants	land plants	Solanaceae	*Solanum adenophorum*			E		1
plants	land plants	Solanaceae	*Solanum cocosoides*			C		5/5
plants	land plants	Solanaceae	*Solanum elachophyllum*			E		5/4
plants	land plants	Solanaceae	*Solanum ellipticum*	potato bush		C		5/2
plants	land plants	Solanaceae	*Solanum esuriale*	quena		C		4/1
plants	land plants	Solanaceae	*Solanum ferocissimum*			C		3/2
plants	land plants	Solanaceae	*Solanum mitchellianum*			C		2/2
plants	land plants	Solanaceae	*Solanum pusillum*			C		2/2
plants	land plants	Solanaceae	*Solanum semiarmatum*	prickly nightshade		C		1
plants	land plants	Sparrmanniaceae	*Corchorus tomentellus*			C		1/1
plants	land plants	Sparrmanniaceae	*Corchorus trilocularis*			C		1
plants	land plants	Sparrmanniaceae	*Grewia latifolia*	dysentery plant		C		2/1
plants	land plants	Sparrmanniaceae	*Grewia scabrella*			C		7/3
plants	land plants	Sterculiaceae	*Brachychiton australis*	broad-leaved bottle tree		SL		1
plants	land plants	Sterculiaceae	*Brachychiton populneus subsp. trilobus*			SL		1/1
plants	land plants	Sterculiaceae	*Brachychiton rupestris*			SL		14/1
plants	land plants	Stylidiaceae	*Stylidium eglandulosum*			SL		1/1
plants	land plants	Typhaceae	*Typha orientalis*	broad-leaved cumbungi		C		1
plants	land plants	Verbenaceae	*Lippia alba var. alba*		Y			5/5
plants	land plants	Vitaceae	*Clematicissus opaca*			C		5/1
plants	land plants	Xanthorrhoeaceae	*Xanthorrhoea johnsonii*			SL		1
plants	land plants	Zamiaceae	*Macrozamia platyrhachis*			E	E	6/6
plants	land plants	Zygophyllaceae	*Tribulus eichlerianus*	bull head		C		3
plants	uncertain	Indet.	*Indet.*			C		5

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.



Vegetation management report

For Lot: 71 Plan: SP259121
12/05/2025

nrmmrrd.qld.gov.au

Queensland Government

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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 the Environment, Tourism, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 the Environment, Tourism, 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 the Environment, Tourism, 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 6
1.1 Tenure and title area 6
1.2 Property location 6
2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development) 7
2.1 Exempt clearing work 7
2.2 Accepted development vegetation clearing codes 7
2.3 Area management plans 8
2.4 Development approvals 8
2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development 8
3. Vegetation management framework for Lot: 71 Plan: SP259121 9
3.1 Vegetation categories 9
3.2 Regional ecosystems 10
3.3 Watercourses 10
3.4 Wetlands 10
3.5 Essential habitat 11
3.6 Area Management Plan(s) 11
3.7 Coastal or non-coastal 11
3.8 Agricultural Land Class A or B 12
4. Vegetation management framework maps 13
4.1 Regulated vegetation management map 14
4.2 Vegetation management supporting map 15
4.3 Coastal/non-coastal map 16
4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture 17
5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI)) 18
5.1 Clearing in high risk areas on the flora survey trigger map 18
5.2 Clearing outside high risk areas on the flora survey trigger map 18
5.3 Exemptions 18
5.4 Contact information for DETSI 18
5.5 Protected plants flora survey trigger map 19
6. Koala protection framework (administered by DETSI) 21
6.1 Koala mapping 21
6.2 Koala habitat planning controls 22
6.3 Koala Conservation Plan clearing requirements 23
6.4 Contact information for DETSI 23
7. Koala protection framework details for Lot: 71 Plan: SP259121 24
7.1 Koala districts 24
7.2 Koala priority area, koala habitat area and identified koala broad-hectare map 24
7.3 Koala habitat regional ecosystems for core koala habitat areas 25
8. Other relevant legislation contacts list 26

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 71 Plan: SP259121 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)
A	HT301	Easement	496,250
A	HT456	Easement	301,400
H	HT457	Easement	148,900
F	HT381	Easement	279,000
G	HT412	Easement	104,300
71	SP259121	Freehold	37,045,930
D	HT456	Easement	149,400
C	HT456	Easement	3,103
B	HT456	Easement	89,150

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: 71 Plan: SP259121 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: 71 Plan: SP259121, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Central Highlands Regional	Fitzroy	Brigalow Belt	Isaac - Comet Downs

2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development

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: 71 Plan: SP259121

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	26.96
Category R	0.69
Category X	3,662.30

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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 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:

2007/000524

2008/008489

2009/006406

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
11.3.1	Endangered	B	1.35	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.1	Endangered	R	0.02	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	B	13.48	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	less than 0.01	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	12.13	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	less than 0.01	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.4.9	Endangered	R	0.66	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
non-rem	None	X	3,662.30	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

There are no vegetation management wetlands present on this property.

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.

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

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?

No Class A

No Class B

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: 71 Plan: SP259121.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.qld.gov.au/environment/land/management/vegetation/maps/map-request

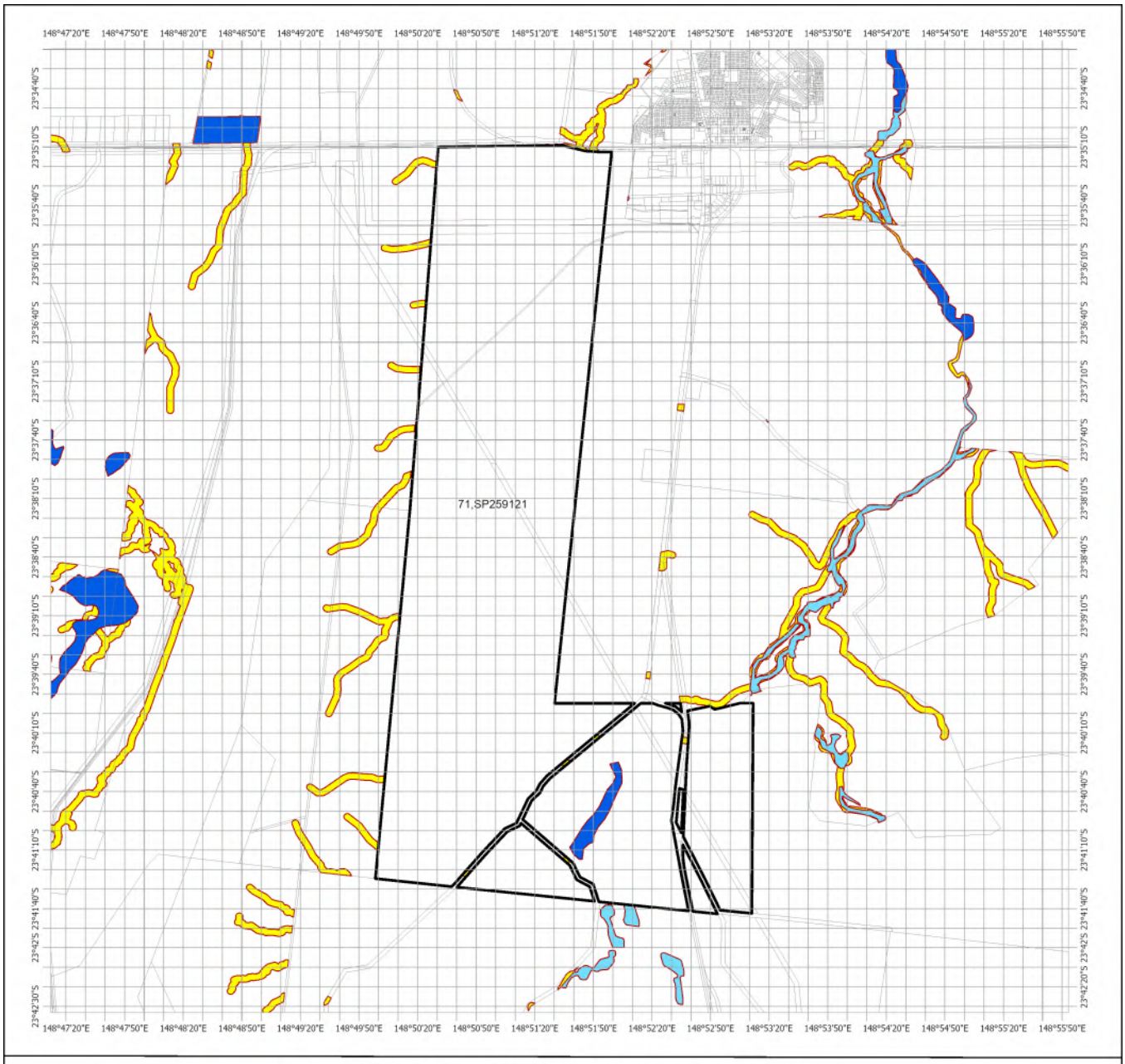
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

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

Queensland Government

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

0 870 1,740 2,610 3,480 4,350 m

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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.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

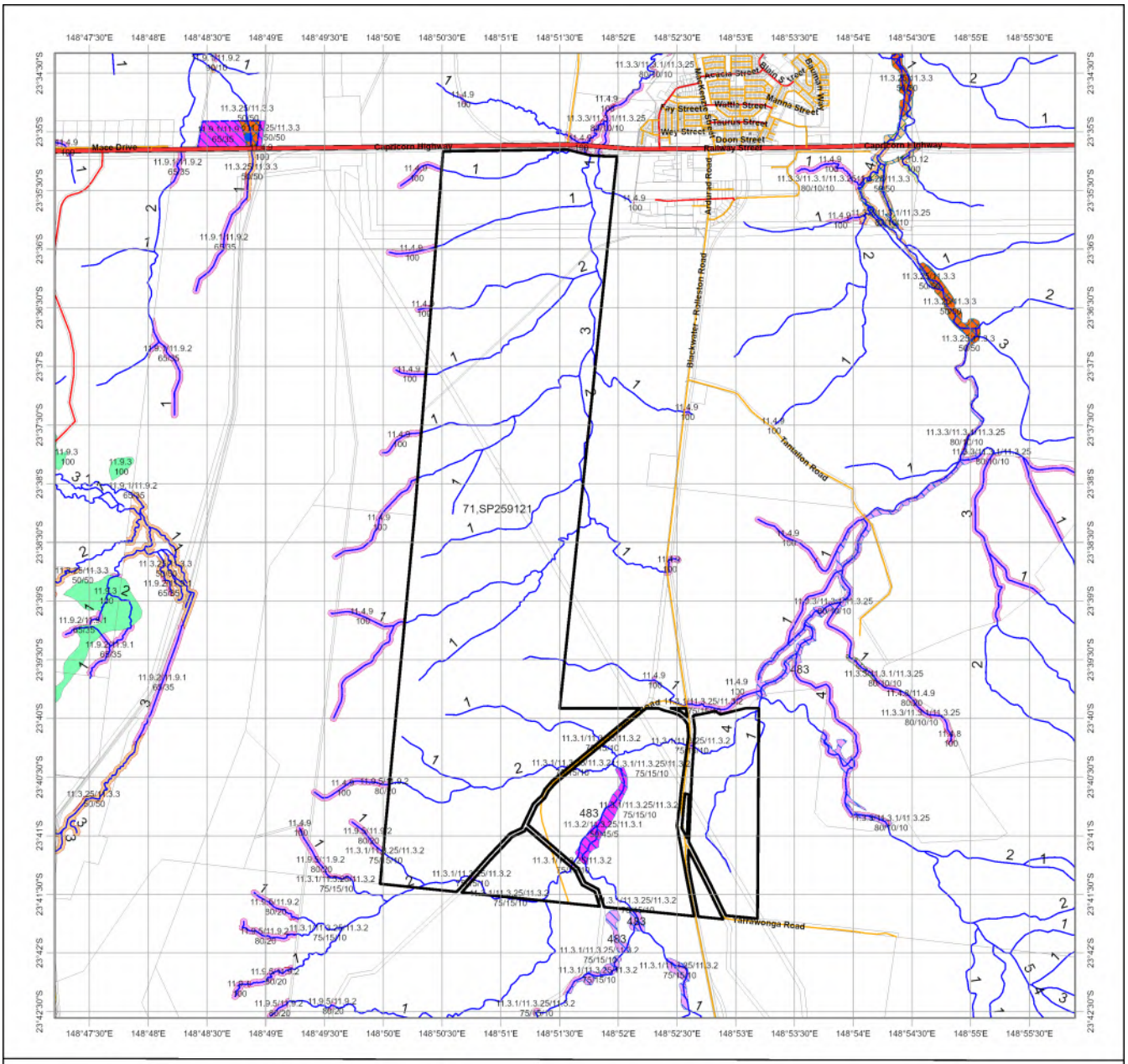
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

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.

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4.2 Vegetation management supporting map



Vegetation Management Supporting Map

- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries
- Selected Lot and Plan

Queensland Government

LOCALITY DIAGRAM



N

0 625 1,250 1,875 2,500 3,125 m

This product is displayed in: GDA2020

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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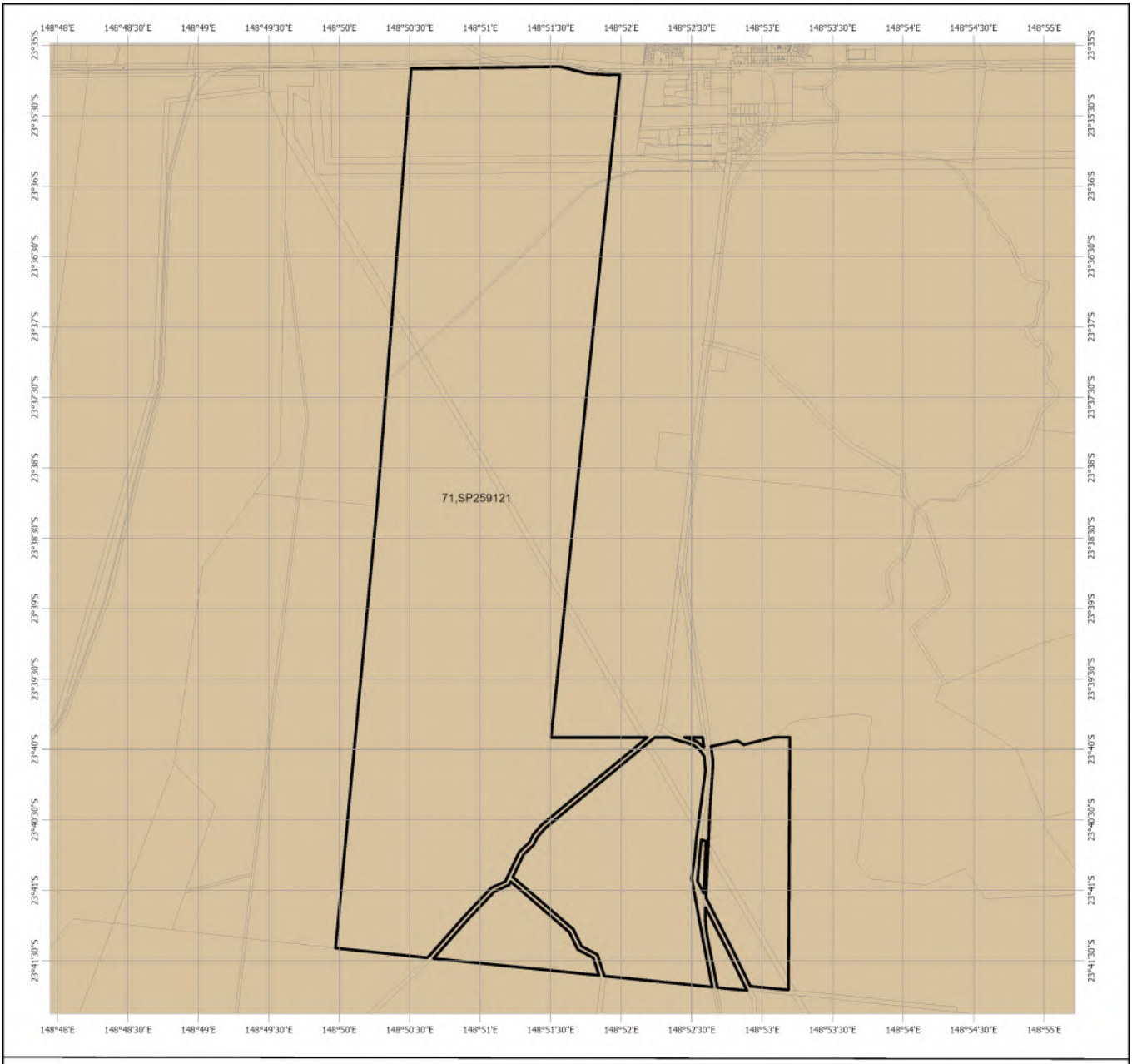
Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

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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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N

0 730 1,460 2,190 2,920 3,650 m

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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

0 730 1460 2190 2920 3650 m

This product is displayed in:
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5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 Endangered, Vulnerable, Near-Threatened (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 the Environment, Tourism, 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 DETSI

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

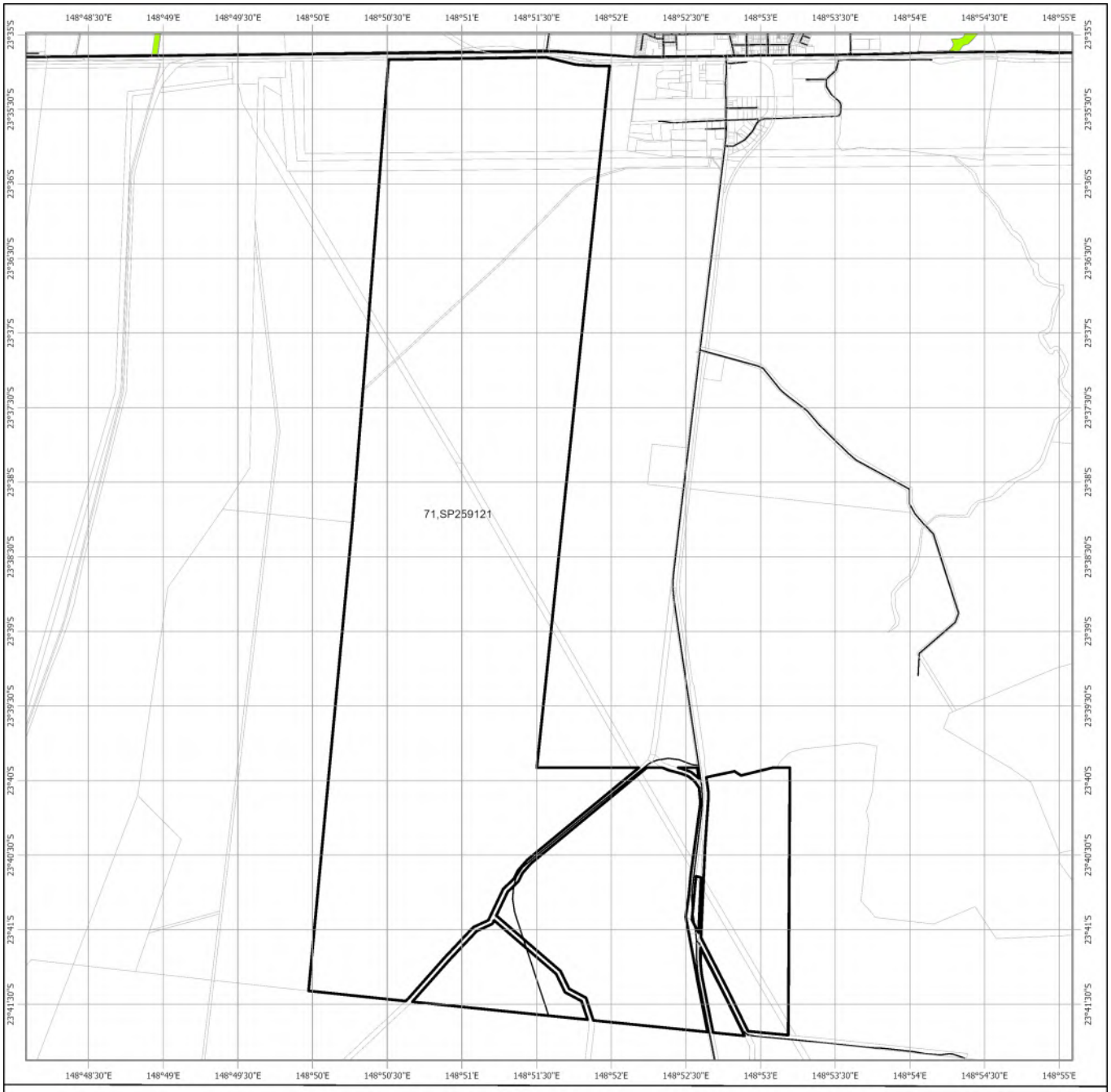
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

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 the Environment, Tourism, 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 the Environment, Tourism, 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

0 480 960 1,440 1,920 2,400 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 the Environment, Tourism, 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.

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6. Koala protection framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 DETSI

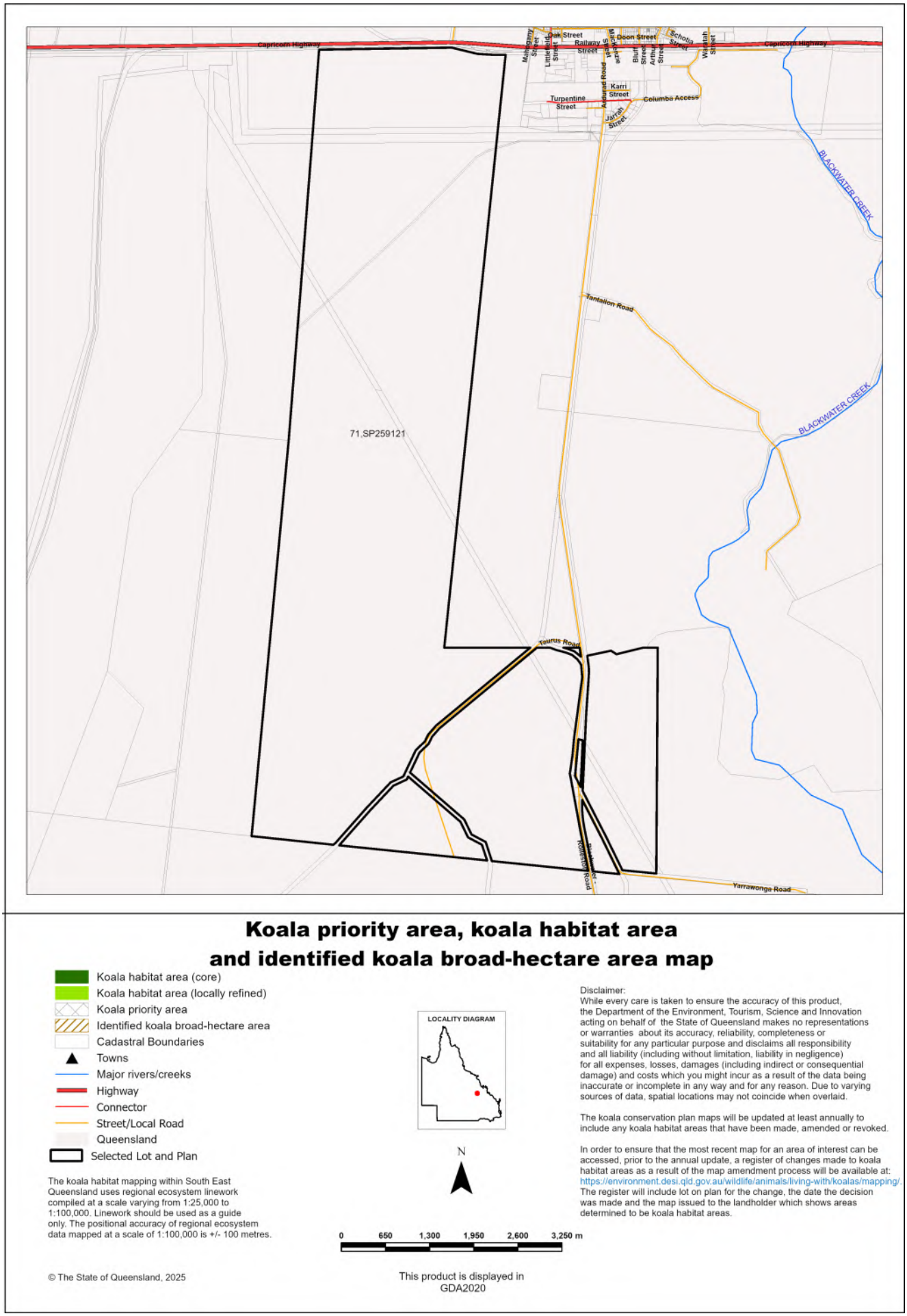
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 71 Plan: SP259121

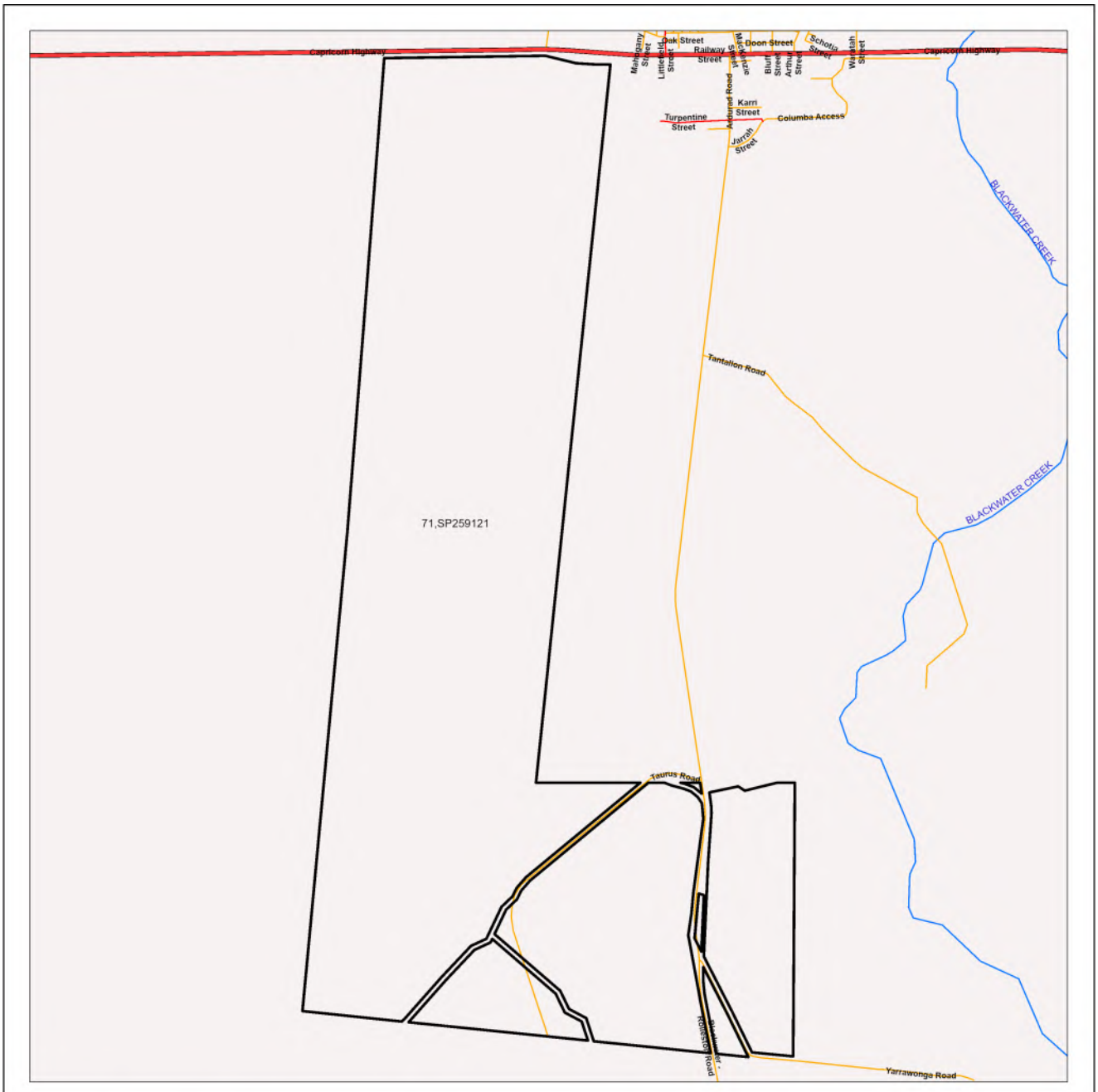
7.1 Koala districts

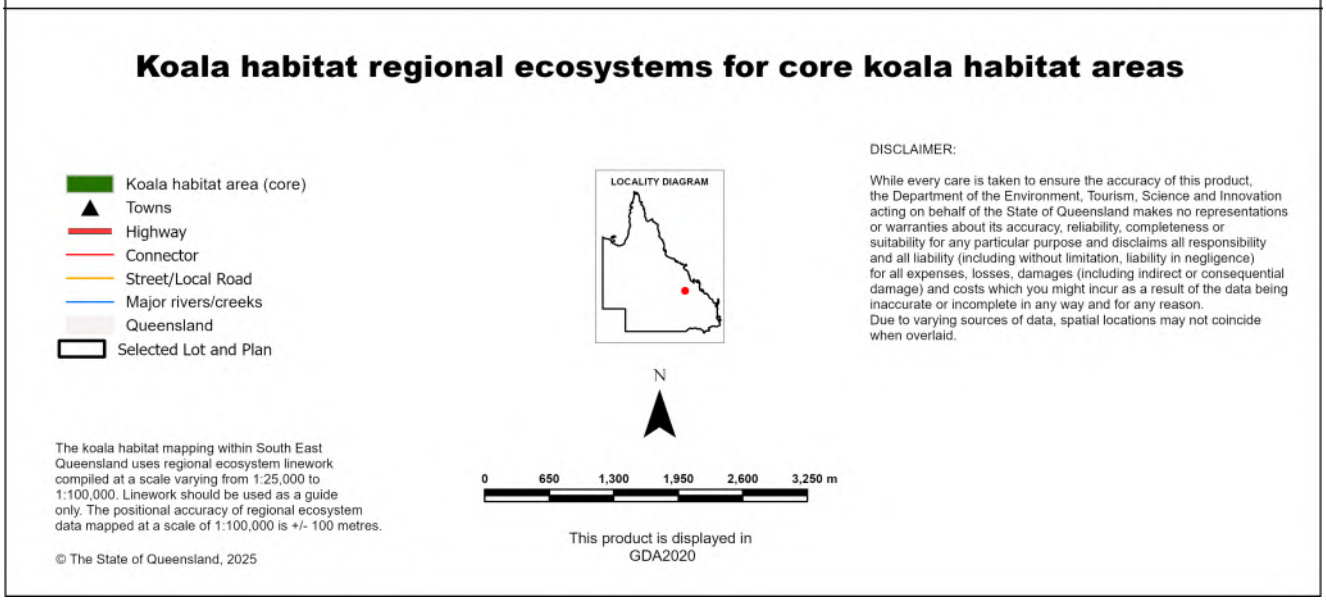
Koala District C

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	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.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*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	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 Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 803 772 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory



Vegetation management report

For Lot: 50 Plan: SP117237
11/04/2025

nrmmrrd.qld.gov.au

Queensland Government

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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 the Environment, Tourism, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 the Environment, Tourism, 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 the Environment, Tourism, 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 6
1.1 Tenure and title area 6
1.2 Property location 6
2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development) 7
2.1 Exempt clearing work 7
2.2 Accepted development vegetation clearing codes 7
2.3 Area management plans 8
2.4 Development approvals 8
2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development 8
3. Vegetation management framework for Lot: 50 Plan: SP117237 9
3.1 Vegetation categories 9
3.2 Regional ecosystems 10
3.3 Watercourses 10
3.4 Wetlands 10
3.5 Essential habitat 10
3.6 Area Management Plan(s) 11
3.7 Coastal or non-coastal 11
3.8 Agricultural Land Class A or B 11
4. Vegetation management framework maps 13
4.1 Regulated vegetation management map 14
4.2 Vegetation management supporting map 15
4.3 Coastal/non-coastal map 16
4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture 17
5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI)) 18
5.1 Clearing in high risk areas on the flora survey trigger map 18
5.2 Clearing outside high risk areas on the flora survey trigger map 18
5.3 Exemptions 18
5.4 Contact information for DETSI 18
5.5 Protected plants flora survey trigger map 19
6. Koala protection framework (administered by DETSI) 21
6.1 Koala mapping 21
6.2 Koala habitat planning controls 22
6.3 Koala Conservation Plan clearing requirements 23
6.4 Contact information for DETSI 23
7. Koala protection framework details for Lot: 50 Plan: SP117237 24
7.1 Koala districts 24
7.2 Koala priority area, koala habitat area and identified koala broad-hectare map 24
7.3 Koala habitat regional ecosystems for core koala habitat areas 25
8. Other relevant legislation contacts list 26

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 50 Plan: SP117237 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)
50	SP117237	Freehold	11,100,000
E	HT444	Easement	109,800
B	HT443	Easement	174,000
C	RP619638	Easement	0

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: 50 Plan: SP117237 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: 50 Plan: SP117237, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Central Highlands Regional	Fitzroy	Brigalow Belt	Isaac - Comet Downs

2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development

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: 50 Plan: SP117237

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 R	72.13
Category X	1,046.64

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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 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:
2008/008489

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
11.3.1	Endangered	R	0.60	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	R	0.08	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	R	0.12	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.4.9	Endangered	R	53.12	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.9.2	Least concern	R	3.64	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.5	Endangered	R	14.57	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
non-rem	None	X	1,046.64	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

There are no vegetation management wetlands present on this property.

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
No records

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?

No Class A

No Class B

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: 50 Plan: SP117237.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.qld.gov.au/environment/land/management/vegetation/maps/map-request

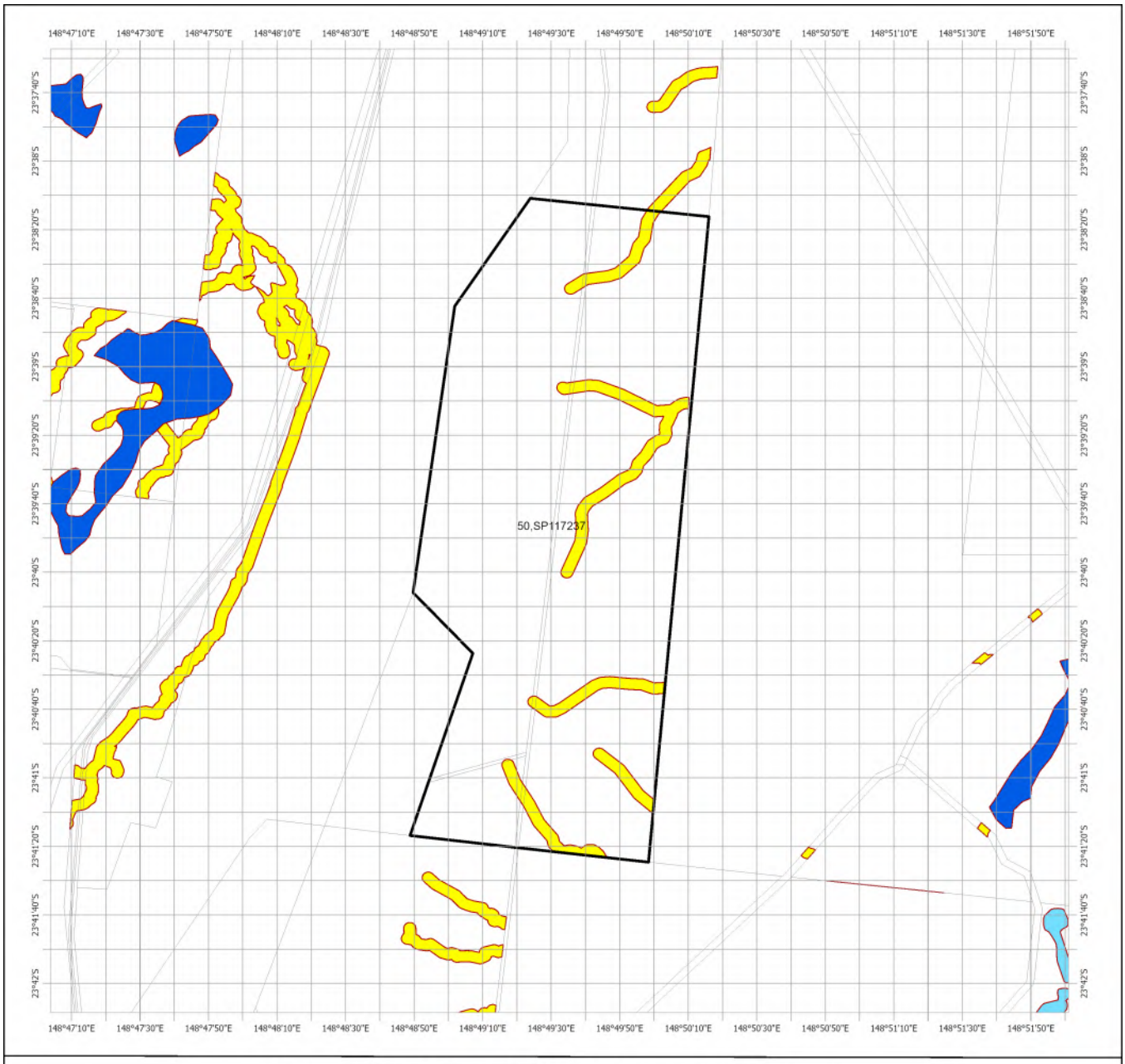
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

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

Queensland Government

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

0 500 1,000 1,500 2,000 2,500 m

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GDA2020

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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.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

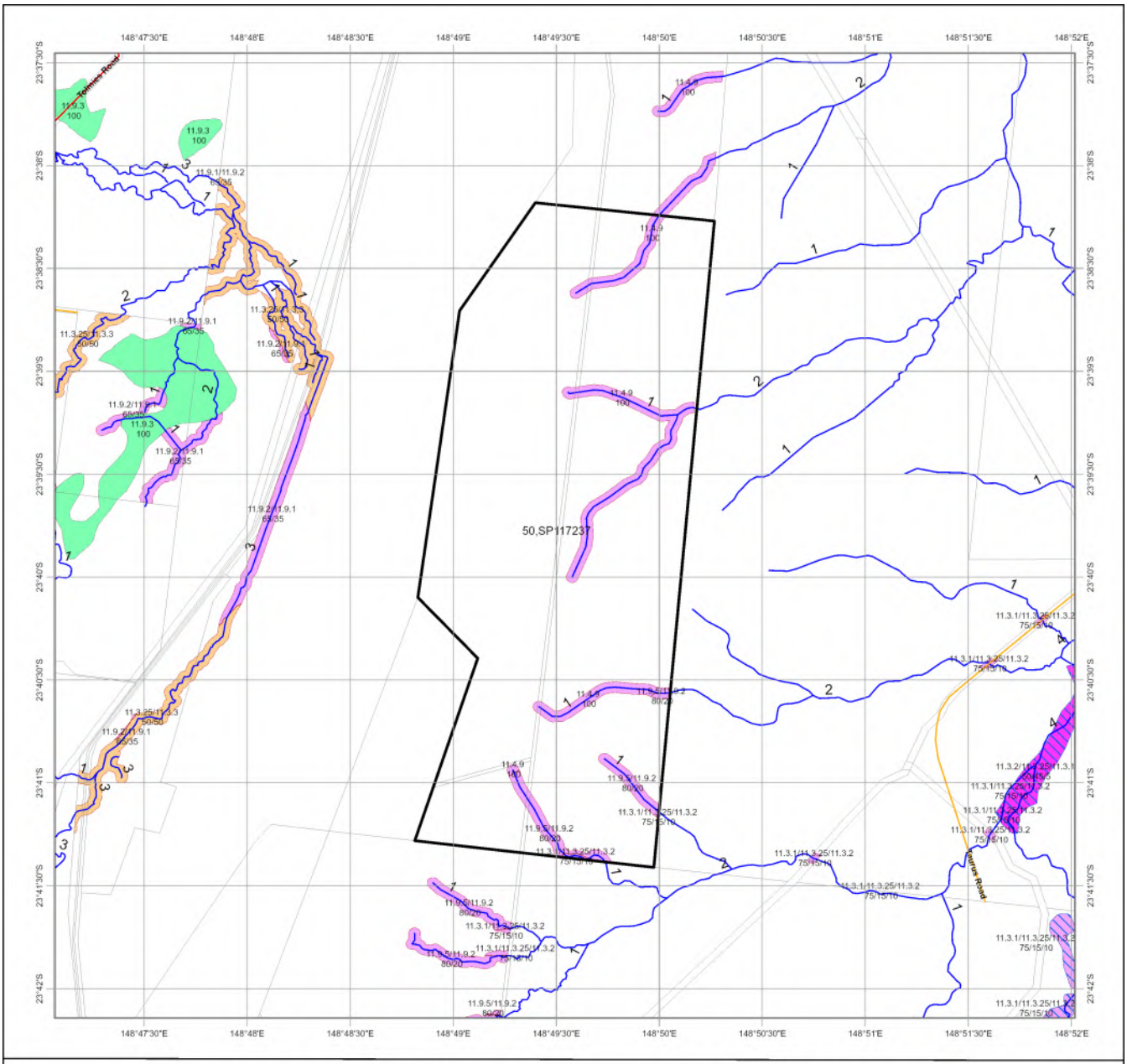
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

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.

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4.2 Vegetation management supporting map



Vegetation Management Supporting Map

- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries
- Selected Lot and Plan

Queensland Government

LOCALITY DIAGRAM



N

0 350 700 1,050 1,400 1,750 m

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Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

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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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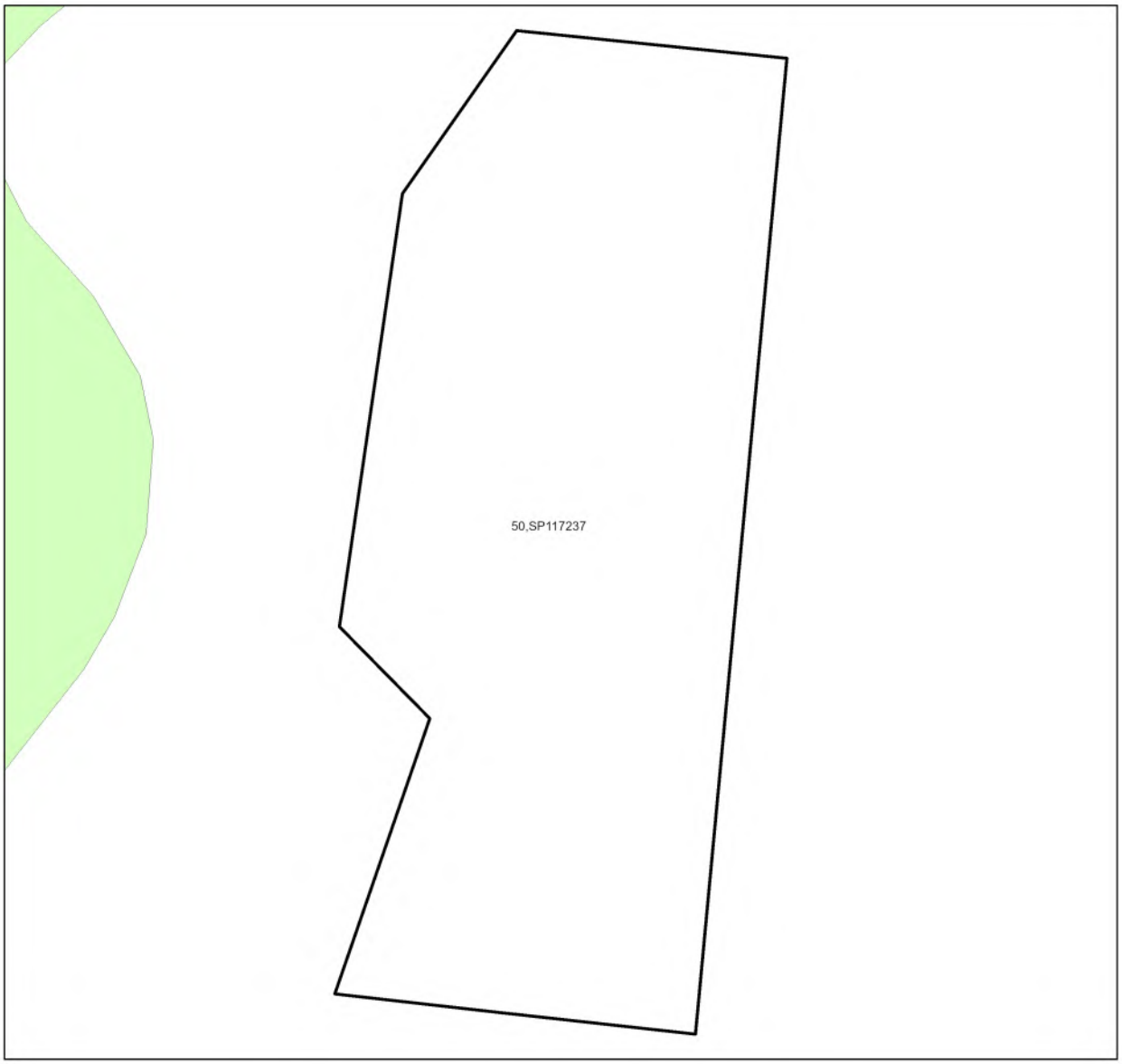
N

0 360 720 1,080 1,440 1,800 m

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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

0 360 720 1080 1440 1800 m

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5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 Endangered, Vulnerable, Near-Threatened (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 the Environment, Tourism, 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 DETSI

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

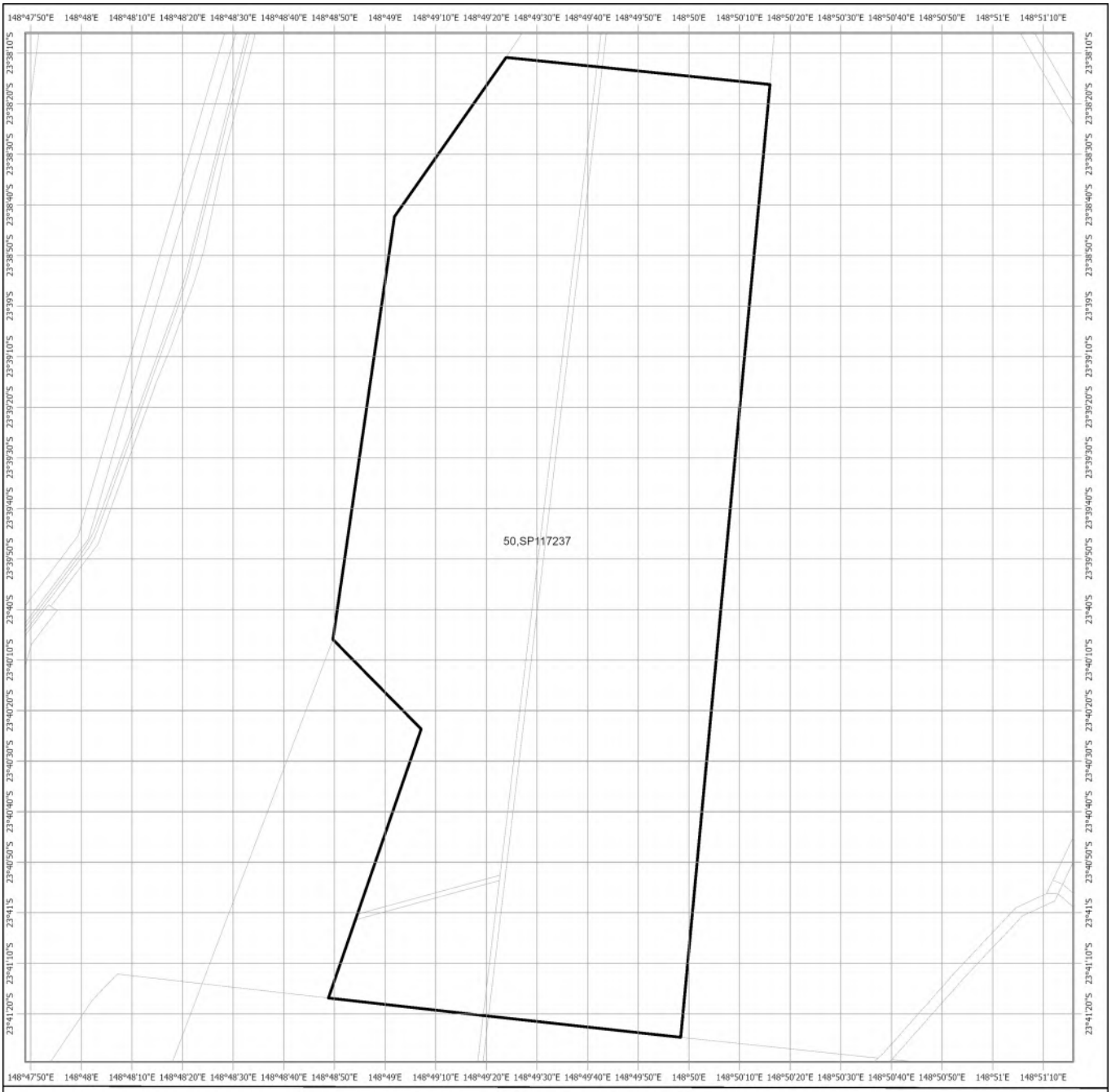
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

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 the Environment, Tourism, 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 the Environment, Tourism, 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

0 240 480 720 960 1,200 m

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 the Environment, Tourism, Science and Innovation at palm@des.qld.gov.au

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6. Koala protection framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 DETSI

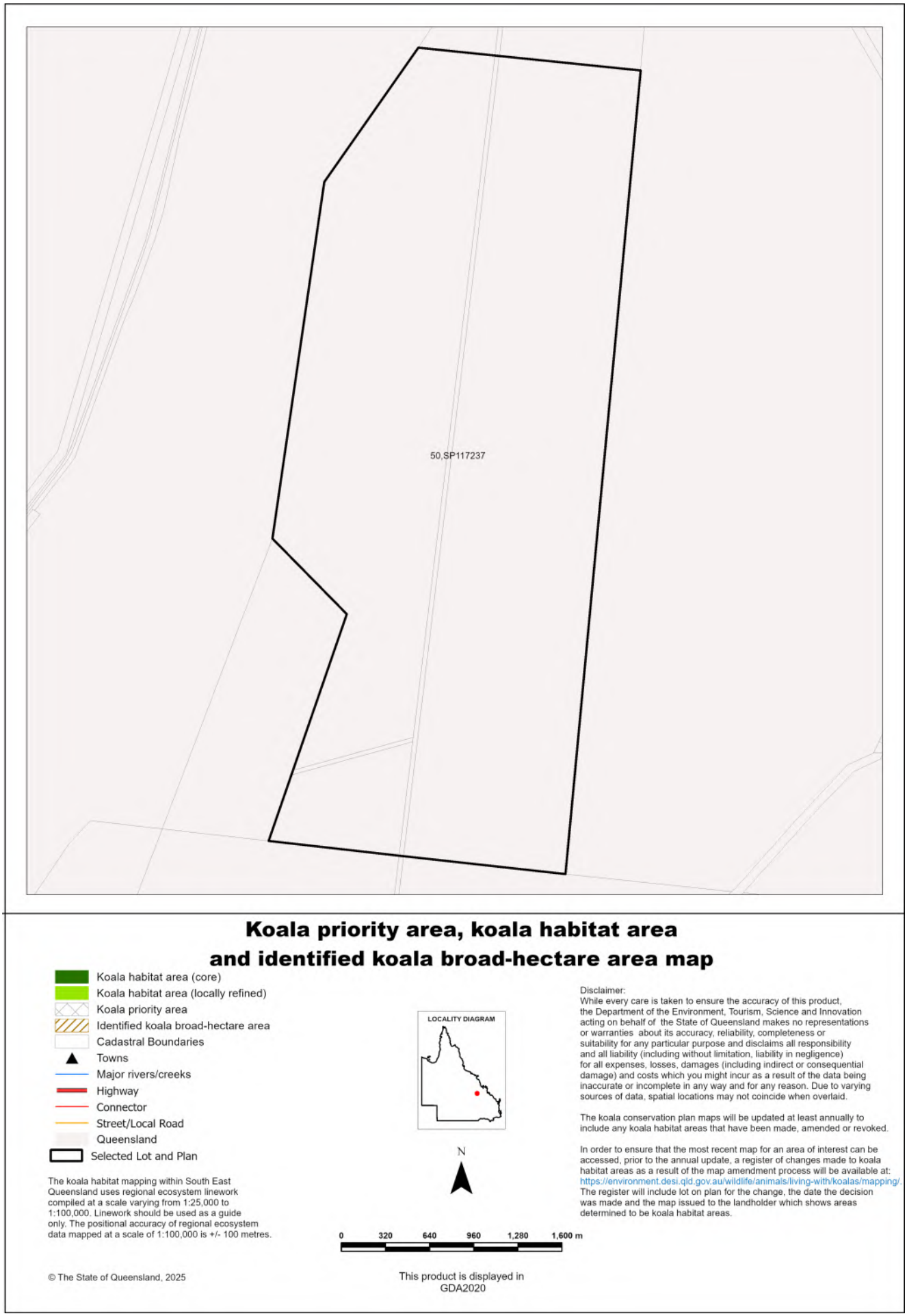
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 50 Plan: SP117237

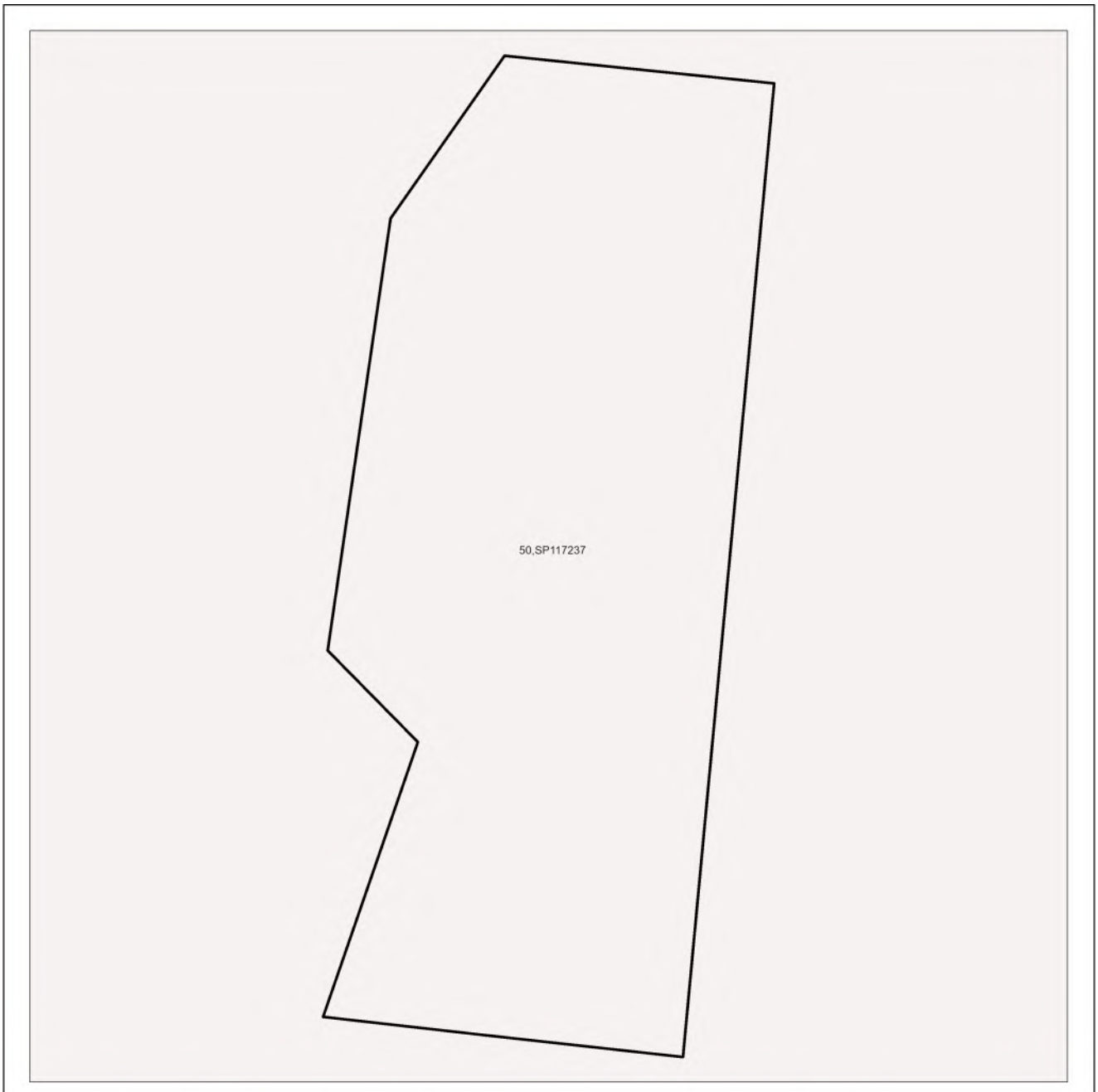
7.1 Koala districts

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	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.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*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	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 Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 803 772 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory



Vegetation management report

For Lot: 24 Plan: CP855505
11/04/2025

nrmmrrd.qld.gov.au

Queensland Government

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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 the Environment, Tourism, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 the Environment, Tourism, 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 the Environment, Tourism, 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 6
1.1 Tenure and title area 6
1.2 Property location 6
2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development) 7
2.1 Exempt clearing work 7
2.2 Accepted development vegetation clearing codes 7
2.3 Area management plans 8
2.4 Development approvals 8
2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development 8
3. Vegetation management framework for Lot: 24 Plan: CP855505 9
3.1 Vegetation categories 9
3.2 Regional ecosystems 10
3.3 Watercourses 10
3.4 Wetlands 11
3.5 Essential habitat 11
3.6 Area Management Plan(s) 11
3.7 Coastal or non-coastal 11
3.8 Agricultural Land Class A or B 12
4. Vegetation management framework maps 13
4.1 Regulated vegetation management map 14
4.2 Vegetation management supporting map 15
4.3 Coastal/non-coastal map 16
4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture 17
5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI)) 18
5.1 Clearing in high risk areas on the flora survey trigger map 18
5.2 Clearing outside high risk areas on the flora survey trigger map 18
5.3 Exemptions 18
5.4 Contact information for DETSI 18
5.5 Protected plants flora survey trigger map 19
6. Koala protection framework (administered by DETSI) 21
6.1 Koala mapping 21
6.2 Koala habitat planning controls 22
6.3 Koala Conservation Plan clearing requirements 23
6.4 Contact information for DETSI 23
7. Koala protection framework details for Lot: 24 Plan: CP855505 24
7.1 Koala districts 24
7.2 Koala priority area, koala habitat area and identified koala broad-hectare map 24
7.3 Koala habitat regional ecosystems for core koala habitat areas 25
8. Other relevant legislation contacts list 26

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 24 Plan: CP855505 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)
24	CP855505	Lands Lease	38,266,670
B	HT455	Easement	146,600
H	HT609	Easement	122
D	HT455	Easement	82,810
G	HT605	Easement	7,395
C	HT455	Easement	46,280
J	CP855505	Easement	76,560

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: 24 Plan: CP855505 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: 24 Plan: CP855505, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Central Highlands Regional	Fitzroy	Brigalow Belt	Isaac - Comet Downs

2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development

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: 24 Plan: CP855505

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 C	44.93
Category R	less than 0.01
Category X	3,778.52

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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 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:

2009/006406

2017/004269

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
11.3.1	Endangered	C	33.70	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.1	Endangered	R	less than 0.01	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Mid-dense
11.3.2	Of concern	C	4.49	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	less than 0.01	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	C	6.74	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	less than 0.01	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.4.9	Endangered	R	less than 0.01	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.9.2	Least concern	R	less than 0.01	Eucalyptus melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks	Sparse
11.9.5	Endangered	R	less than 0.01	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
non-rem	None	X	3,778.52	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

There are no vegetation management wetlands present on this property.

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.

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

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?

No Class A

No Class B

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: 24 Plan: CP855505.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.qld.gov.au/environment/land/management/vegetation/maps/map-request

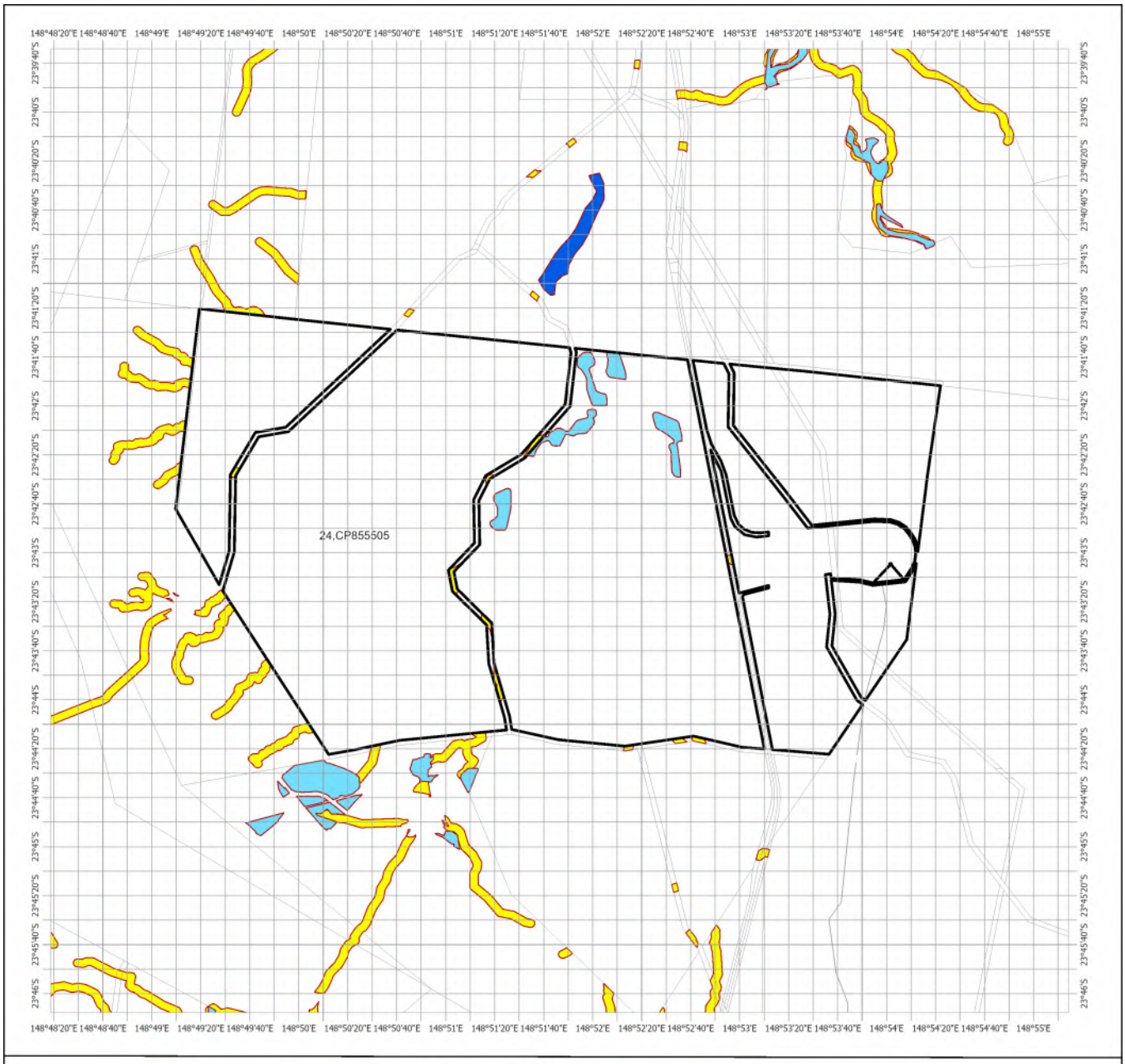
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

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

Queensland Government

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

0 690 1,380 2,070 2,760 3,450 m

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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.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

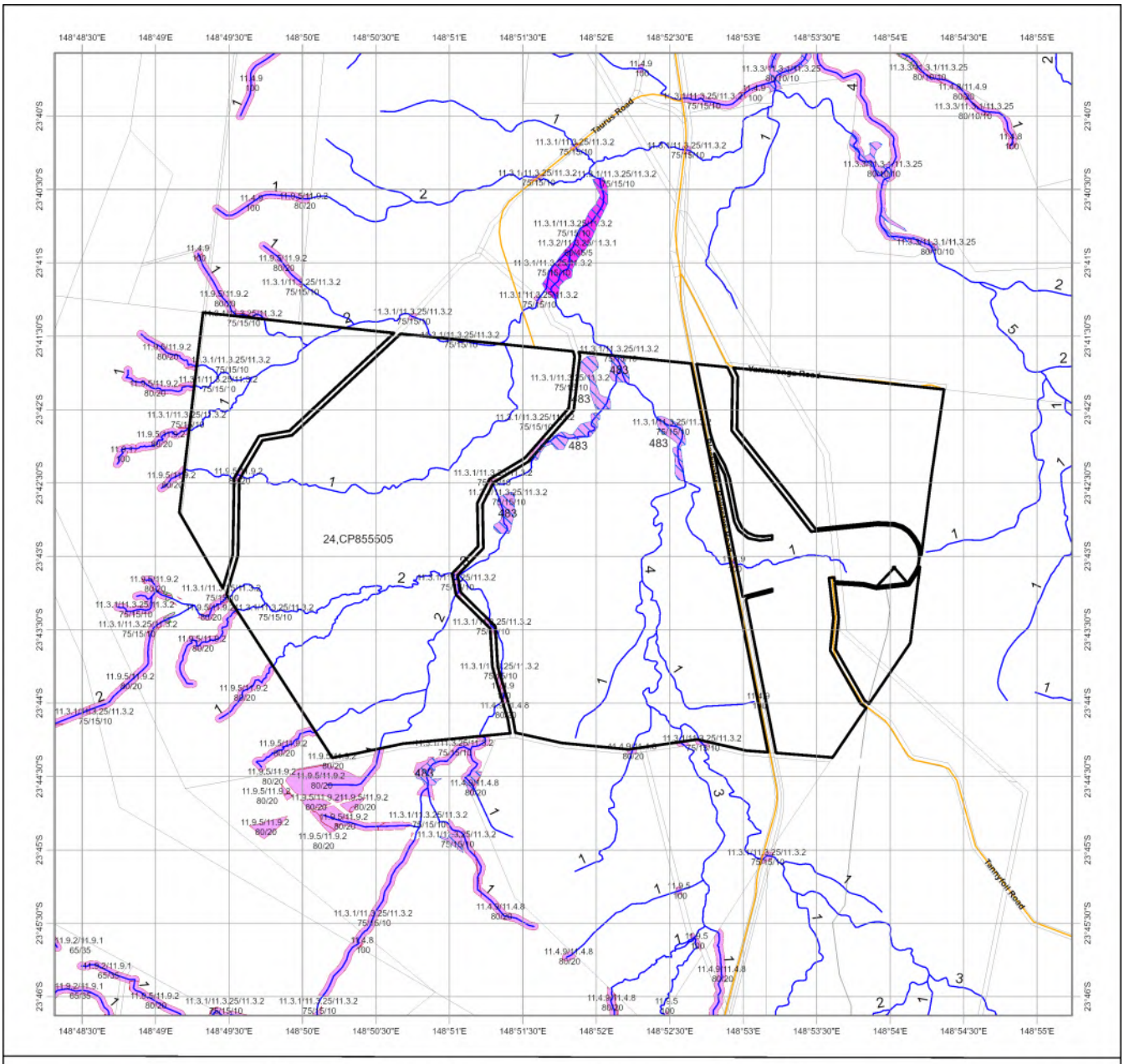
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

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.

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4.2 Vegetation management supporting map



Vegetation Management Supporting Map

- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries
- Selected Lot and Plan

Queensland Government

LOCALITY DIAGRAM



N

0 500 1,000 1,500 2,000 2,500 m

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Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

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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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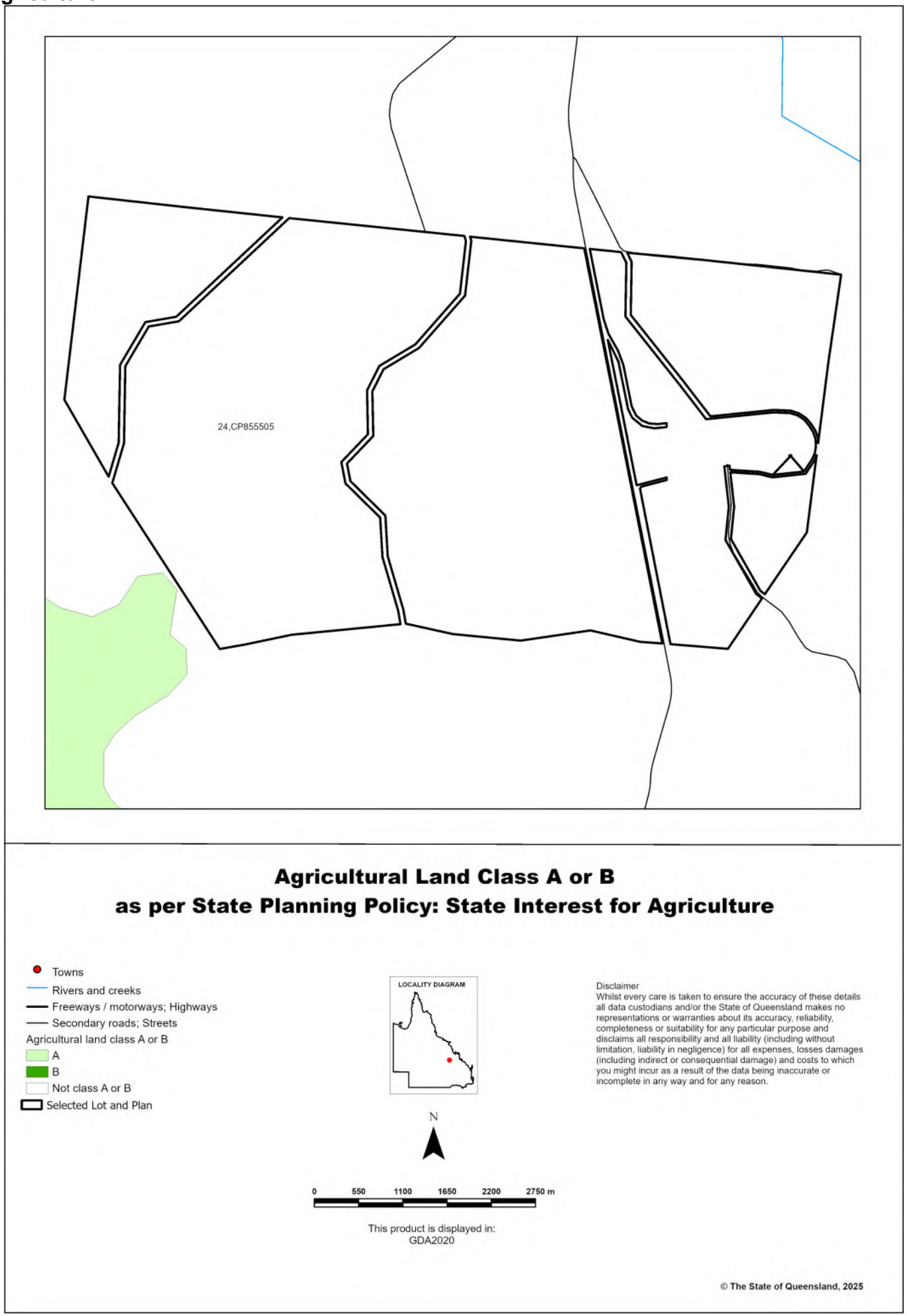
N

0 550 1,100 1,650 2,200 2,750 m

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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 the Environment, Tourism, Science and Innovation (DETSI))

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 Endangered, Vulnerable, Near-Threatened (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 the Environment, Tourism, 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 DETSI

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

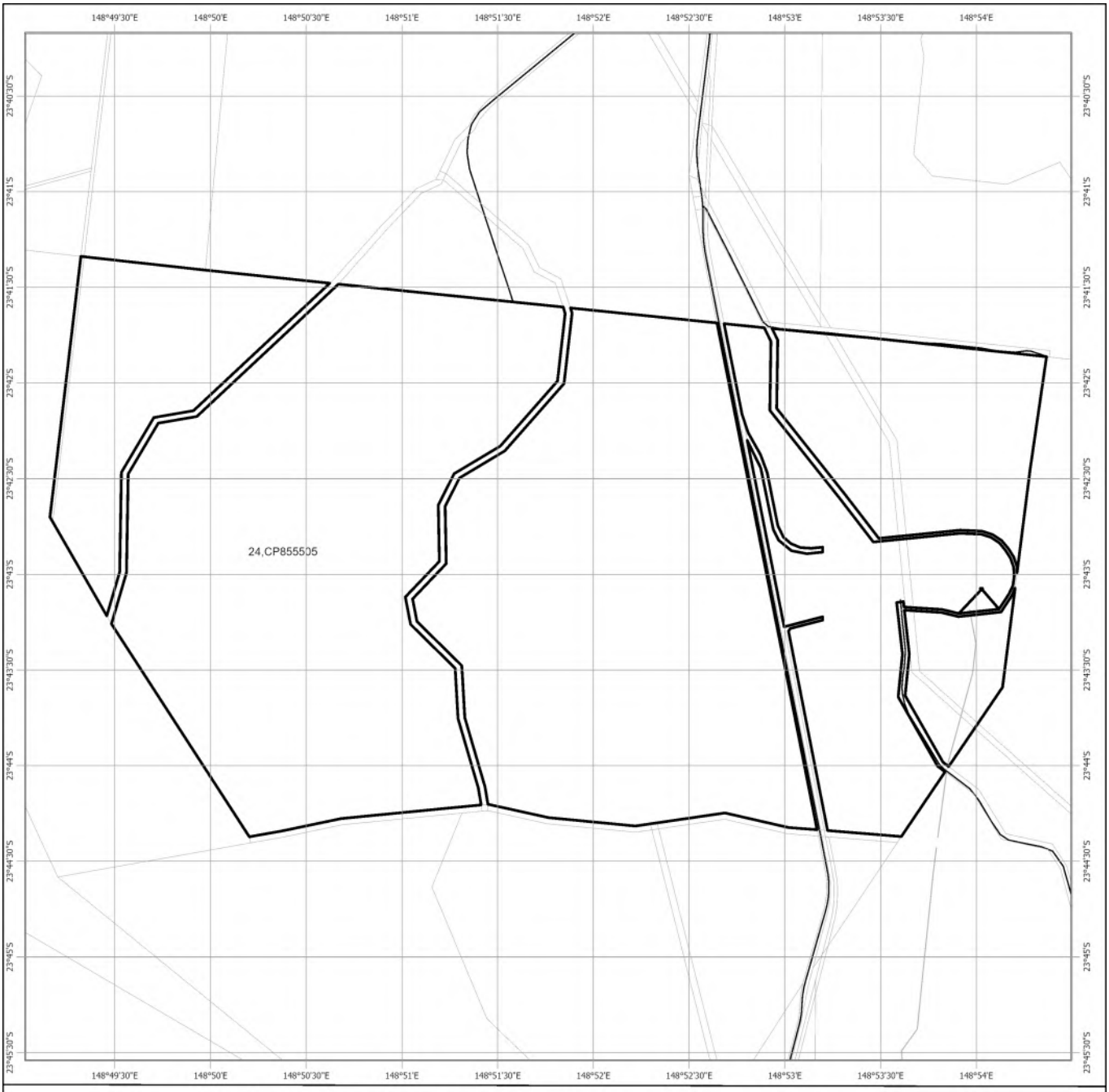
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

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 the Environment, Tourism, 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 the Environment, Tourism, 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

0 375 750 1,125 1,500 1,875 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 the Environment, Tourism, 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.

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6. Koala protection framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 DETSI

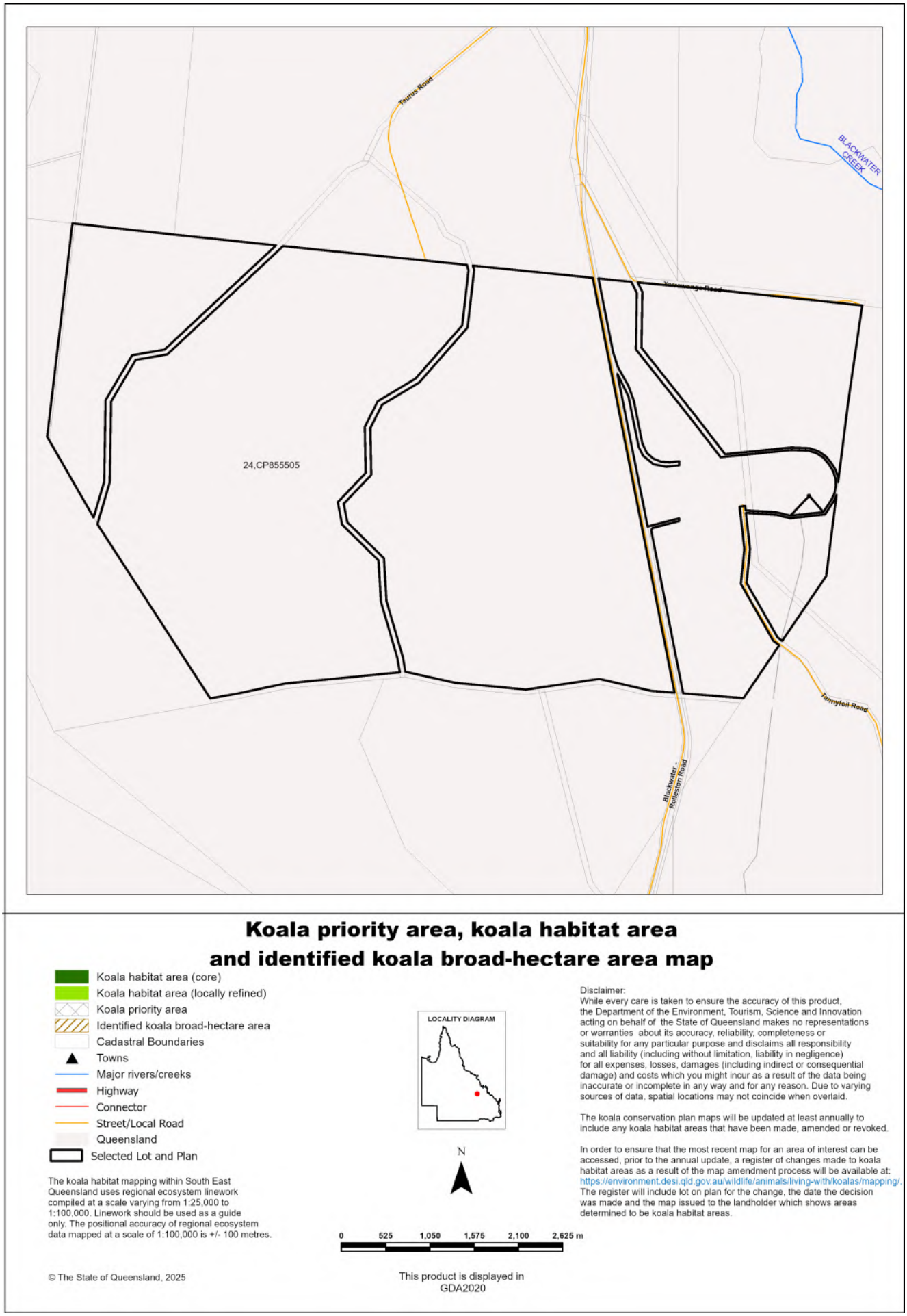
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 24 Plan: CP855505

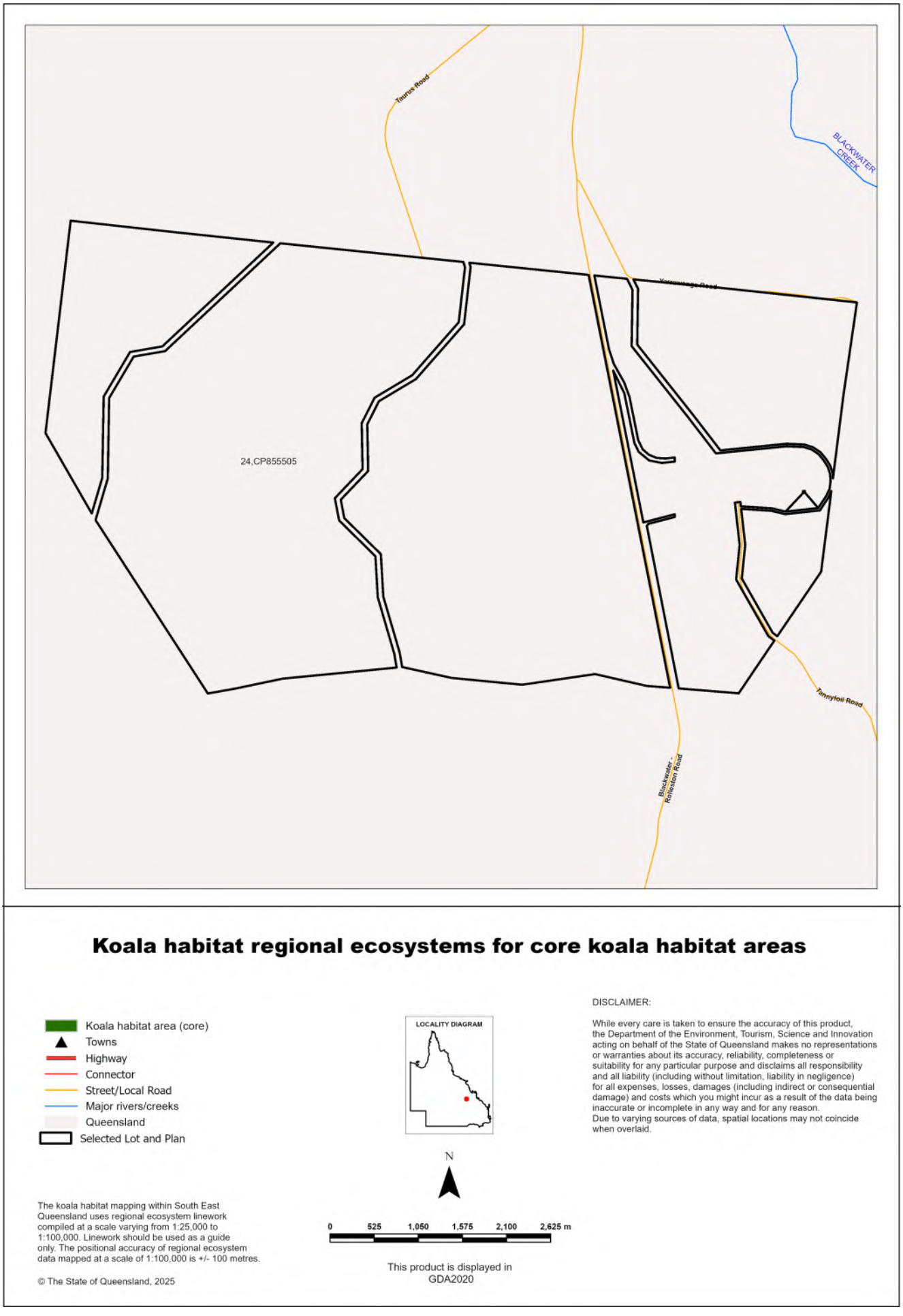
7.1 Koala districts

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	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.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*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	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 Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 803 772 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory



Vegetation management report

For Lot: 3 Plan: RP843182
11/04/2025

nrmmrrd.qld.gov.au

Queensland Government

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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 the Environment, Tourism, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 the Environment, Tourism, 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 the Environment, Tourism, 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 6
1.1 Tenure and title area 6
1.2 Property location 6
2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development) 7
2.1 Exempt clearing work 7
2.2 Accepted development vegetation clearing codes 7
2.3 Area management plans 8
2.4 Development approvals 8
2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development 8
3. Vegetation management framework for Lot: 3 Plan: RP843182 9
3.1 Vegetation categories 9
3.2 Regional ecosystems 10
3.3 Watercourses 10
3.4 Wetlands 10
3.5 Essential habitat 10
3.6 Area Management Plan(s) 11
3.7 Coastal or non-coastal 11
3.8 Agricultural Land Class A or B 11
4. Vegetation management framework maps 12
4.1 Regulated vegetation management map 13
4.2 Vegetation management supporting map 14
4.3 Coastal/non-coastal map 15
4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture 16
5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI)) 17
5.1 Clearing in high risk areas on the flora survey trigger map 17
5.2 Clearing outside high risk areas on the flora survey trigger map 17
5.3 Exemptions 17
5.4 Contact information for DETSI 17
5.5 Protected plants flora survey trigger map 18
6. Koala protection framework (administered by DETSI) 20
6.1 Koala mapping 20
6.2 Koala habitat planning controls 21
6.3 Koala Conservation Plan clearing requirements 22
6.4 Contact information for DETSI 22
7. Koala protection framework details for Lot: 3 Plan: RP843182 23
7.1 Koala districts 23
7.2 Koala priority area, koala habitat area and identified koala broad-hectare map 23
7.3 Koala habitat regional ecosystems for core koala habitat areas 24
8. Other relevant legislation contacts list 25

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 3 Plan: RP843182 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)
3	RP843182	Freehold	7,996,000

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: 3 Plan: RP843182 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: 3 Plan: RP843182, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Central Highlands Regional	Fitzroy	Brigalow Belt	Isaac - Comet Downs

2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development

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: 3 Plan: RP843182

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 R	less than 0.01
Category X	798.86

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 Natural Resources and Mines, Manufacturing, and Regional and Rural Development 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 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:
2009/006406

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
11.4.8	Endangered	R	less than 0.01	Eucalyptus cambageana woodland to open forest with Acacia harpophylla or A. argyrodendron on Cainozoic clay plains	Sparse
11.4.9	Endangered	R	less than 0.01	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Sparse
11.9.5	Endangered	R	less than 0.01	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Mid-dense
non-rem	None	X	798.86	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

There are no vegetation management wetlands present on this property.

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

No records

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?

No Class A

No Class B

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: 3 Plan: RP843182.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.qld.gov.au/environment/land/management/vegetation/maps/map-request

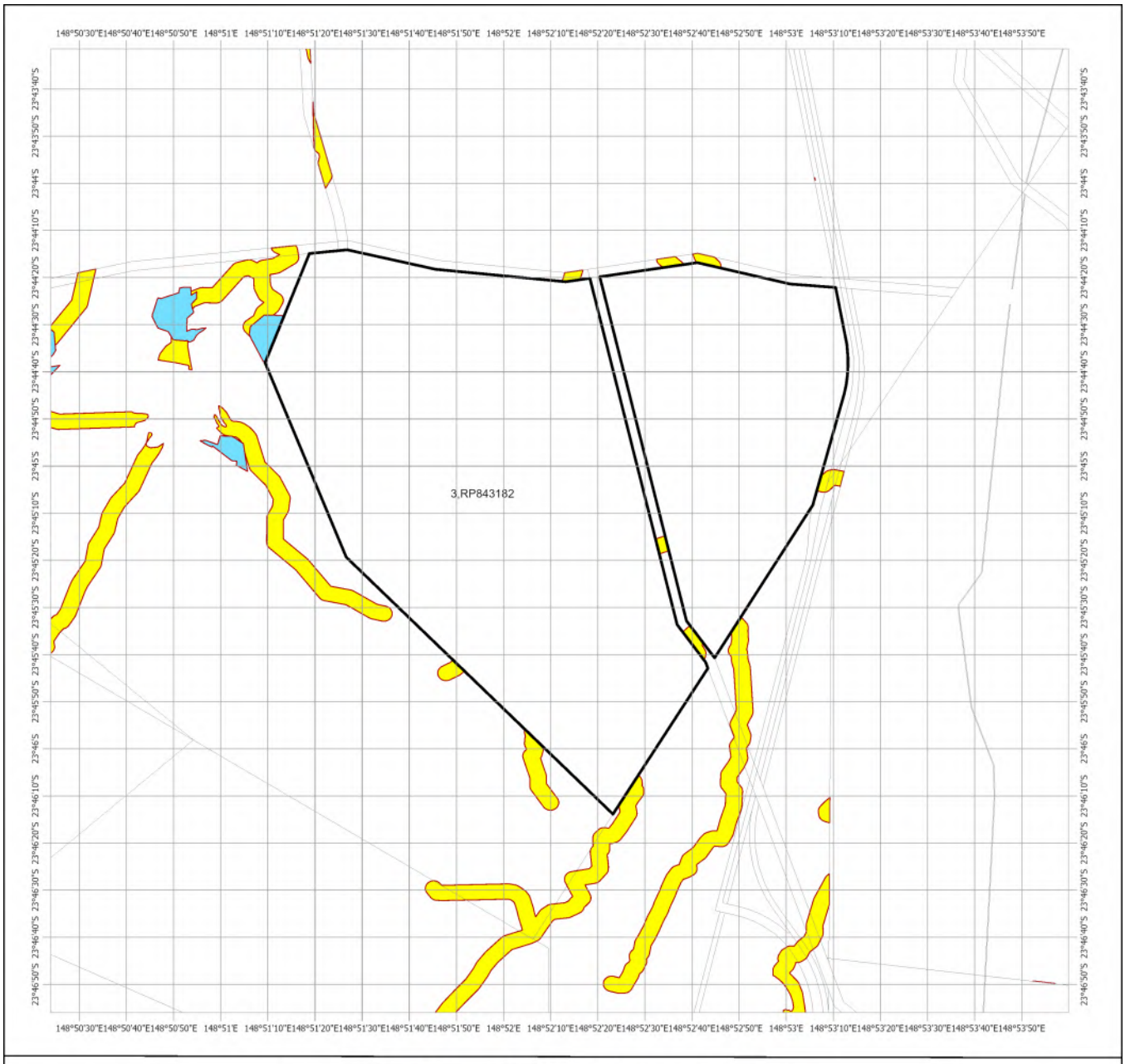
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

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

Queensland Government

LOCALITY DIAGRAM



- 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

N

0 360 720 1,080 1,440 1,800 m

This product is displayed in: GDA2020

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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.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

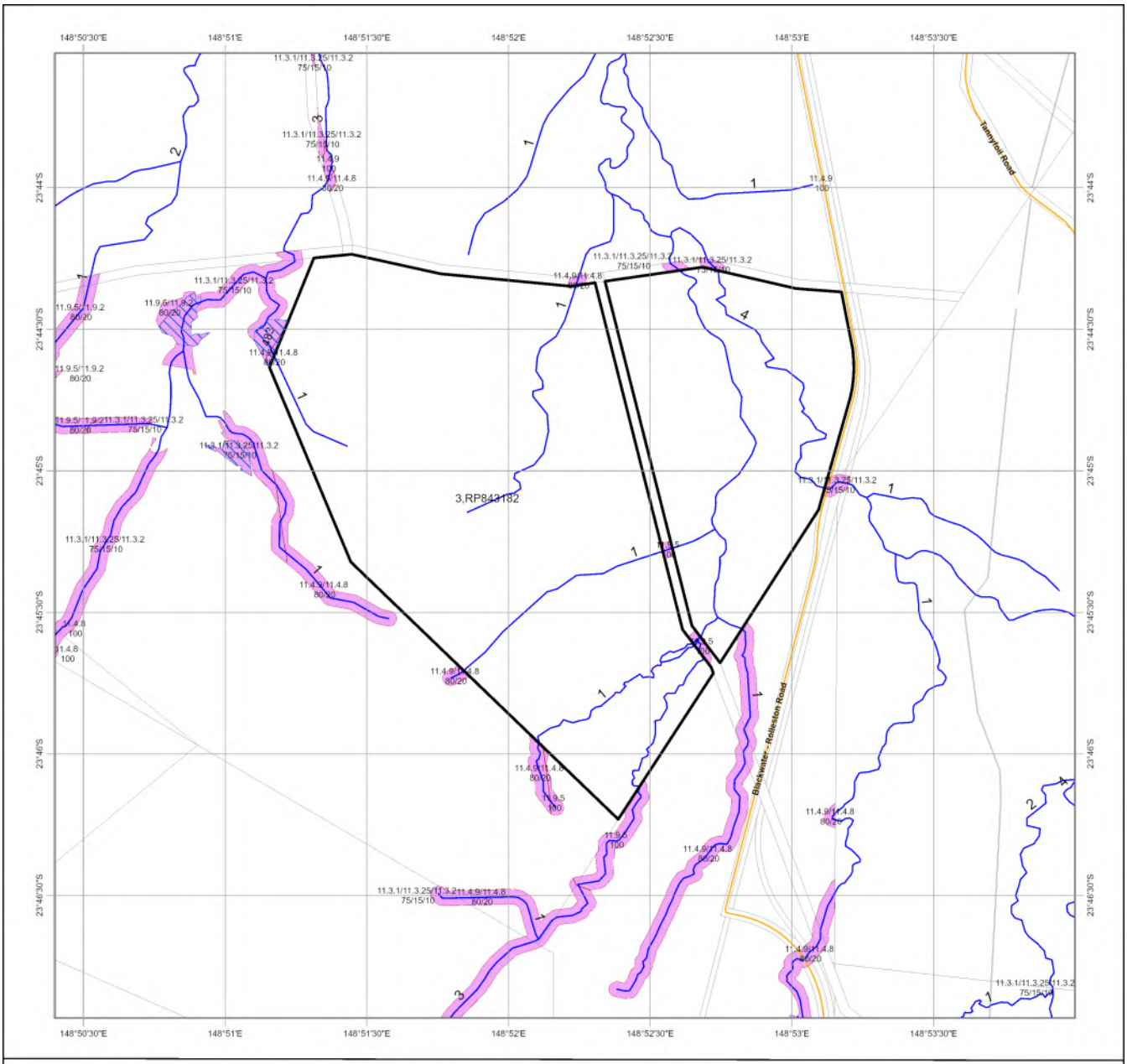
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

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.

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4.2 Vegetation management supporting map



Vegetation Management Supporting Map

- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries
- Selected Lot and Plan

Queensland Government

LOCALITY DIAGRAM



N

0 260 520 780 1,040 1,300 m

This product is displayed in: GDA2020

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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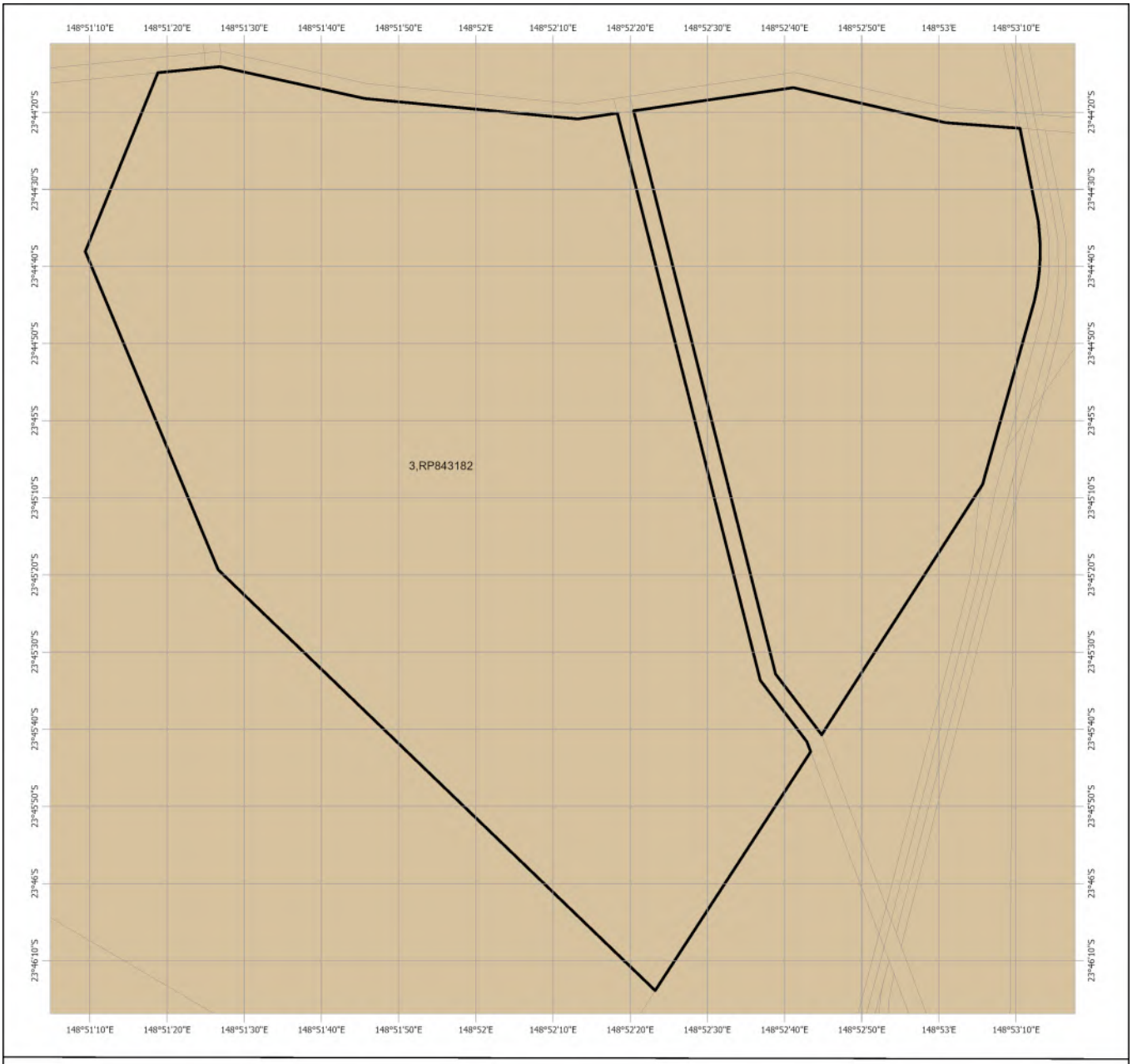
Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

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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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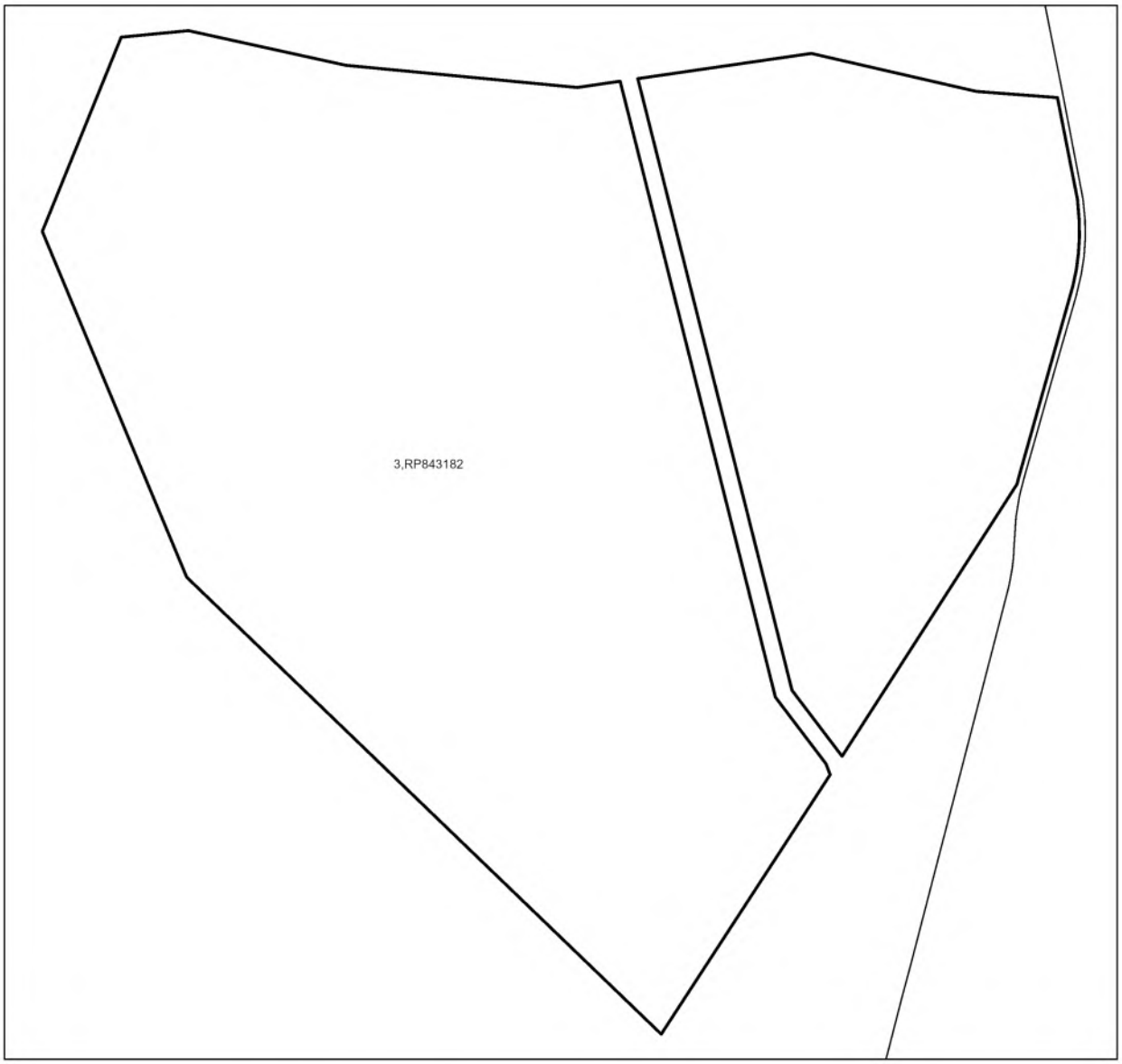
N

0 220 440 660 880 1,100 m

This product is displayed in:
GDA2020

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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

0 225 450 675 900 1125 m

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GDA2020

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5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 Endangered, Vulnerable, Near-Threatened (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 the Environment, Tourism, 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 DETSI

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

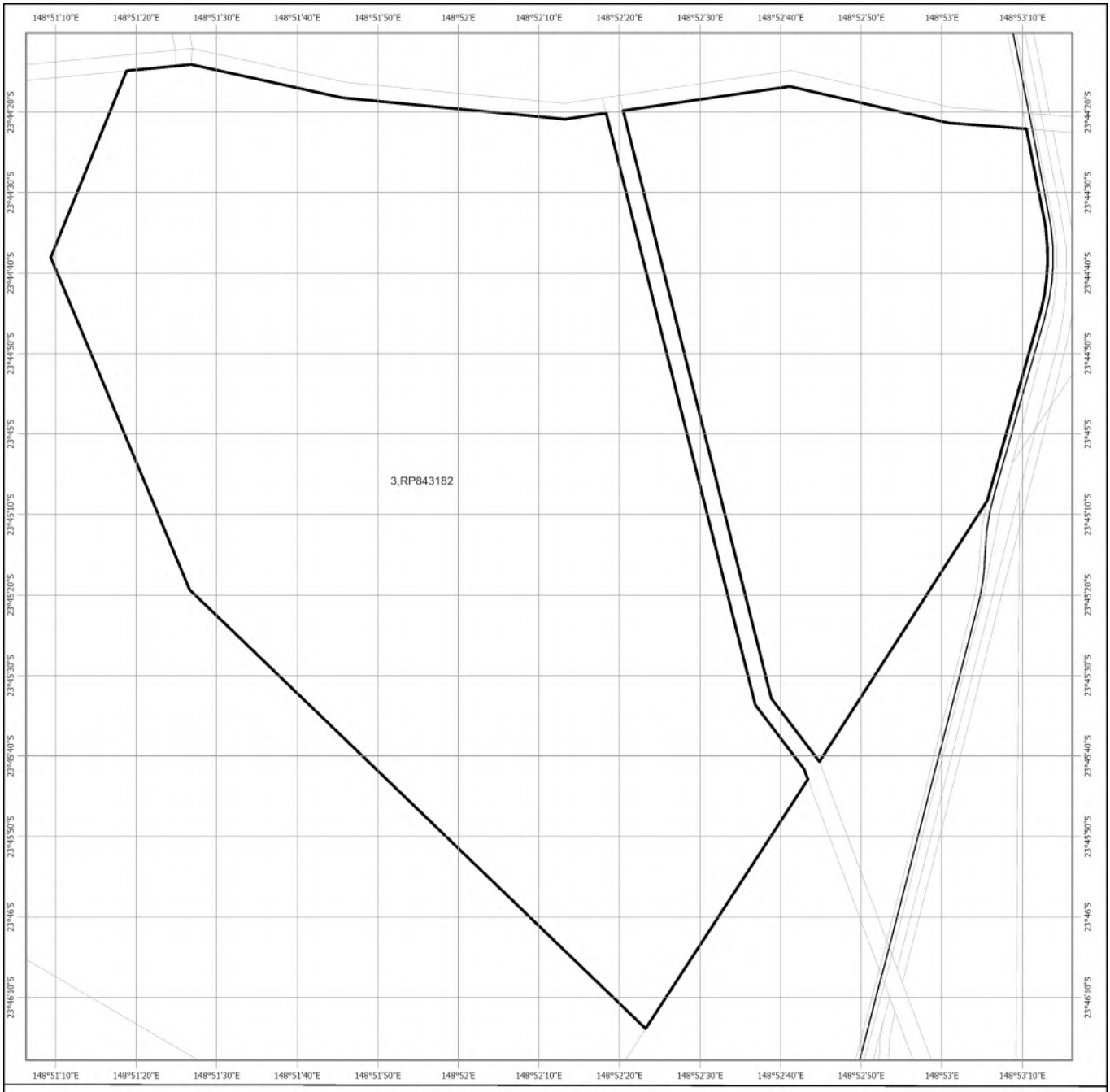
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

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 the Environment, Tourism, 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 the Environment, Tourism, 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

0 150 300 450 600 750 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 the Environment, Tourism, Science and Innovation at palm@des.qld.gov.au

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6. Koala protection framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

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 DETSI

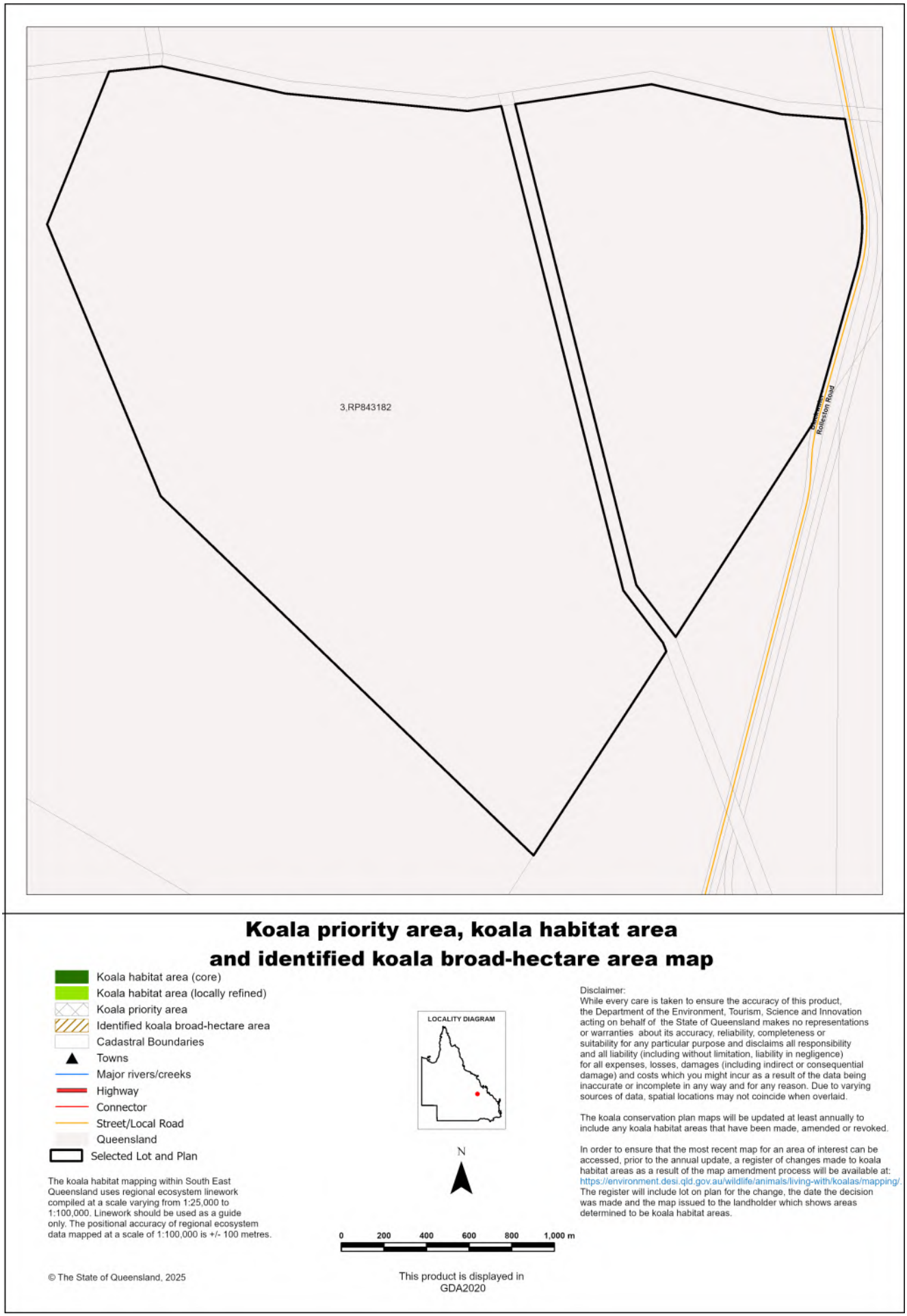
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 3 Plan: RP843182

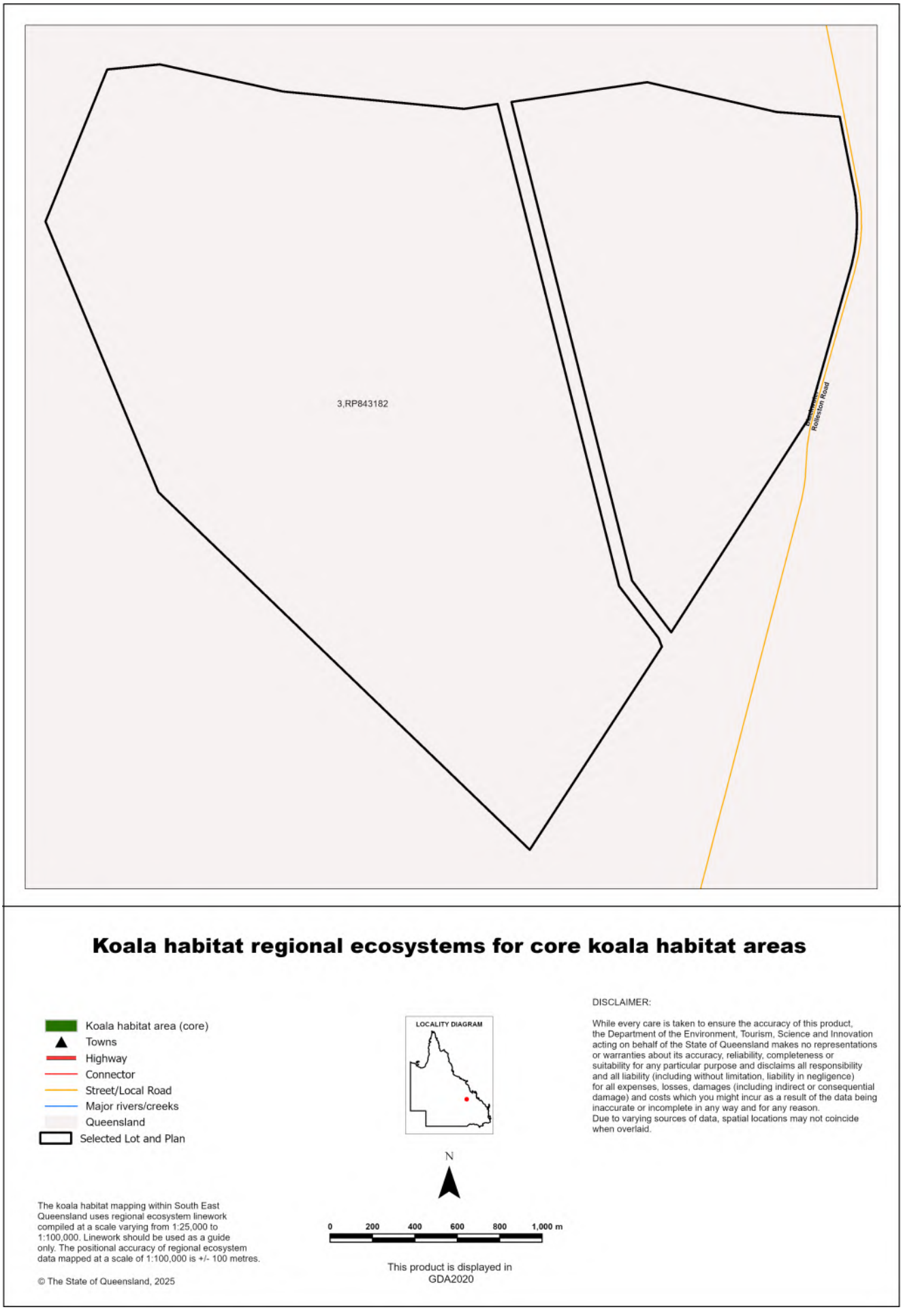
7.1 Koala districts

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	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.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*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	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 Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 803 772 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory

Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Custom input

Environmental Reports - General Information

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

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

Figures in tables may be affected by rounding.

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

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

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

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Table of Contents

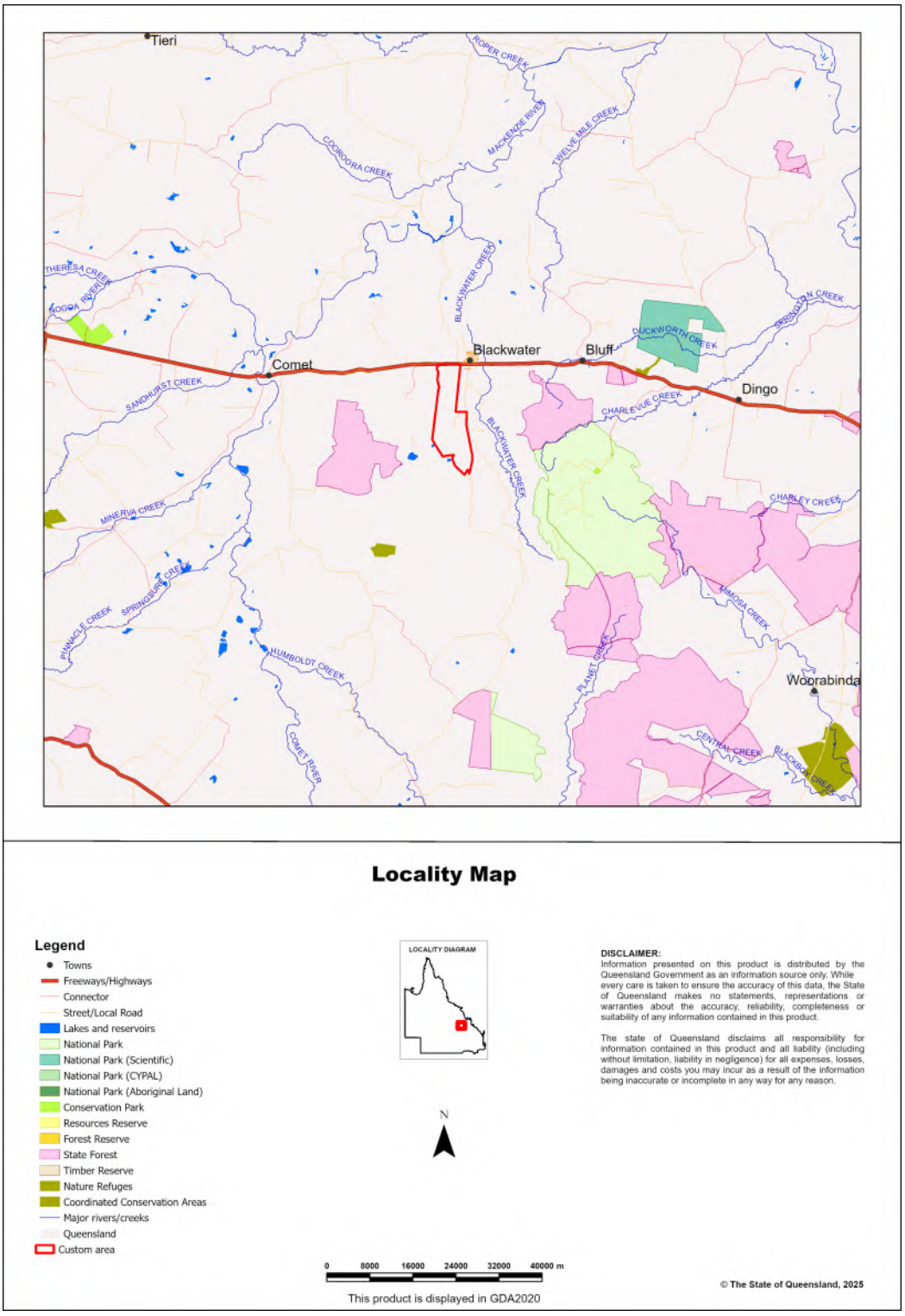
Assessment Area Details 4
Matters of State Environmental Significance (MSES) 5
MSES Categories 5
MSES Values Present 6
Additional Information with Respect to MSES Values Present 6
MSES - State Conservation Areas 6
MSES - Wetlands and Waterways 7
MSES - Species 7
MSES - Regulated Vegetation 10
MSES - Offsets 11
Maps 12
Map 1 - MSES - State Conservation Areas 12
Map 2 - MSES - Wetlands and Waterways 13
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals 14
Map 3b - MSES - Species - Koala habitat area (SEQ) 15
Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas) 16
Map 4 - MSES - Regulated Vegetation 17
Map 5 - MSES - Offset Areas 18
Appendices 19
Appendix 1 - Matters of State Environmental Significance (MSES) methodology 19
Appendix 2 - Source Data 20
Appendix 3 - Acronyms and Abbreviations 21

Assessment Area Details

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

Table 1: Summary table, details for AOI: Custom input, with area 8521.7 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Central Highlands Regional	Fitzroy	Brigalow Belt	Isaac - Comet Downs



Matters of State Environmental Significance (MSES)

MSES Categories

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

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

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

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992;*

- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004 ;

- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;

- *Threatened wildlife under the Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;

- Regulated vegetation under the *Vegetation Management Act 1999* that is:

  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;

- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;

- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;

- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

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

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	73.38 ha	0.9%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	26.96 ha	0.3%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	44.98 ha	0.5%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	127.32 ha	1.5%
8d Regulated Vegetation - Essential habitat	71.94 ha	0.8%
8e Regulated Vegetation - intersecting a watercourse	112.9 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

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

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(No results)

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

(no results)

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

(no results)

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

(no results)

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

MSES - Species

7a. Threatened (endangered or vulnerable) wildlife

Values are present

7b. Special least concern animals

Not applicable

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

Not applicable

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

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

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

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

Threatened (endangered or vulnerable) wildlife species records

(No results)

Special least concern animal species records

(No results)

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

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

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

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

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

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

MSES - Regulated Vegetation

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

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

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

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

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

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.1/11.3.25/11.3.2	E-dom	rem_end
11.3.2/11.3.25/11.3.1	E-subdom	rem_end

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

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.1/11.3.25/11.3.2	E-dom	hvr_end
11.4.9/11.4.8	E-dom	hvr_end

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

Regulated vegetation map category	Map number
R	8650

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

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

Not applicable

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

MSES - Offsets

9a. Legally secured offset areas - offset register areas

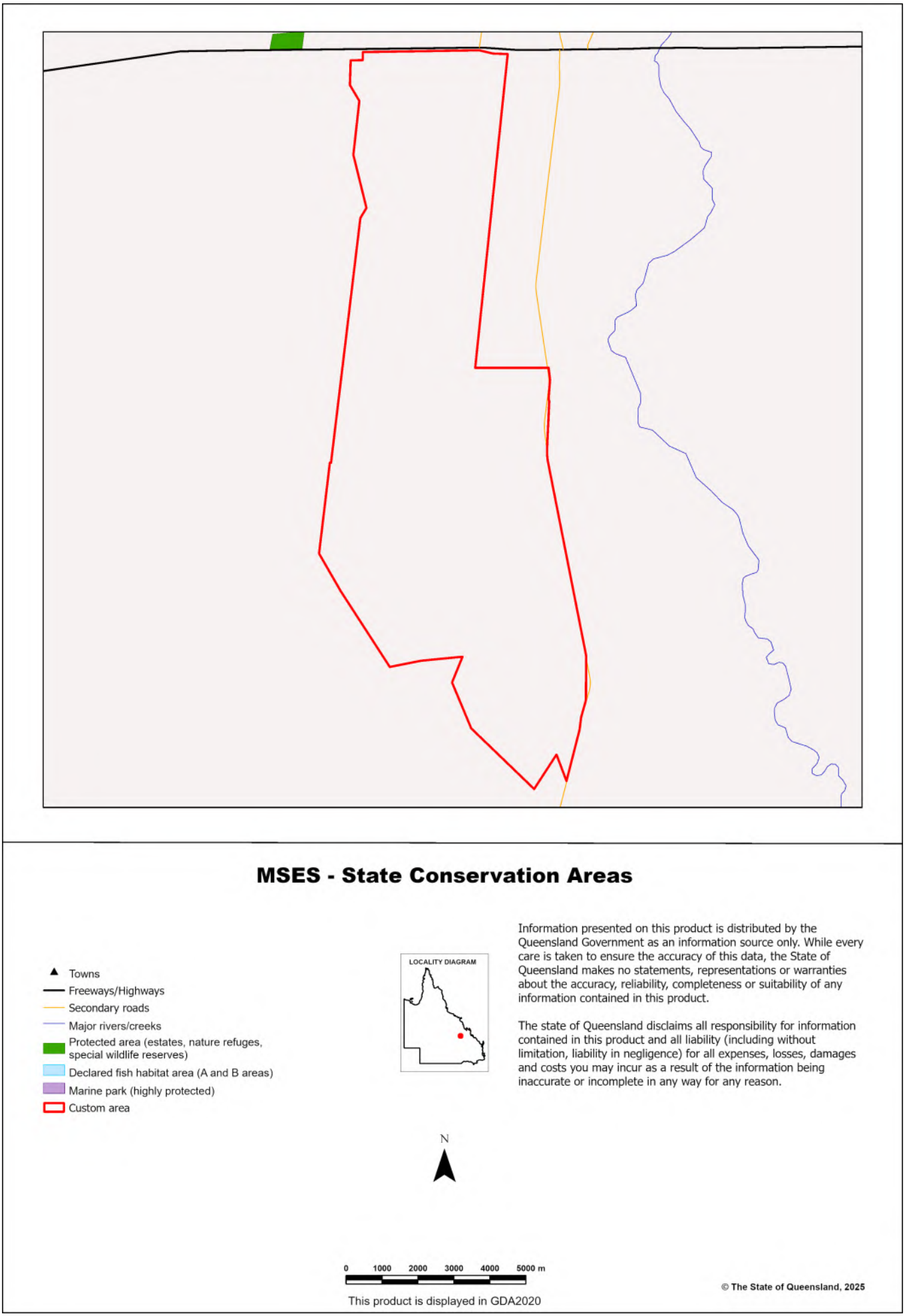
(No results)

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

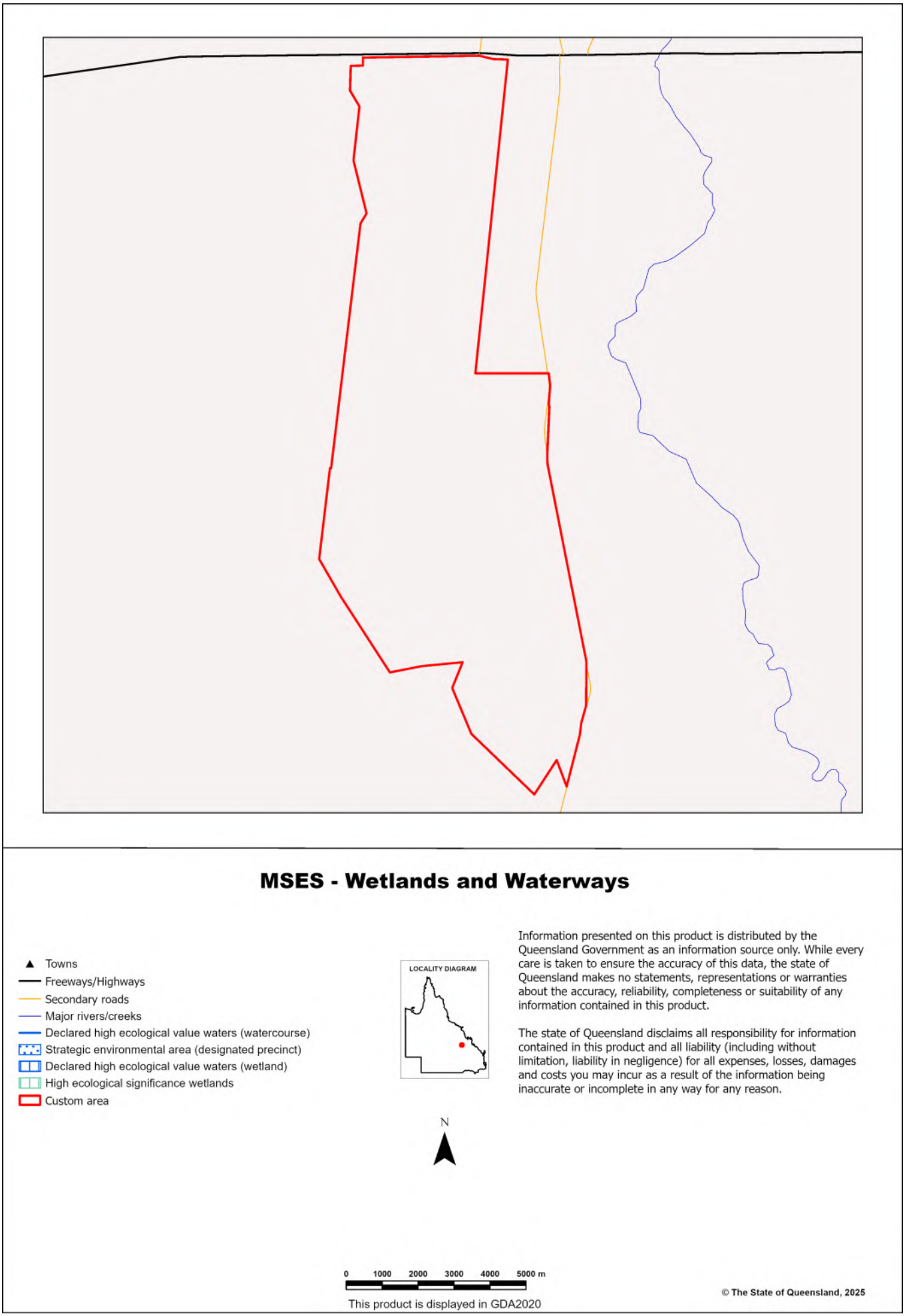
(No results)

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

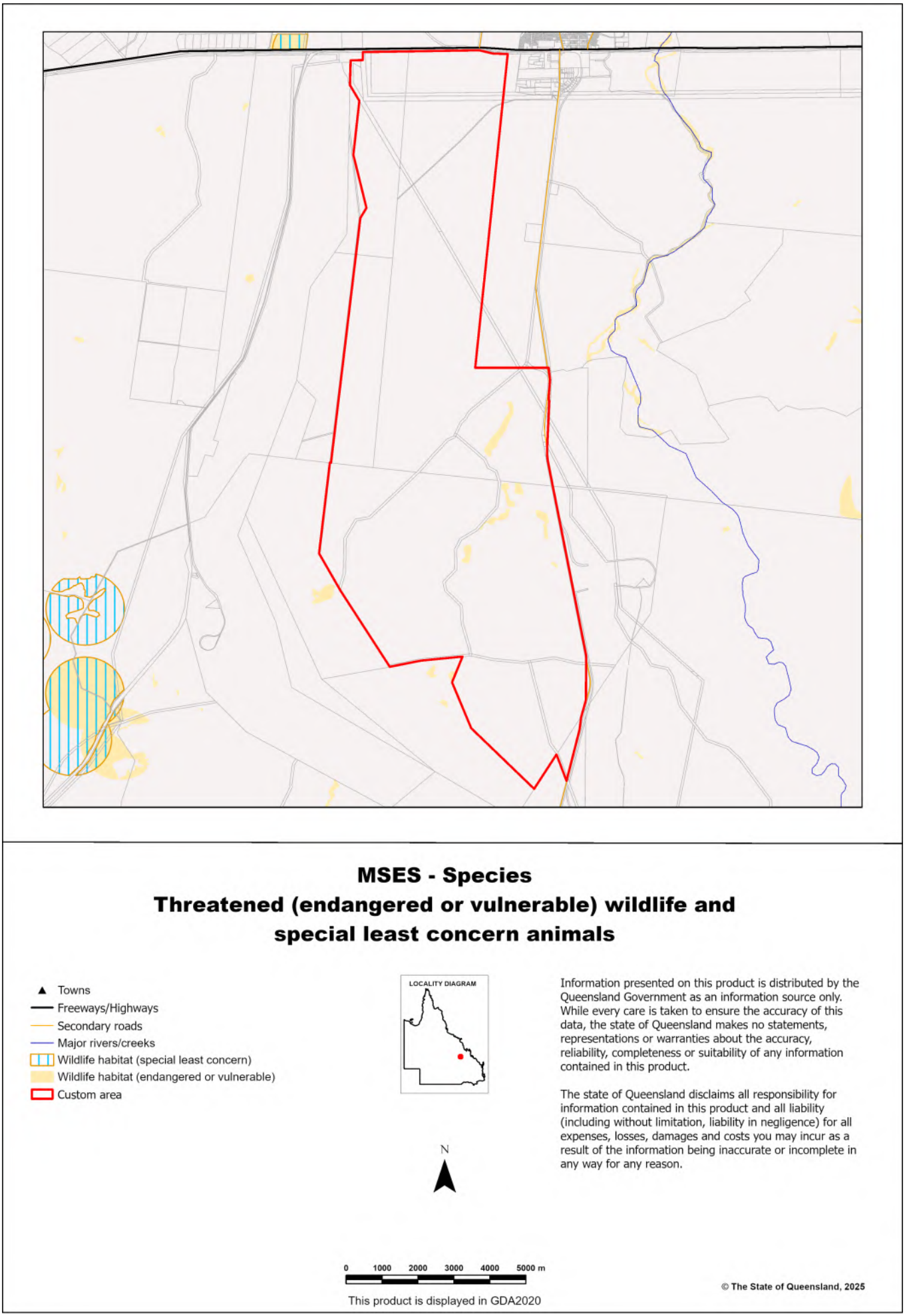
Map 1 - MSES - State Conservation Areas



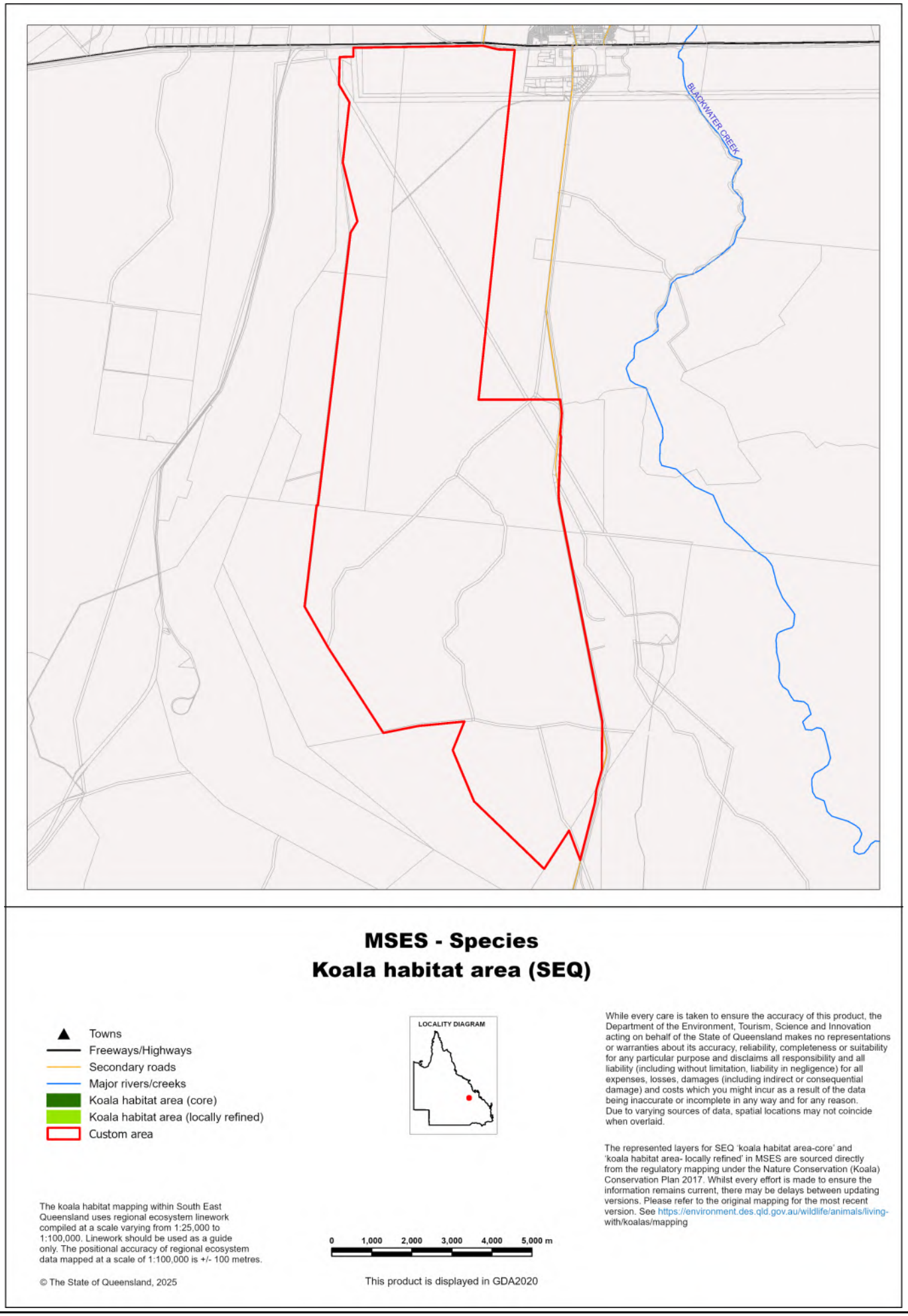
Map 2 - MSES - Wetlands and Waterways



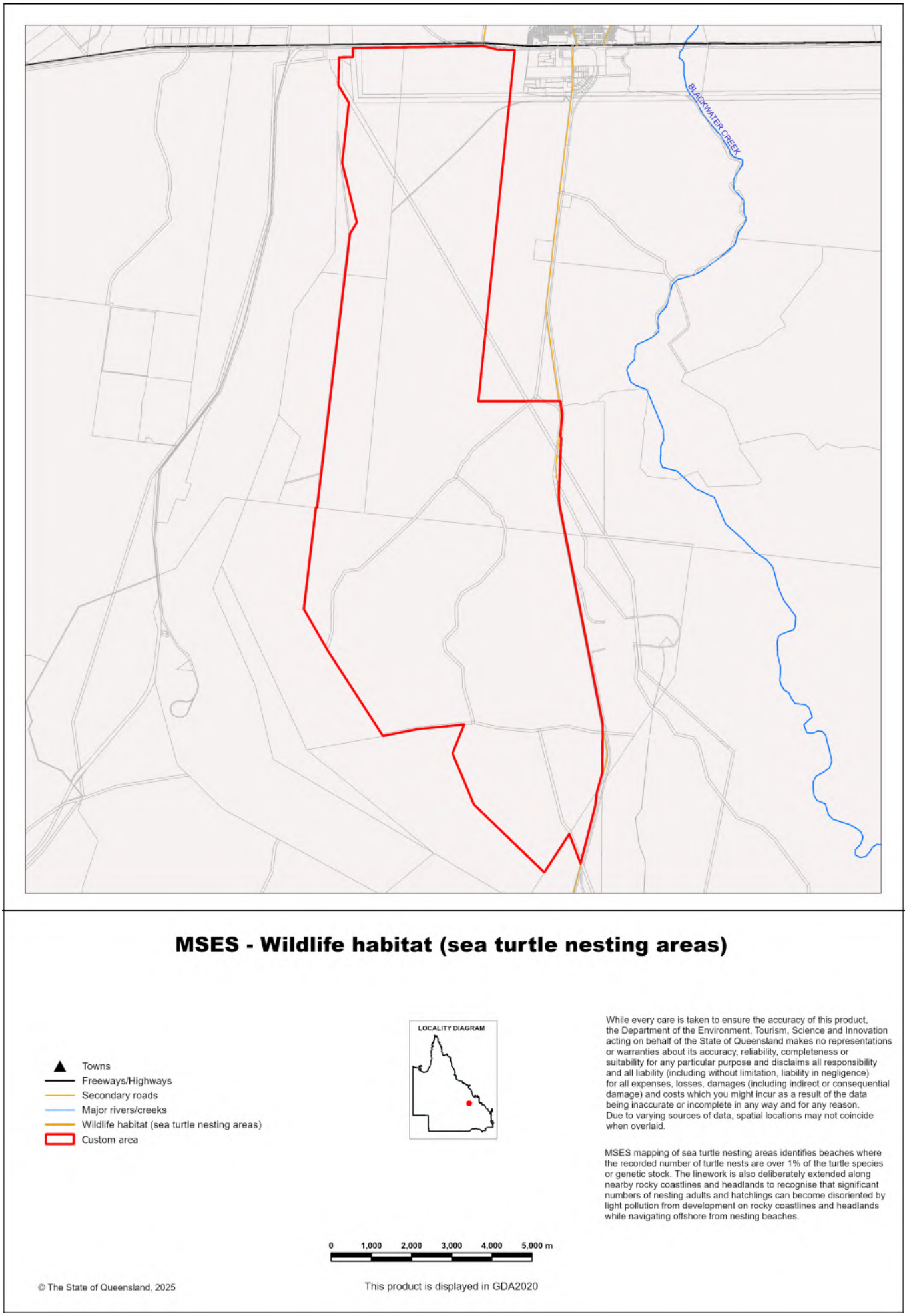
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



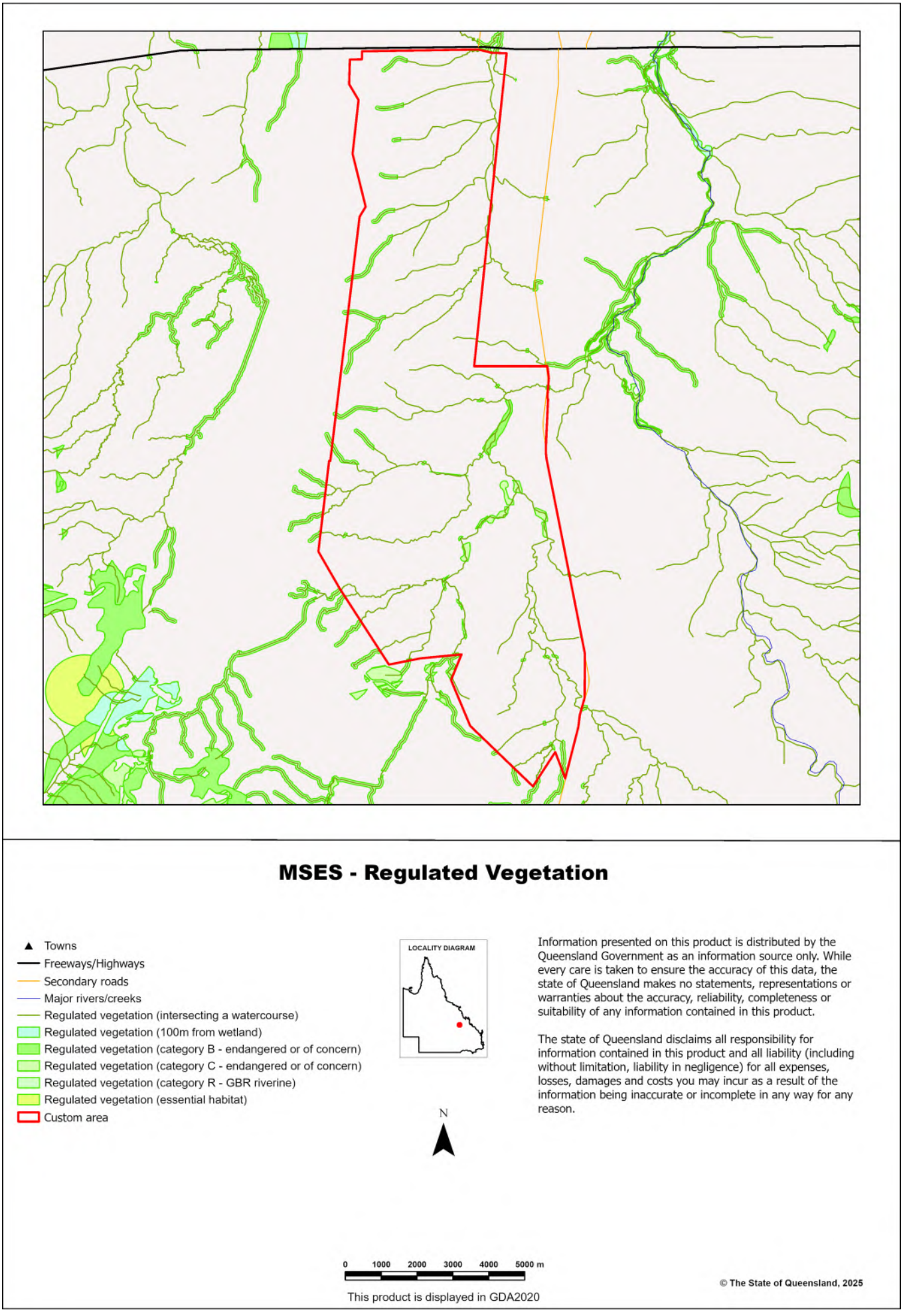
Map 3b - MSES - Species - Koala habitat area (SEQ)



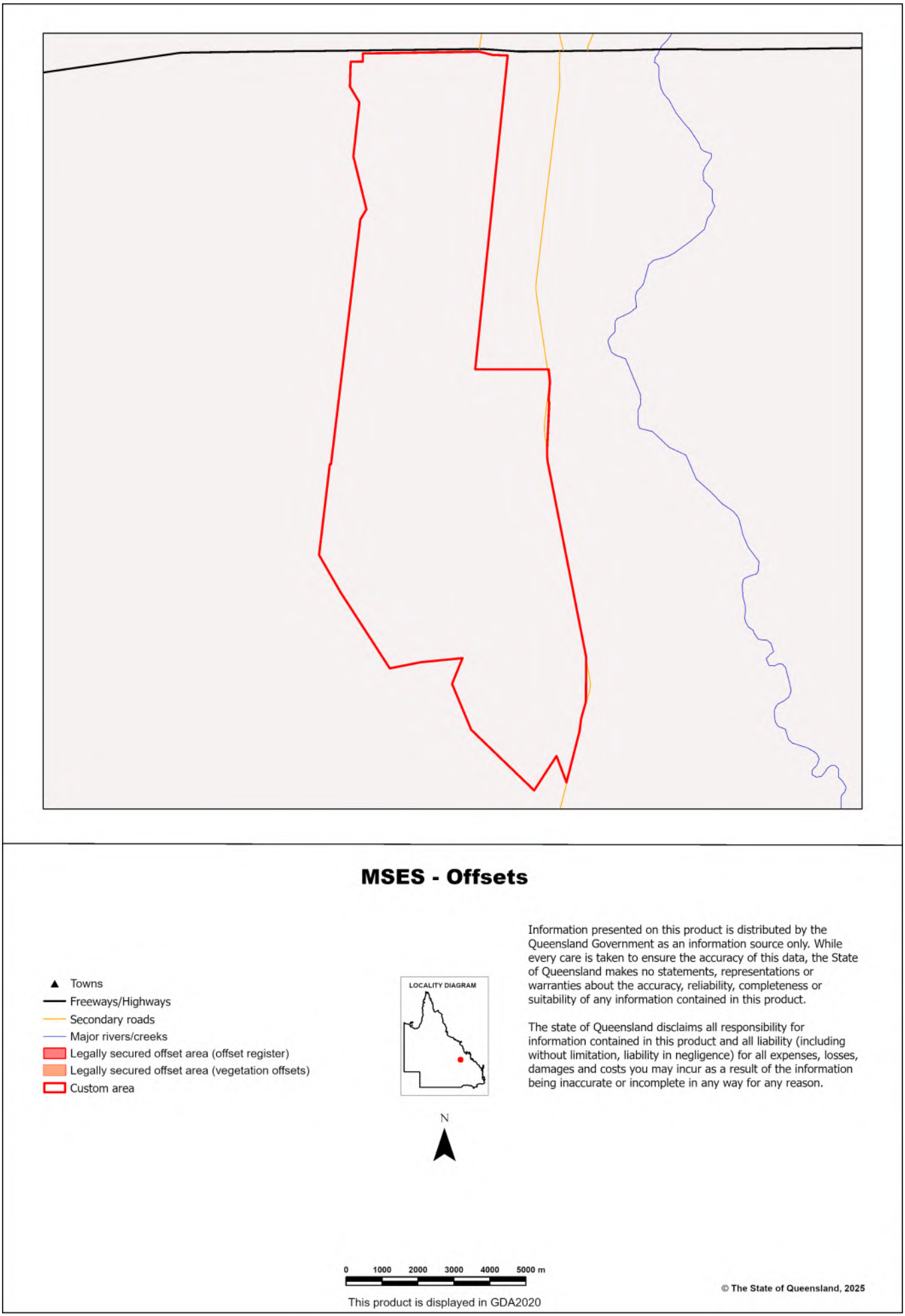
Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



Appendices

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

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

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

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

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

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

Appendix 2 - Source Data

The datasets listed below are available on request from:

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

- Matters of State environmental significance

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

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

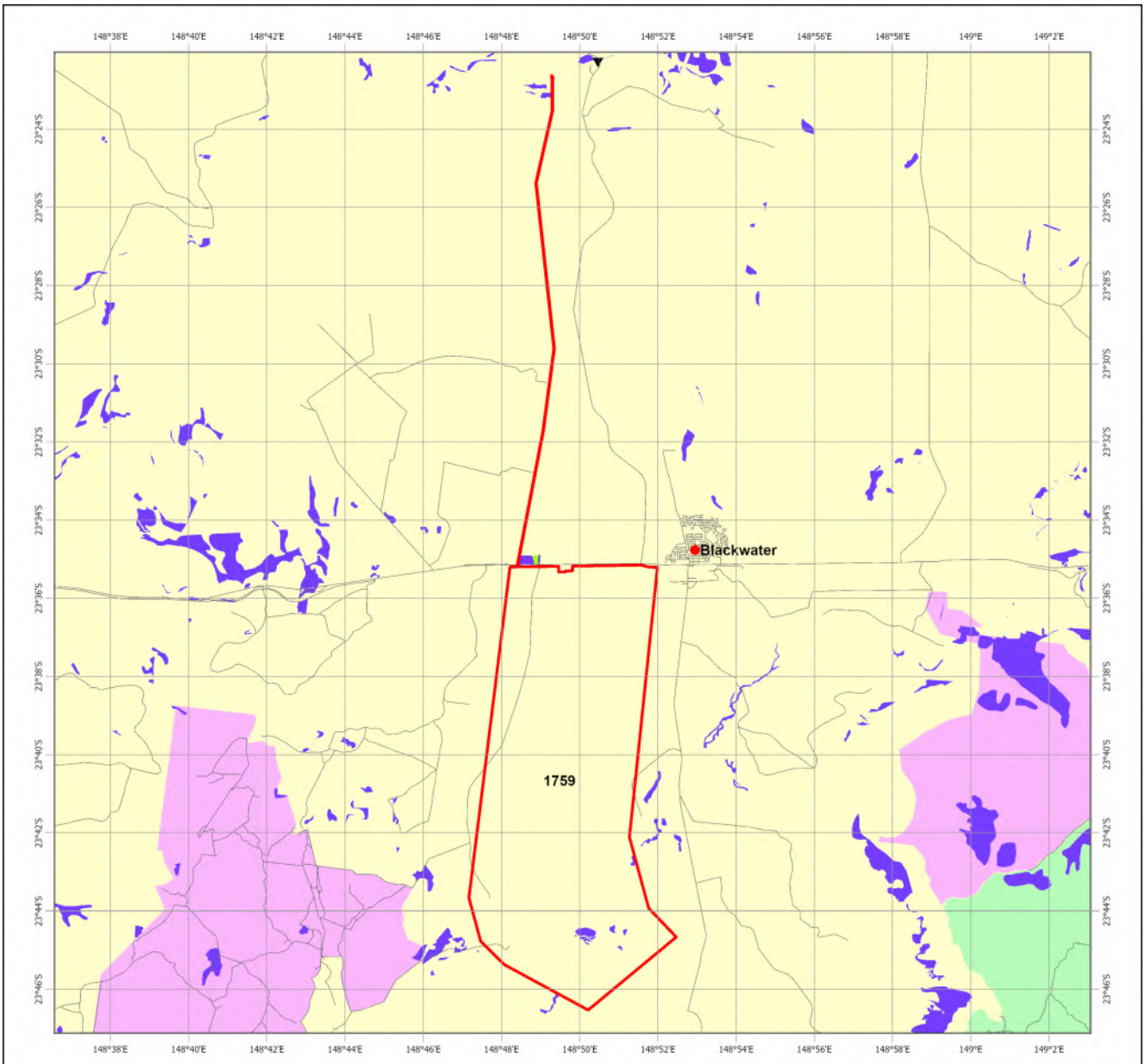
MSES layers	**current QSpatial data (http://qspatial.information.qld.gov.au)**
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine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

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DETSI	- Department of the Environment, Tourism, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA2020	- Geocentric Datum of Australia 2020
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999

Centred on tenure: ML: 1759

Map requested: 11/04/2025 16:31:34



ENVIRONMENTALLY SENSITIVE AREAS - Mining Activities

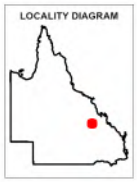
CATEGORY A
- National Parks
- Conservation Parks
- Forest Reserves
- Special Wildlife Reserve
- Wet Tropics World Heritage Area
- Great Barrier Reef Region
- Marine Parks other than General Use Zones

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



N

0 2,500 5,000 7,500 10,000 12,500 m

This product is displayed in GDA2020

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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.).

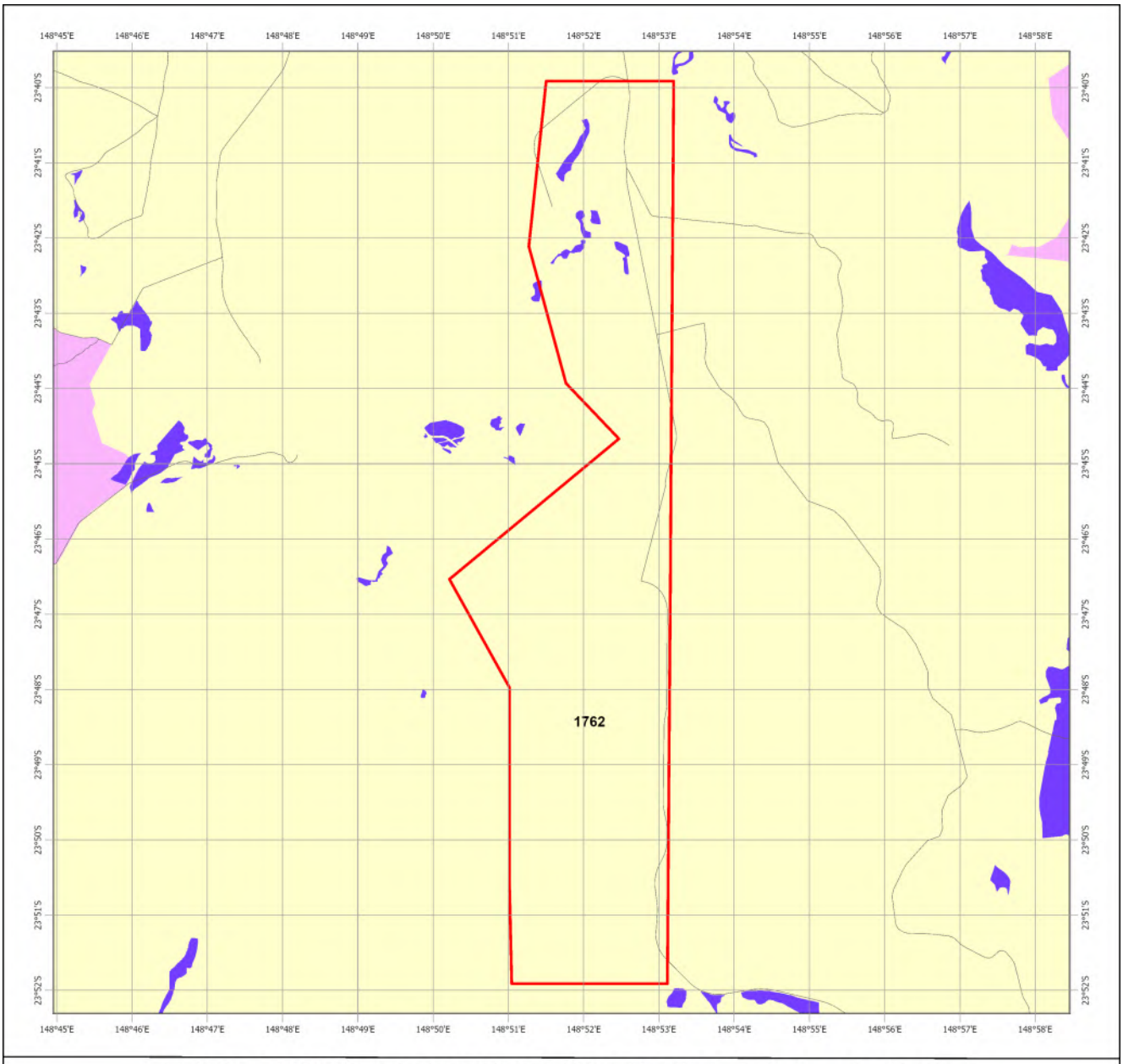
The user should be aware that due to multiple overlapping themes/ layers present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes/layers are displayed.

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Centred on tenure: ML: 1762

Map requested: 11/04/2025 16:32:13



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



N

0 1,000 2,000 3,000 4,000 5,000 m

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Appendix B Likelihood of occurrence

B.1 Threatened ecological communities (TECs)

Community name	EPBC Act status	Habitat preference and distribution	Likelihood of occurrence
Brigalow (*Acacia harpophylla* dominant and co-dominant)	E	Brigalow (*Acacia harpophylla* dominant and co-dominant) (Brigalow TEC) is a woodland ecological community characterised by the presence of *Acacia harpophylla* as one of the most abundant tree species (Butler, 2007). *Acacia harpophylla* is either a dominant in the tree layer, or co-dominant with other species – notably *Casuarina cristata* (belah), other species of *Acacia*, or species of *Eucalyptus*. The community is usually characterised by an open forest or woodland structure with a mixture of eucalypts, acacia and casuarina species in the canopy and occurs with a considerable range of vegetation structure and suite of species on acidic and salty clay soils (DotE, 2013a). The Brigalow TEC occurs over a substantial geographic area in semi-arid eastern Australia. Brigalow woodlands are found mostly west of the Great Dividing Range, stretching in a broad swathe east of Blackall, Charleville and Cunnamulla, north almost to Townsville in Qld, south to Narrabri in NSW, and west to Bourke on the Darling River and Blackall in central western Qld. In Qld it is found in the Brigalow Belt North, Brigalow Belt South, Mulga Lands, Darling Riverine Plains and Southeast Queensland IBRA bioregions (DotE, 2013a). Brigalow TEC coincides with 16 Qld REs under the EPBC Act (Queensland Herbarium, 2025b): In the Qld Brigalow Belt Bioregion – REs 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 and 11.12.21; In the Qld Southeast Queensland Bioregion – REs 12.8.23, 12.9-10.6 and 12.12.26; and, In the Qld Mulga Lands Bioregion – RE 6.4.2.	**Confirmed present** A total of 148.88 ha of Brigalow TEC was mapped within the Study Area in association with remnant and high value regrowth areas of RE 11.3.1 and 11.9.5 and remnant RE 11.4.9.
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	E	The Coolibah – Black Box Woodlands of the Darling Riverine Plains and the Brigalow Blet South Bioregions TEC are characterised by the dominance of *Eucalyptus coolabah* subsp. *coolabah* (Coolibah, Coolabah) and/or *Eucalyptus largiflorens* (Black Box) in the canopy of a eucalypt woodland structure where the understorey tends to be grassy (DSEWPC, 2011).	**Not present** Mapped areas of RE 11.3.3, which is analogous with the TEC, were identified within the Study Area, however the Study Area is located outside of the Brigalow Belt southern bioregion in which this TEC is located (DSEWPaC, 2011a).

Community name	EPBC Act status	Habitat preference and distribution	Likelihood of occurrence
		The TEC is found on the grey, self-mulching clays of periodically waterlogged floodplains, swamp margins, ephemeral wetlands and stream levees (DSEWPC, 2011). The landscape is flat to low relief where small changes in slope and height can influence the species composition. Found in a climatic zone with summer dominant rainfall of an average of approximately 250-700 mm/year. Average minimum monthly temperatures range from -2°C to 5°C and average maximum monthly temperatures range from 23°C to 35°C (DSEWPC, 2011). Vegetation structure may vary from tall woodland in riparian zones to very open woodland with a sparse id layer of shrubs and saplings and a grassy ground layer, typically forming mosaics with grasslands, shrublands and wetlands. *Eucalyptus coolabah subsp. coolabah* (Coolibah) must be present in the tree canopy and is typically a dominant. The relative dominance of Coolibah and Black Box varies across the range of the ecological community and in response to landscape position. Black Box may be a dominant tree species on parts of the central and northern riverine plains of NSW and on slightly more elevated parts of the floodplain. Black Box is less common in the north-eastern part of the ecological community's range (DSEWPC, 2011). or subdominant tree species. Where Coolibah is not the dominant tree species present on its own, then Coolibah together with *E. largiflorens* (Black Box) make up the dominant tree species in the canopy (TSSC, 2011). It is a floodplain ecological community within the upper reaches of the Murray-Darling Basin and southern part of the Fitzroy River system, limited to the Darling Riverine Plains and Brigalow Belt South bioregions in northern NSW and southern QLD. The northern limit is the northern boundary of the Brigalow Belt South bioregion in QLD. In QLD it is likely to occur in the following Catchment Management Authorities/Natural Resource Management Regions: Border Rivers Maranoa-Balonne, Condamine, Desert Channels, Fitzroy and South-West Queensland (DSEWPC, 2011). The Coolibah – Black Box Woodlands TEC coincides with 5 Qld REs: 11.3.3, 11.3.15, 11.3.16, 11.3.28 and 11.3.37 (TSSC, 2011).	
Natural Grasslands of the Queensland	E	The Natural grasslands of the Queensland central highlands and northern Fitzroy Basin TEC occurs in a subtropical, subhumid climatic	**Not present**

Community name	EPBC Act status	Habitat preference and distribution	Likelihood of occurrence
Central Highlands and northern Fitzroy Basin		zone with a marked wet summer and moderately dry winter. Mean annual rainfall over most of the ecological community ranges from 500-700 mm. Usually, this TEC occurs on flat ground or gently undulating rises on soils that have formed either in situ on the fresh basalt, or on fine-grained sedimentary rocks, or where the material has been transported to form extensive alluvial plains along ancient and flood-prone watercourses. Soils include cracking clays, often deep and dark in colour though may be shallower on ridges or sloping land. The cracking or self-mulching nature means that they expand when wet and contract when dry (TSSC, 2009b). The ecological community is endemic to Queensland. It broadly occurs where the Fitzroy River Basin and the Brigalow Belt North coincide. It extends from Collinsville in the north to Carnarvon National Park in the south. It is bounded to the south by the Expedition, Carnarvon, Great Dividing, Drummond and Narrien ranges; and to the north by the Clark, Denham, Connors and Broadsound ranges (TSSC, 2009b). Trees are mostly excluded from the area possibly due to the cracking that might tear tap roots and inhibit deep penetration during most rainfall events. The TEC is typically composed of a mixture of forbs (i.e. herbs that are broad-leaved and not grass-like) and native grasses. The perennial native grasses are the primary indicators, based on their prominence and utility as indicators. They are mostly dominated by Dichanthium spp. (Bluegrasses), with tropical Aristida spp. (Three-awned grasses) and Panicum spp. (Panic grasses) also a major component (TSSC, 2009b). Temperate grasses, such as Austrostipa spp. (Spear grasses) and Austrodanthonia spp. (Wallaby grasses), are lacking and are more a feature of grasslands further south (Fensham, 2003). Drier sites of the TEC may include a higher proportion of Astrebla spp. (Mitchell grasses). Whilst shrub cover is typically a minor component of the grassland, in some areas the cover of shrubs, such as Acacia salicina (Sally Wattle) and Acacia farnesiana (Mimosa), can be more extensive QLD REs include: 11.3.21, 11.4.4, 11.4.11, 11.8.11, 11.9.3, 11.9.12, and 11.11.17 (TSSC, 2009b).	No vegetation communities with potential to contain this TEC were found to occur within the Study Area (TSSC, 2009b).

Community name	EPBC Act status	Habitat preference and distribution	Likelihood of occurrence
Poplar Box Grassy Woodland on Alluvial Plains	E	The Poplar Box Grassy Woodland on Alluvial Plains TEC is typically a grassy woodland with a canopy dominated by *Eucalyptus populnea* and understorey mostly of grasses and other herbs. The TEC may include a low density of shrubs, however patches of the ecological community generally lack a substantial mid layer (tall shrub). Vegetative ground cover can be very sparse during dry periods but become mid-dense after rain particularly if fire has been absent for a long time. It occurs on paleo and recent depositional soils in flat terrain and occasionally along watercourses in undulating country. It is mainly associated with active and depositional plains and flats including back plains, higher terraces, levees along rivers particularly in QLD. It is sometimes found in close proximity to ephemeral watercourses and depressions. The soils in these watercourses are considered alluvial and the regularity of flow after heavy rain curtails shrub growth. These soils typically occur as clay, clay-loam, loam or sandy-loam (DEE, 2019). Of note, *Eucalyptus populnea* is commonly known as either Poplar Box or bimble box, depending on the region and subspecies that were formerly recognised (DEE, 2019). The TEC is located west of the Great Dividing Range, typically at less than 300 m ASL and between latitudes 20°S to 34°S. The ecological community is scattered across a broad distribution in eastern Australia, intergrading with but ranging further west and north than other grassy woodlands that extend through NSW and southern Qld, including: south of Charters Towers in Qld, north of Leeton in NSW, west of Ipswich in Qld and Armidale in NSW and east of Longreach in Queensland and Hillston in NSW. As the TEC has a wide distribution, the mean annual rainfall can range from about 400 mm up to 800 mm per year in agro-climates within QLD that range from semi-arid to limited moisture (DEE, 2019). REs considered analogous to this TEC include; 11.3.2, 11.3.17, 11.4.7, 11.4.12, and 12.3.10 (DEE, 2019).	**Not present** Mapped areas of RE 11.3.2, which is analogous with the TEC, were identified within the Study Area, however these patches did not meet the minimum condition thresholds.
Semi-evergreen vine thickets of the Brigalow Belt (North and South)	E	Semi-Evergreen Vine Thickets of the Brigalow Belt (North and South) and Nandewar Bioregions TEC is a community of extremely dry seasonal subtropical rainforest. The TEC occurs just north-west of Townsville in Queensland to central northern NSW, mostly within the	**Not present** Remnant REs containing vine thickets listed as potentially analogous with this TEC were not

Community name	EPBC Act status	Habitat preference and distribution	Likelihood of occurrence
and Nandewar Bioregions		Brigalow Belt North and South bioregions. Post-clearing distribution of the TEC means that remnant patches are scattered on rocky outcrops in the Broken River subregion of the Einasleigh Uplands, through the northern and central parts of the Brigalow Belt to its south-eastern parts between Jandowae and Killarney on the Queensland/New South Wales border. In QLD, the TEC is generally characterised by the prominence of trees with microphyll sized leaves (2.5–7.5 cm long) and the frequent presence of swollen-stemmed *Brachychiton* spp. (bottle trees) as emergents from the vegetation. The thickets typically have an uneven canopy 4–9 m high with mixed evergreen, semievergreen and deciduous emergent tree species 9–18 m high and vines, twining or scrambling plants prominent. Fluctuations in the composition and diversity of species can be based on the amount of rainfall received, with floristic composition differing as follows (DCCEEW, 2023a): • Brigalow Belt North: trees typically include Brachychiton australis (Broad-leaved Bottle Tree), Drypetes deplanchei (Yellow Tulip), Diospyros humilis (Small-leaved Ebony), Gyrocarpus americanus (Helicopter Tree), Geijera salicifolia (Brush Wilga), Planchonella cotinifolia (Yellow Lemon) and Strychnos psilosperma (Strychnine), with the vines Cissus reniformis and Jasminum didymum. Common emergent trees range from fully deciduous (e.g. Broad-leaved Bottle Tree, Helicopter Tree) to semi-evergreen (e.g. Euroschinus falcata (Ribbonwood), Pleiogynium timorense (Burdekin Plum)). • Brigalow Belt South: vine thickets in Qld commonly, but not invariably, have a shrub understorey, with common species including Acalypha eremorum (Soft Acalypha), Alectryon diversifolius (Scrub Boonaree), Everistia vacciniifolia, Carissa spinarum (Currantbush), Croton phebalioides, Exocarpos latifolius, Geijera parviflora (Wilga), Pittosporum spinescens (Wallaby Apple) and Triflorensia ixoroides. Common vines/lianes include Clematicissus opaca, Cissus oblonga, Trophis scandens, Jasminum spp., Marsdenia spp., Cynanchum viminale subsp. brunonianum, Secamone elliptica, Parsonsia lanceolata and Tylophora spp.	identified within the Study Area (DCCEEW, 2023a).

Community name	EPBC Act status	Habitat preference and distribution	Likelihood of occurrence
		In Queensland, the ecological community 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 (DCCEEW, 2023a). QLD REs include: 11.2.3, 11.3.11, 11.4.1, 11.5.15, 11.8.3, 11.8.6, 11.8.13, 11.9.4, 11.9.8 and 11.11.18 (DCCEEW, 2023a).	
Weeping Myall Woodlands	E	Weeping Myall Woodlands occur in a range from open woodlands to woodlands, generally 4-12 m high, in which Weeping Myall (*Acacia pendula*) trees are the sole or dominant overstorey species. Other vegetation may occur in the community but not as dominant species (TSSC, 2009a). It occurs on the inland alluvial plains west of the Great Dividing Range in QLD and NSW, and an outlying patch in VIC. In QLD it occurs in the Darling Riverine Plains, Brigalow Belt South, Brigalow Belt North and Nandewar IBRA Bioregions. It generally occurs as part of a mosaic of sparse to open woodlands and treeless shrublands and grasslands. It generally occurs on flat areas, shallow depressions or gilgais on raised (relict) alluvial plains. These areas are not associated with active drainage channels and are rarely if ever flooded. It occurs on black, brown, red-brown or grey clay or clay loam soils (TSSC, 2009a). It varies in structure throughout its range forming an open woodland in higher rainfall areas, becoming sparse/scattered stands of woodland occurring in discrete bands fringing better-watered country with decreasing rainfall. Can also occur as relatively narrow strips on the margins of floodplain woodland or on minor depressions or run-on areas adjacent to sandhills (TSSC, 2009a). In QLD it is restricted to small patches within REs 11.3.2 and 11.3.28 (TSSC, 2009a).	**Not present** While RE 11.3.2 was observed within the Study Area, the eponymous weeping myall (*Acacia pendula*) was not recorded (DEWHA, 2009).

B.2 Flora

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Acacia storyi	-	V	This species typically grows on sandstone plateaux with sandy, shallow skeletal soils over sandstone. The vegetation in these areas includes open forests or tall open forests, with associated species such *as Eucalyptus tereticornis*, *E. hendersonii*, *E. cloeziana*, *E.melanoleuca*, *E. propinqua*, and *Aristida spp*. Most populations of the species are found on Blackdown Tableland, with three additional populations located outside the park in Rockland Spring and upper Davy Creek, near the footslopes of Experiditon Range (DETSI, 2025a).	No habitat occurring within the Study Area.	18 occurrence records (ALA, Wildnet) within the desktop search extent. All records are restricted to Blackdown Tablelands.	**Unlikely to occur** The species has not been recorded in the Study Area and nearby records are limited to Blackdown Tablelands.
Aristida annua **Annual wiregrass**	V	V	This species is known to occur in eucalypt woodlands with *Eucalyptus orgadophila* on black clay, basalt, and sandy, red loamy soils (DCCEEW, 2025j). This species is restricted to central QLD in the Emerald and Springsure districts. The northern distribution of the species occurs on the eastern slopes of Lord's Table Mountain, north of Yungaba. Other locations include Gindie Downs via Springsure; 50km south of Comet Downs; 8-	No habitat occurring within the Study Area.	No occurrence records within the desktop search extent. The nearest record occurs 27km southwest of the Study Area.	**Unlikely to occur** The Study Area does not comprise suitable habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			30km south of Springsure (DCCEEW, 2025a).			
Arthraxon hispidus **Hairy-joint grass**	V	V	This species is found within or on the edges of rainforest and in wet eucalypt forest, near creeks and swamps, woodlands, around freshwater springs on coastal foreshore dunes, shaded gullies, creek banks and on alluvium in creek beds in open forest and also with bog mosses in mound springs (DCCEEW, 2025j). This species has scattered locations throughout QLD and on the northern tablelands and north coast of NSW, and overseas from tropical Africa to Asia. This species occurs as far south as Kempsey, and west to Glen Innes, NSW; in QLD it occurs north to Port Douglas, and west to disjunct occurrences around mound springs in Carnarvon National Park (NP); however, most occurrences are from Noosa southwards (DCCEEW, 2025j).	No habitat occurring within the Study Area.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution.
Baeckea trapeza	-	V	This species is endemic to the Blackdown Tableland, west of Rockhampton in central Queensland, where it grows at altitudes of 700-800 meters. It thrives on sandy soils in open Eucalyptus forests, often in association with species such as Leptospermum polygalifolium,	No habitat occurring within study the area. This species is endemic to Blackdown Tableland National Park.	4 occurrence records (ALA) within the desktop search extent. The nearest occurrence occurs approximately 17km from the Study Area.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Triplarina paludosa, Casuarina torulosa, and Melastoma affine (DETSI, 2025b).			
Bertya opponens	V	LC	This species occurs in a variety of vegetation communities including mixed shrubland, lancewood woodland, mallee woodland, eucalypt/acacia open forest with shrubby understorey, eucalypt/callitris open woodland and semi-evergreen vine-thicket. It grows in soils which are generally shallow sandy loams or red earths associated mostly with sandstone, but also with rhyolite, shale, and metasediments. Associated species include: woodland with *Eucalyptus citriodora* and *Alyxia spicata*; *Corymbia leichhardtii* woodland with some *Acacia harpophylla* on sandstone; sheltered sandstone gully with *Acacia shirleyi*, *Corymbia citriodora*, *C. trachyphloia*, *Gahnia aspera*; woodland of *E. cloeziana* with *E. suffulgens* and *Callitris endlicheri*; *E. crebra* /*C. trachyphloia* tall woodland; and in open woodland of *E. exserta*, *E. panda*, *C. trachyphloia* on lateritic sandstone (DCCEEW, 2025j; DETSI, 2025c). This species occurs in QLD and NSW in the Cobar	Suitable habitat present.	6 occurrence records (ALA, Wildnet) within the desktop search extent. The species has been observed in previous surveys in high densities (>6,500) along periphery of disturbed areas in association with Lancewood dominated communities of RE 11.7.2 south of the Study Area.	**Unlikely to occur** This species has been observed south of the Study Area in land zone 7. However, no suitable habitat was observed in the Study Area.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Peneplain, Brigalow Belt South, Brigalow Belt North, Southeastern QLD, NSW North Coast and New England Tablelands IBRA regions. In QLD, it is widely distributed within an area bounded by Emerald in the north and Charleville in the west, with an outlier near Charters Tower. In NSW, the species has been recorded at the following sites: north-east of Cobar; in the Jacks Creek State Forest area of the Pilliga Scrub; Gibraltar Range National Park east of Glen Innes; and Kangaroo River State Forest north-west of Coffs Harbour (TSSC, 2016).			
Bertya pedicellata	-	NT	This species has been recorded on rocky hillsides in eucalypt forest or woodland, Acacia woodland or shrubland and open heathland or vine thicket communities. The soil it grows in soils include skeletal to shallow sandy, sandy clay or clay loams overlaying rhyolite, trachyte, or sandstone substrates. Associated species include *Corymbia trachyphloia, Dodonaea filifolia, Acacia catenulata, A. curvinervia, A. shirleyi, A. rhodoxylon, A. sparsiflora, E. crebra, Acacia harpophylla* and *E. decorticans* (Department of Environment, Tourism, Science and Innovation (DETSI), 2025b).	No habitat occurring within the Study Area.	3 occurrence records (ALA) within the desktop search extent. The nearest record is approximately 12km East of the Study Area in Arthurs Bluff State Forest.	**Unlikely to occur** The species has been previously recorded within the desktop search extent, however the Study Area does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			This species is confined to central and south-east QLD, from near Aramac eastwards to Rockhampton and south to near Biggenden with an isolated record from the Warwick district. The species has been recorded in Peak Range National Park and Allies Creek State Forest (Department of Environment, Tourism, Science and Innovation (DETSI), 2025b).			
Cadellia pentastylis **Ooline**	V	V	This species grows in dry rainforest, semi-evergreen vine thickets and sclerophyll ecological communities, often locally dominant or as an emergent, on undulating terrain of various geology, including sandstone, conglomerate, and claystone. Soils generally have low to medium nutrient content and are normally associated with upper and mid-slopes in the landscape. The altitude is generally 300-460m above sea-level. The species forms a closed or open canopy, as a dominant or commonly with *Eucalyptus albens* and *Callitris glaucophylla*, with an open understorey and leaf litter dominating the forest floor. There is some uniformity in the understorey, with Native Olive (*Notelaea microcarpa*), Pinkwood (*Beyeria viscosa*), Bitterbark (*Alstonia constricta*), Wilga	No habitat occurring within the Study Area.	3 occurrence records (ALA) within the desktop search extent. The nearest record is 11km south of the Study Area.	**Unlikely to occur** The species has been previously recorded within the desktop search extent, however the Study Area does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			(*Geijera parviflora*), Berry Saltbush (*Einadia hastate*), *Stipa* spp. and *Aristida* spp., abundant at many locations (DCCEEW, 2025j). This species occurs on the western edge of the NSW north-west slopes, from Mt Black Jack near Gunnedah to west of Tenterfield, and extends into QLD to Carnarvon Range and Callide Valley, south-west of Rockhampton (DCCEEW, 2025j).			
Cerbera dumicola	-	NT	*Cerbera dumicola* occurs across a range of habitats in central and southern QLD. Associated vegetation and species include: sandstone hills in open *E. umbra* subsp. *carnea*; on plateaus, in woodland of *Acacia shirleyi* with *Corymbia dolichocarpa*; acidic soils in mine rehabilitation area; woodland of *A. catenulata* and *A. shirleyi* with *E. thozetiana* on a slope of sand/clay soil; semi-deciduous notophyll-microphyll vine forest of *Brachychiton australis*, *Gyrocarpus americanus*, *Flindersia australis*, *Pleiogynium timorense*, *Drypetes deplanchei* and *Sterculia quadrifida* on rhyolite hillslopes; open-woodland of *E. melanophloia* with occasional *Acacia shirleyi*, *E. populnea* and *E. brownii*; semi-evergreen vine thicket with	No suitable land zone 7 habitat is present within the Study Area.	9 occurrence records (ALA, Wildnet) within the desktop search extent. Historical surveys by EMM identified a population within remnant RE 11.7.2 in ML1792 south of the Study Area.	**Unlikely to occur** This species has been observed south of the Study Area in land zone 7. However, no suitable habitat was observed in the Study Area.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Corymbia citriodora and *Corymbia aureola* emergents; woodland of *A. rhodoxylon* on brown, sandy loam; and in *Corymbia tessellaris - Acacia aneura* open woodland (DETSI, 2025d) . Cerbera dumicola is known from central coastal and subcoastal QLD, with a few populations located in central QLD. The most northern populations are located 23km southwest of Charters Towers and the most southern population occurs at Baralaba (DETSI, 2025d).			
Coleus blakei	-	NT	This species typically grows in moist, well-drained soils, thriving in tropical and subtropical climates and preferring partial shade (Suva et al., 2015).	No habitat occurring within the Study Area. A population is present within Blackdown Tableland National Park.	10 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest record occurs 15km from the Study Area.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
Commersonia pearnii	-	CR	This species inhabits open forest and woodland alongside a range of canopy species. It grows on sandstone escarpments and tablelands with shallow, medium- to coarse-grained soils. It is only known from the Blackdown Tableland in central Queensland (DETSI, 2025e).	No habitat occurring within the Study Area. The species is restricted to Blackdown Tableland National Park.	1 occurrence record (ALA) within the desktop search extent within Blackdown Tableland National Park.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Corunastylis valida	-	V	This species grows in sandy soil in rocky places on the Blackdown Tableland (ALA, 2025)	No habitat occurring within the Study Area.	1 occurrence record (Wildnet) within the desktop search extent within Blackdown Tableland National Park.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
Daviesia discolor	V	V	This species occurs on the Blackdown Tableland on sandy soil derived from sandstone and on lateritic clay, at altitudes of 60-900m, in open eucalypt forest dominated by species such as *Eucalyptus sphaerocarpa* and *Eucalyptus nigra*. In the Mount Walsh area, this species grows in very tall open forests of *Corymbia trachyphloia* and *Eucalyptus acmenoides* on hillcrests and slopes at 500-580m altitude on well-drained, shallow sandy loam to sandy clays. The population in Carnarvon National Park occurs on brown sandy loam of creek banks, in mixed shrubland with scattered Triodia sp. hummocks and Angophora sp. trees (DEWHA, 2008d). This is known from three widely disjunct localities in QLD, near Blackwater on the Blackdown Tableland, in the Mount Walsh area near Biggenden and north of Mount Playfair within Carnarvon National Park (DEWHA, 2008d).	No habitat occurring within the Study Area. A local population occurs within Blackdown Tableland National Park.	3 occurrence records (ALA) within the desktop search extent, the nearest occurrence approximately 12km East of the Study Area within Arthurs Bluff State Forest.	**Unlikely to occur** The species has been previously recorded within the desktop search extent, however the Study Area does not comprise suitable habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Dichanthium queenslandicum **King Blue-grass**	E	V	This species occurs on black cracking clay in tussock grasslands in association with other species of blue grasses (*Dichanthium spp.* & *Bothriochloa spp.*). It is mostly confined to natural grassland on the heavy black clay soils (basalt downs, basalt cracking clay, open downs) on undulating plains. Other species include *Aristida leptopoda, Bothriochloa erianthoides, Moorochloa eruciformis, Corchorus trilocularis, Cyperus bifax, Dichanthium sericeum, Digitaria brownii, D. divaricatissima, Eulalia fulva, Ipomoea lonchophylla, Iseilema vaginiflorum, Panicum decompositum, P. queenslandicum, Paspalidium globoideum, Parthenium hysterophorus* and *Thellungia advena*. Communities include *Acacia salicina* thickets in grassland and eucalypt woodlands (i.e. *Corymbia dallachiana, C. erythrophloia, E. orgadophila*) (TSSC, 2013). This species occurs from near Dalby north to about 90km north of Hughenden and west as far as Clermont. The main concentration of populations in central QLD in the Emerald region. It is found in Gemini Peaks NP north east of Clermont and	No habitat occurring within the Study Area.	No occurrence records within the desktop search extent. The nearest record occurs 28km Southwest of the Study Area.	**Unlikely to occur** The species has not been recorded within the desktop search extent and the the Study Area does not comprise suitable habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Alpinia NP near Rolleston (TSSC, 2013).			
Dichanthium setosum **Bluegrass**	V	LC	This species is associated with heavy basaltic black soils and red-brown loams with clay subsoil. Associated species: White Box (*Eucalyptus albens*), Silver-leaved Ironbark (*E. melanophloia*), Yellow Box (*E. melliodora*), Manna Gum (*E. viminalis*), Amulla (*Myoporum debile*), Purple Wire-grass (*Aristida ramosa*), Kangaroo Grass (*Themeda triandra*), Fine-leaved Tussock-grass (*Poa sieberiana*), Red-leg Grass (*Bothriochloa ambigua*), Pitted Blue-grass (*B. decipiens*), *Macrozamia stenomera*, Small Woolly Burr-medic (*Medicago minima*), Scaly Buttons (*Leptorhynchos squamatus*), *Lomandra aff. longifolia*, Australian Bugle (*Ajuga australis*), Bogan-flea (*Calotis hispidula)* and *Austrodanthonia spp., Dichopogon spp., Brachyscome spp., Vittadinia spp., Wahlenbergia spp.* and *Psoralea spp.* This species is often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, and highly disturbed pasture. It is often collected from	No habitat occurring within the Study Area.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not comprise suitable habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			disturbed open grassy woodlands on the northern tablelands, where the habitat has been variously grazed, nutrient-enriched and water-enriched (DCCEEW, 2025j). It occurs chiefly on the northern tablelands in the Saumarez area, west of Armidale, and 18–30km east of Guyra. It is more rarely found on the north-western slopes, central western slopes and north-western plains of NSW, extending west to Narrabri. In QLD it has been reported from the Leichhardt, Morton, North Kennedy and Port Curtis regions (TSSC, 2012).			
Eucalyptus raveretiana **Black ironbox**	V	-	This species grows along watercourses and occasionally on river flats or open woodland. Soil varies from sand through to heavy clay. Altitudinal range is 0–300m and the climate of the area is sub-tropical with an annual rainfall of 650–1100m. The species is said to be highly salt tolerant. It does not occur in pure stands, but is co-dominant with species such as Broad-leaved Teatree (*Melaleuca leucadendra*), *M. fluviatilis*, Forest Red Gum (*Eucalyptus tereticornis*), Carbeen (*Corymbia tessellaris*) (Regional Ecosystem 11.3.25a) and occasionally in semi evergreen vine thicket (e.g.	No habitat occurring within the Study Area.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not comprise suitable habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Broad-leaved Bottle Tree (*Brachychiton australis*), Narrow-leaved Bottle Tree (*Brachychiton rupestris*), Scrub Wilga (*Geijera salicifolia*) and *Lysiphyllum* spp.) (Regional Ecosystem 11.3.11). Other species it grows in association with include River Red Gum (*E. camaldulensis*), Moreton Bay Ash (*Corymbia tessellaris*), River Oak (*Casuarina cuninghamiana*) and Weeping Paperbark (*Melaleuca fluviatilis*) and other Regional Ecosystems that include 9.3.1 and 8.3.3 (DCCEEW, 2025j). This species occurs between Rockhampton and Ayr in QLD (Department of the Environment, Water, Heritage and the Arts (DEWHA), 2008a).			
Homoranthus decumbens	E	V	This species occurs on flat country on deep sandy soils with lateritic pebbles, in heath and shrubby woodland. It has been recorded growing with *Goodenia racemosa*, *Petrophile sp.*, *Xanthorrhoea spp.* and Dwarf Banksia (*Banksia oblongifolia*) (DCCEEW, 2025j). This species occurs in QLD where it is restricted to Barakula State Forest near Chinchilla (DCCEEW, 2025j).	No habitat occurring within the Study Area. This species is restricted to Barakula State Forest.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Logania diffusa	V	V	*Logania diffusa* occurs on the top of the plateau escarpment in heathland dominated by *Banksia oblongifolia* and *Leptospermum spp*. and in open forest with Eucalyptus spp. and Forest Sheoak (*Allocasuarina torulosa*) in shallow, sandy, often stony soil overlying sandstone (DEWHA, 2008e). *Logania diffusa* is known from the Blackdown Tableland, central-eastern Queensland (DEWHA, 2008e).	No habitat occurring within the Study Area.	4 occurrence records (ALA) within the desktop search extent. The nearest record occurs approximately 12km East of the Study Area within Arthurs Bluff State Forest.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
Macrozamia platyrhachis	E	E	*Macrozamia platyrhachis* occurs in eucalypt woodland or open forest at altitudes between 300-780m above sea level. The mid- and under-stories of the vegetation may be quite dense, but this is variable depending on fire history. The species grows on deep sandy soils, derived from sandstone (DESI, 2024). *M. platyrhachis* has a restricted distribution in the Blackdown Tableland - Planet Downs area of the Dawson Range in central Queensland. There are also historical records from the Ceres Holding southeast of Springsure (1973) and from Spring Creek (1972), but these populations have not yet been relocated (DETSI, 2025f).	No habitat occurring within the Study Area. The species is restricted to Blackdown Tableland.	20 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest record occurs approximately 12km from the Study Area in Blackdown Tableland National Park.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Polianthion minutiflorum	V	V	It grows in forest and woodland on sandstone slopes and gullies with skeletal soil, or deeper soils adjacent to deeply weathered laterite (DCCEEW, 2025b). Trymalium minutiflorum is known from five areas in east Queensland, from Redcliffe Vale, about 110 km west of Mackay, south to Kingaroy, covering approximately 800km (DCCEEW, 2025b).	No habitat occurring within the Study Area.	3 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest record occurs approximately 12km West of the Study Area within Amaroo State Forest.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
Solanum adenophorum	-	E	*Solanum adenophorum* occurs mostly in brigalow woodland and on very gently inclined slopes. It also occurs in gidgee (*Acacia cambagei*) scrub on deep cracking clay soils (Bean, 2004). The species is distributed within the Dingo-Nebo-Clermont region in central-eastern Queensland (Bean, 2004).	No habitat occurring within the Study Area.	1 occurrence record (Wildnet) within the desktop search extent, occurring approximately 18km North of the Study Area near Curragh Mine.	**Unlikely to occur** The Study Area is outside of the species known distribution.
Solanum dissectum	E	E	*Solanum dissectum* has a restricted distribution in central Queensland. The species occurs in open forest and woodland of brigalow (*Acacia harpophylla*) or *Eucalyptus thozetiana* on solodic clay soils (Department of the Environment, Tourism, Science and Innovation (DETSI), 2025d).	Suitable Brigalow dominated communities occur within the Study Area.	4 occurrence records (ALA) within the desktop search extent, the nearest records approximately 20km South of the Study Area.	**Unlikely to occur** This species is identifiable year-round, and as it has not been recorded during multiple targeted surveys, it is unlikely to occur in the Study Area.
Solanum elachophyllum	-	E	*Solanum elachophyllum* grows on fertile cracking-clay soils in open forest of Eucalyptus thozetiana,	Suitable habitat present.	13 historical occurrence records (ALA, Wildnet)	**Known to occur**

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Acacia harpophylla, with understorey of Geijera parviflora, Casuarina cristata, Macropteranthes leichhardtii, Eucalyptus cambageana, or woodland of E. crebra and E. tenuipes (Bean, 2004; Queensland Herbarium, 2012).		within the desktop search extent. A substantial population (>1200) was recorded by EMM at 27 locations associated with RE's 11.3.1/11.3.6 and non-remnant vegetation. The species was also observed in high densities by E2M during 2025 surveys.	The species has been observed within the Study Area at multiple locations.

[1] CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SLC = Special Least Concern

[2] Habitat types including microhabitat features where relevant and distribution of the species from reputable online sources and databases

[3] Presence, extent, condition and proximity/connectivity to other habitat and type of habitat whether breeding, feeding, shelter, dispersal, and temporary use.

[4] Nearest and notable records of the species from relevant databases

[5] Most suitable and relevant survey timing and required effort to detect the species (time of year, rainfall events, temperature etc.)

[6] Assessment result of likelihood of species occurring

B.3 Fauna

Amphibians

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area or surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
tusked frog *Adelotus brevis*	-	V	Inhabits wet eucalypt forest, rainforest, and sometimes dry eucalypt forest, where it can be found near suitable breeding habitat such as ponds and slow-moving sections of streams. It has also been recorded from dams and garden ponds in urban and peri-urban areas. It has a disjunct distribution, occurring in the Clarke Range (mideast QLD); then from Shoalwater Bay (mid-east QLD) south to near Moss Vale (mid-east NSW). In QLD, inland populations are also present at Blackdown Tableland and Carnarvon Gorge and in Barakula State Forest (Rowland, 2013).	The Study Area is unlikely to support preferred habitats for this species.	There are 15 occurrence records (ALA) within the desktop search extent. The nearest record is 15km to the East of the Study Area.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

[1] EX = Extinct, PE = Extinct in the wild, CE = Critically Endangered, CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SLC = Special Least Concern.

[2] Habitat types including microhabitat features where relevant and distribution of the species from reputable online sources and databases.

[3] Presence, extent, condition and proximity/connectivity to other habitat and type of habitat whether breeding, feeding, shelter, dispersal, and temporary use.

[4] Nearest and notable records of the species from relevant databases.

[5] Most suitable and relevant survey timing and required effort to detect the species (time of year, rainfall events, temperature etc.).

[6] Assessment result of likelihood of species occurring.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Common sandpiper *Actitis hypoleucos*	Marine, Migratory (Bonn, CAMBA, JAMBA, ROKAMBA)	SLC	The species has been recorded from a wide range of wetland habitats, of varying levels of salinity. The species typically forages in shallow water and on bare soft mud at the edges of wetlands (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2025a). The common sandpiper is found along all coastlines of Australia, including several areas inland, but is concentrated to northern and western Australia. In Queensland, areas of national importance occur in southeastern Gulf of Carpentaria and the Cairns foreshore. The south-eastern Gulf of Carpentaria is also a site of international importance (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2025a).	The Study Area is unlikely to support preferred habitats for this species. Potential distribution for this species occurs 70km towards the East of the Study Area.	The species has not been recorded within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution.
Fork-tailed swift *Apus pacificus*	Migratory (CAMBA, JAMBA, ROKAMBA)	SLC	The species is predominantly aerial and occurs over inland areas and occasionally above the foothills in coastal areas with dry and open habitat. The species can also occur over low scrub, heathland, saltmarsh and riparian woodlands and are associated with low pressure systems that favour the occurrence of insect prey (DCCEEW, 2026). The fork-tailed swift is a non-breeding visitor to all states and territories of Australia which consists of its core range. In Qld, scattered records occur in the Gulf Country, and a few records on Cape York Peninsula. There are many records east of the Great Divide, from near Cooktown and south to Townsville. They are also widespread but scattered in coastal areas from 20° S, south to Brisbane and in much of the south south-eastern region. They are more widespread west of the Great	Suitable habitat is present within the Study Area.	16 occurrence records (ALA) within desktop search extent. 4 of these records occur within 5km of the Study Area in the town of Blackwater, with the nearest	**Known to occur** There is suitable habitat within the Study Area and the species has been observed within the Study Area on multiple occasions.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Divide and are commonly found west of the line joining Chinchilla and Hughenden. They are found to the west between Richmond and Winton, Longreach, Gowan Range, Maraila National Park and Dirranbandi. They are rarely found further west to Windorah and Thargomindah (DCCEEW, 2026).		record 1.3km to the East of the Study Area.	
Sharp-tailed sandpiper *Calidris acuminata*	V, Marine, Migratory (Bonn, CAMBA, JAMBA, ROKAMBA)	SL	The species typically inhabits 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. The species may use flooded paddocks, sedgelands and other ephemeral wetlands, but vacate these habitats during dry conditions. Marine habitats for the species include intertidal mudflats in sheltered bays, inlets, estuaries, or seashores, and swamps and creeks lined with mangroves. They sometimes occur on rocky shores and rarely on exposed reefs (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024). In Queensland, they are recorded in most regions, being widespread along much of the coast and are very sparsely scattered inland, particularly in central and south-western regions (Higgins & Davies, 1996). There are 39 international important sites across Australia, four of which are in Queensland comprising south-east Gulf of Carpentaria, Lake Machattie, Lake Yamma Yamma, and Lake Numalla (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024).	Limited suitable habitat present.	1 occurrence record (ALA) desktop search extent, 12 km north of the Study Area.	**Possibly occurring** Due to its migratory nature, the presence of potentially suitable habitat within the Study Area and an occurrence record to the North of the Study Area, the species is considered possibly occurring.
Curlew sandpiper *Calidris ferruginea*	CE, Marine, Migratory (Bonn, CAMBA,	CR	This species usually forages and roosts in intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms	No suitable habitat present.	The species has not been recorded within the desktop	**Unlikely to occur** The Study Area is outside of the species known

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
	JAMBA, ROKAMBA)		(Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2023b). Curlew sandpipers commonly occur around the Australian coastline. Queensland records indicate that this species is more widespread in coastal areas south of Cairns, however scattered records occur in the Gulf of Carpentaria. There are sparsely scattered records inland (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2023b).		search extent.	distribution. There is potential for the species to occur during migration, but this is unlikely.
Pectoral sandpiper *Calidris melanotos*	Marine, Migratory (Bonn, JAMBA, ROKAMBA)	SL	Typical habitat for the species comprises shallow fresh to saline wetlands, including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. The species is usually found in coastal or near coastal habitat but occasionally further inland. Also recorded in swamp overgrown with lignum (Department of Climate Change, Energy, the Enviornment and Water (DCCEEW), 2026). In Queensland, most records for the species occur around Cairns. There are scattered records elsewhere, mainly from east of the Great Divide between Townsville and Yeppoon. Records also exist in the south-east of the state as well as a few inland records at Mount Isa, Longreach and Oakey (Department of Climate Change, Energy, the Enviornment and Water (DCCEEW), 2026).	No suitable habitat present.	The species has not been recorded within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
South-eastern Glossy black-cockatoo *Calyptorhynchus lathami lathami*	-	V	This species feed exclusively on the cones and seed of *Allocasuarina* and *Casuarina spp.* and is dependent on these spp. (Chapman, 2007), with feed tree species use varying across the species' range (Higgins, 1999). In south-east QLD and north-east NSW, the species shows a strong preference for *A. littoralis* and *A. torulosa* trees (Higgins, 1999). There are also records of the species feeding on *A. inophloia*, *C. equisetifolia* and, to a lesser extent, *C. cunninghamiana* and *C. glauca*	Limited habitat is present within the Study Area. Suitable habitat is present in	64 occurrence records (ALA) within the desktop search extent, with the nearest record 3.7km	**Possibly occurring** Due to the large number of occurrences within proximity to the Study

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			(Glossy Black Conservancy, 2021). In the Brigalow Belt bioregion, *Casuarina cristata* and *Allocasuarina luehmannii* are also used as feed trees (Hourigan, 2012a). As a hollow nester, they require large old trees (living or dead), usually eucalypts, for breeding (S. T. Garnett et al., 1999). Nests are typically located in proximity to a water source (within 1.5 km of a permanent water source) usually in eucalypt, particularly *Eucalyptus crebra*, but at least once recorded in Kurrajong *Brachychiton populneus* where hollows are usually 10-20 m above ground in vertical or near vertical branches, stems, and spouts or in trunk cavities (BirdLife Australia, 2023; S. T. Garnett et al., 1999). It prefers woodland areas dominated by Allocasuarina, or open sclerophyll forests and woodlands with a middle stratum of Allocasuarina beneath Eucalyptus, Corymbia or Angophora (BirdLife Australia, 2023). It has also been observed in mixed Allocasaurina, Casuarina, Callitris and brigalow woodland assemblages (BirdLife Australia, 2023). Occasionally in *Allocasuarina* in grasslands, towns and on golf-courses, and possibly among mangroves and cereal crops (BirdLife Australia, 2023). Often in coastal or subcoastal areas, including foreshores and offshore islands but also occur farther inland in foothills, mountain ranges and plains, especially in *Allocasuarina* associations fringing watercourses or on stony ridges (BirdLife Australia, 2023). Also known to utilise appropriate remnant woodlands and Allocasuarina and Casuarina feed trees in urban areas (BirdLife Australia, 2023; Hourigan, 2012b). South-eastern Glossy black-cockatoo occurs in the north and central east coast of QLD. This subspecies ranges from the Dawson-Mackenzie-Isaac Rivers basin, north to the Connors-Clarke Ranges, south to Dawes and Many Peaks Ranges, and inland to the Expedition, Peak and Denham Ranges, including the Blackdown Tableland (Hourigan, 2012b). The species	Blackdown Tableland National Park, Southeast of the buffer zone of the Study Area.	to the Southeast in Blackdown Tableland National Park. Evidence of feeding (orts) has been identified during previous surveys.	Area and observations of potential feeding (orts) within the Study Area (EMM), it is possible this species will occur, however there is limited foraging opportunities (i.e. *Allocasuarina* or *Casuarina* spp.) present within the Study Area.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			movement patterns, and home ranges have not been well identified in literature.			
Oriental cuckoo *Cuculus optatus*	Marine, Migratory (CAMBA, JAMBA, ROKAMBA)	SL	Inhabits monsoon forest, rainforest edges, isolated trees in paddocks, river flats, roadsides, mangroves, islands (Pizzey & Knight, 2007). Also occurs in woodlands and open forest associated with riparian areas. The species frequents sheltered gullies, and slopes with a dense understorey of shrubs and ferns within wet sclerophyll forests (DotE, 2015c). Core non-breeding range in Queensland includes Northern QLD and the Gulf of capenteria and extends along eastern QLD (DotE, 2015c). The species is a regular nonbreeding migrant to coastal northern and eastern Australia. The species occurs in the Gulf of Carpentaria and Cape York Peninsular to the QLD-NSW border, including inland areas of eastern Queensland (Pizzey & Knight, 2007).	No suitable habitat within the Study Area.	1 occurrence record (eBird) from 2019 within the desktop search extent.	**Unlikely to occur** The species has only been detected on a single occasion within the desktop search extent and the Study Area contains limited marginal habitat for the species.
Red goshawk *Erythrotriorchis radiatus*	E	E	The species occurs over wooded and forested lands of tropical and warm-temperate Australia, coastal and sub-coastal (BirdLife Australia, 2023). It prefers tall open forest, woodland and rainforest edges with a mosaic of vegetation types, large population of birds (largely prey species) and permanent water; riverine vegetation much used (BirdLife Australia, 2023). Forests of intermediate density are favoured, as are ecotones between habitats of differing densities: e.g. between rainforest and eucalypt forest, between gallery forest and woodland, or on edges of woodland and forest where they meet grassland, cleared land, roads or watercourses (BirdLife Australia, 2023). Avoid very dense and very open habitats, although sometimes seen over open agricultural land or grassland. Rarely enter dense forest (rainforest, tall wet forest), except as drought refuge; but may occur on edges and in clearings, penetrate along roads or watercourses, or hunt over canopy (BirdLife Australia, 2023). Immature birds reported	No suitable habitat within the Study Area.	1 occurrence record (ALA) within the desktop search extent. Historical records occur within Blacktown Tableland National Park, approximately 20 km Northeast of the Study Area.	**Unlikely to occur** The species has only been detected on a single occasion within the desktop search extent and the Study Area contains limited marginal habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			from mangroves, open river floodplains, low open woodland, agricultural land and pasture, but such habitats not used regularly (BirdLife Australia, 2023). Few detailed descriptions of structure and floristics of habitats. In eastern Australia rainforest, tall open forest, open forest in rugged terrain; mixed eucalypt woodland with scrubby understorey (Blue Gum *E. saligna*, Lemon-scented Gum *E. citriodora*); valley with subtropical rainforest, open forest of Spotted Gum *E. maculata*and ironbarks, forest of Hoop Pine *Araucaria cunninghamii* and vines, regrowth of eucalypt and *Acacia*, and farmland; mixed eucalypt woodland with thickets of *Melaleuca*; low *Melaleuca* lining watercourse through *Banksia* heath on dunes; tall forest of *E. pilularis* and *Melaleuca* fringing river; gallery forest of *Casuarina* along river, through partly cleared eucalypt open forest; *Melaleuca* swamp forest (BirdLife Australia, 2023). In NT: coastal and subcoastal tall open forests and woodlands, and savannas traversed by forested or wooded rivers; gallery forest along watercourses, eucalypt woodland and open forest to 15–40 m (BirdLife Australia, 2023). Nesting occurs in tall trees within one kilometre of permanent water, generally in open, biologically rich forest or woodlands (DCCEEW, 2025). The range of the red goshawk has significantly retracted in recent years towards northern Australia and is now considered locally extinct in southern Queensland and NSW (DCCEEW, 2025). Although the movement patterns are poorly known, they are generally considered sedentary with some dispersive individuals and no evidence for migration (BirdLife Australia, 2024a; DCCEEW, 2025). One radio-telemetry study has been conducted on a pair of Red Goshawks in northern Australia which resulted in an estimated home range for the breeding female of 120 km^2, and 200 km^2 for the male with some			

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			indications that it might have been larger (DCCEEW, 2025). Five historic records of pairs of Red Goshawks in southeastern Queensland suggested home range may vary from 50–220 km^2 based on the available habitat surrounding the areas where the pairs were located (DCCEEW, 2025). It appears the species is no longer present or is present at critically low levels in Eastern Australian Temperate Forests and Brigalow Tropical Savannah ecoregions in coastal and sub-coastal eastern Australia. It is thought the species is no longer present in the Rockhampton and Eungella regions (MacColl et al., 2023). Recent records in Queensland suggest that the species is existing in National Parks or State forests with a stronghold in north-east Queensland and eastern Cape York Peninsula (DERM, 2012; MacColl et al., 2023).			
Grey falcon *Falco hypoleucos*	V	V	The grey falcon occurs over open country and wooded lands of tropical and temperate Australia (BirdLife Australia, 2023; TSSC, 2020). It mainly occurs on sandy and stony plains of inland drainage systems, lightly timbered with acacia scrublands and intersected by eucalypt-lined, wooded, watercourses (BirdLife Australia, 2023). They hunt far into open areas, over spinifex (*Triodia*), tussock grassland (*Astrebla*), and low shrubland (e.g. bluebush), as well as near and over swamps, bores and waterholes, where surface water attracts prey, similarly occurring in tussock grasslands and open woodlands during winter (BirdLife Australia, 2023; TSSC, 2020). Occasionally they are found near the coast in open woodlands (e.g. mallee), lightly timbered plains and grasslands of lowlands and foothills, as well as occasionally entering country towns (BirdLife Australia, 2023). Nesting occurs on usually slender, sloping, or vertical fork in top part of tallest tree in area, usually near water or dry	No suitable habitat present.	No occurrence records within the desktop search extent. The nearest record occurs 35km to the Northwest of the Study Area.	**Unlikely to occur** The species has not been previously recorded within the desktop search extent and the Study Area contains limited marginal habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			watercourses. Height of nests: from 6 m to over 25 m (BirdLife Australia, 2023). The grey falcon is poorly understood and is considered to be Australia's rarest falcon and the rarest Falco species in the world (Schoenjahn, 2013). It occurs in arid and semi-arid Australia, with a stronghold in arid and semi-arid zones with a mean annual rainfall <500 mm but seldom in waterless desert, with the exception of drought conditions following wet years where the species may become marginally more widespread (BirdLife Australia, 2023; TSSC, 2020). This includes the Murray-Darling Basin, Eyre Basin, central Australia and Western Australia (TSSC, 2020). It is a highly mobile species travelling hundreds of kilometres dispersing during periods of drought to coastal areas, with wintering occurring within northern Australia (mostly immature birds) (NSW Scientific Committee, 2009). It is a resident or nomadic visitor to inland parts of all mainland states, recorded from most of Australia except Cape York Peninsula and areas east of the Great Dividing Range in QLD and NSW (S. Garnett et al., 2021; TSSC, 2020). Their home range size is not specified however they are likely to be larger than 100 km^2 (NSW Scientific Committee, 2009).			
Latham's snipe, Japanese snipe *Gallinago hardwicki*i	V, Marine, Migratory (Bonn, JAMBA, ROKAMBA)	V	In Australia the species typically occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They generally occupy flooded meadows, seasonal or semi-permanent swamps, or open waters, but various other freshwater habitats can be used including bogs, waterholes, billabongs, lagoons, lakes, creek or river margins, river pools and floodplains. However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (DCCEEW), 2025).	Suitable habitat is present.	EMM has recorded the species during autumn surveys in area of Gilgai on ML1762 and recorded twice during March 2020 surveys.	**Known to occur** There is suitable habitat within the Study Area and the species has been observed within the Study Area (EMM).

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Known from all east coast areas. Extends inland over the eastern tablelands in south-eastern Queensland (and occasionally from Rockhampton in the north), and to west of the Great Dividing Range in New South Wales. Occasionally recorded in south-western Queensland (DCCEEW, 2025j).			
Squatter pigeon (southern) *Geophaps scripta scripta*	V	V	This species' habitat occurs in tropical, open, dry sclerophyll woodlands and savannahs of north-east Australia (DCCEEW, 2025j; TSSC, 2015). The species is generally found in areas mostly dominated in the overstorey by *Eucalyptus*, *Acacia* and *Callitris* species, in remnant, regrowth or partly modified vegetated communities and within 3km of water bodies or water courses (DCCEEW, 2025j). Water bodies suitable for the species include permanent or seasonal rivers, creeks, lakes, ponds and waterholes (BirdLife Australia, 2023; TSSC, 2015). The species drinks daily and prefers to drink where there is gently sloping, bare ground on which to approach and stand at the water's edge. A small patch (less than a square metre) of bare ground at the water's edge is what the bird requires (DCCEEW, 2025j). Squatter Pigeon (southern) foraging and breeding habitat is known to occur on well-draining, sandy or loamy soils on low, gently sloping, flat to undulating plains and foothills (LZ 5) and and lateritic (duplex) soils on low 'jump-ups' and escarpments (LZ 7). mainly forages on seeds which have fallen to the ground from low vegetation, such as grasses, herbs and shrubs (Chrome 1976b; Chrome and Shields 1992). The patchy, ground layer of vegetation rarely exceeds 33% of the ground area The species is locally abundant within the northern part of its range (i.e. Brigalow Belt (North) and Desert Uplands Bioregions). It is common in grazing country north of the Tropic of Capricorn. The squatter pigeon (southern) occurs on the inland slopes of the Great Dividing Range. Its current	Suitable habitat present.	6 occurrence records (ALA, Wildnet) desktop search extent. The nearest occurrence record (2023) occurs approximately 1.5km East of the Study Area.	**Known to occur** Suitable habitat to support the species is present within the Study Area, and the species has been recorded in the Study Area (EMM).

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			distribution extends from the Burdekin-Lynd Divide in central Queensland, west to Longreach and Charleville, east to the coast between Port Curtis and Proserpine, and south to NSW north of 29°S (Cooper et al., 2015). There is a broad zone of hybridisation with the northern subspecies along the Burdekin-Lynd Divide (S. T. Garnett & Crowley, 2000; Higgins & Davies, 1996). It is known to occur within the following natural resource management regions: Desert Channels, Burdekin, Mackay Whitsunday, Fitzroy, Burnett Mary, South East Queensland, Condamine, Border Rivers and Maranoa-Balonne, and South West Queensland (DCCEEW, 2025j). The species is considered sedentary or locally nomadic (Squatter Pigeon Workshop, 2011). They are likely to be sedentary where both food and water resources are reliable however, when these resources become unavailable, they may disperse along vegetated corridors to areas where there is access to permanent water (Squatter Pigeon Workshop, 2011).			
Painted honeyeater *Grantiella picta*	V	V	Painted honeyeater habitat mostly comprises a strong association with mistletoes, occurring in eucalypt forests, woodlands, riparian woodlands of *Eucalyptus largiflorens* and *E. camaldulensis*, box-ironbark-yellow gum woodlands, acacia dominated woodlands, paperbarks, *Casuarina* spp., *Callitris* spp. and trees on farmland or in gardens (BirdLife Australia, 2023; DoE, 2015a). The species prefer woodlands that with a higher number of mature trees which generally contain more mistletoes, and are more common in wider areas of woodland than in narrower strips (DCCEEW, 2025j). Mainly in box-ironbark woodlands and forests on inland foothills of Great Divide, dominated by species such as Red Ironbark, Mugga, Yellow Box, Broad-leaved Peppermint *E. dives* or Red Stringybark *E. macrorhyncha* with Drooping *Amyema pendulum* and Box *A.*	The Study Area consists of sub-optimal habitat for mistletoe.	4 occurrence records (ALA, Wildnet) within desktop search extent.	**Possibly occurring** The species has been previously recorded within the desktop search extent, however habitat within the Study Area is marginal and limited due to a low abundance of mistletoe.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			miquelii Mistletoes; also in box-casuarina woodlands, especially those dominated by Yellow Gum with Buloke, and Belah (BirdLife Australia, 2023). Also common in riparian forests of River Sheoak with Needle-leaf Mistletoe *Amyema cambagei* (BirdLife Australia, 2023). Often found on plains with scattered eucalypts, and remnant trees on farmland, sometimes in stands of acacia, such as Myall, Prickly Wattle *A. victoriae*, Mulga, Brigalow and Silver Wattle with mistletoes, including Grey *Amyema quandang* and Wire-Leaf *A. preissii* Mistletoes (BirdLife Australia, 2023). Also occurs in woodlands dominated by native pine *Callitris*; or River Red Gum and Black Box, with Box and Drooping Mistletoes (BirdLife Australia, 2023). Sometimes observed in urban parks and gardens, especially those with large eucalypts (BirdLife Australia, 2023). Widespread and sparsely distributed from southeastern Australia to northwestern Queensland and eastern Northern Territory (S. T. Garnett & Crowley, 2000). The greatest concentrations and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland (DCCEEW, 2025j). Painted honeyeater follows a seasonal north-south movement dictated by mistletoe fruiting (DoE, 2015a). After breeding, the species then moves to semi-arid areas such as central and western Queensland (DAWE, 2021). Given this, the species is considered to be highly dispersive and nomadic, and thus can occur across a wide variety of land tenures (DAWE, 2021).			
White-throated needletail	V, Marine, Migratory (CAMBA,	V	The species is almost exclusively aerial in Australia. It breeds in Siberia from April to August and in the non-breeding season, can occur over most habitat types. The species is most often	Suitable habitat present.	10 occurrence records (ALA) within	**Likely to occur** Suitable habitat to support the

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Hirundapus caudacutus	JAMBA, ROKAMBA)		recorded above wooded areas including open forest, closed forest and rainforest. In coastal areas, they are sometimes seen flying over sandy beaches or mudflats, and often around coastal cliffs and other areas with prominent updraughts, such as ridges and sand-dunes. The species is commonly observed high on storm fronts feeding exclusively on insects. It has been recorded from ground level up to 1000m. The species has been recorded roosting in hollows in Australia. Roosting habitat has been recorded as hollow-bearing trees on cliffs, ridges, edges of clearing areas and emergents (DCCEEW, 2025j). The species Core nonbreeding range is widespread in eastern and south-eastern Australia, recorded in all coastal regions of Queensland and NSW. Their range extends to the western slopes of the Great Dividing Range and are occasionally seen over the adjacent inland plains (TSSC, 2019).		desktop search extent.	species is present within the Study Area, and the species has been previously recorded within the desktop search extent.
Caspian tern *Hydroprogne caspia*	Marine, Migratory (JAMBA)	SL	Mostly found in sheltered coastal embayments (harbours, lagoons, inlets, bays, estuaries and river deltas) and those with sandy or muddy margins are preferred. They also occur on near coastal or inland terrestrial wetlands that are either fresh or saline, especially lakes (including ephemeral lakes), waterholes, reservoirs, rivers and creeks. They also use artificial wetlands, including reservoirs, sewage ponds and saltworks. In offshore areas the species prefers sheltered situations, particularly near islands, and is rarely seen beyond reefs. Breeding sites include low islands, cays, spits, banks, ridges, beaches of sand or shell, terrestrial wetlands and stony or rocky islets or banks (DCCEEW, 2025j). Widespread in coastal regions from the southern Gulf of Carpentaria to the Torres Strait, and along the eastern coast. Recorded in the western districts, especially the Lake Eyre Drainage Basin, north-west to the Gulf Country north of Mt Isa and Cloncurry, there are also scattered records for central Queensland (Higgins & Davies, 1996). Breeding occurs on the	No suitable habitat present.	1 occurrence record (Wildnet) within the desktop search extent, occurring approximately 23 km North of the Study Area.	**Unlikely to occur** The species has only been detected on a single occasion within the desktop search extent and the Study Area contains limited marginal habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Wellesley Islands, south-east Gulf of Carpentaria; islands off the far north coast, from Bird Island, south to Three Isles; and from islands around Shoalwater Bay, including Pelican Rock, south to Fairfax Island. Inland breeding records occur at Lake Bindegolly and Lake Moondarra (Chatto, 2001; Higgins & Davies, 1996).			
Yellow wagtail *Motacilla flava*	Marine, Migratory (CAMBA, JAMBA, ROKAMBA)	SL	The species typically inhabits short grass and bare ground; swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land and town lawns (Pizzey & Knight, 2007). The species is regularly recorded as a regular summer migrant to coastal northern Australia, or as a vagrant to southern states (DotE, 2015; Pizzey & Knight, 2007).	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
Star finch (eastern and southern) *Neochmia ruficauda ruficauda*	E	E	The star finch mainly inhabit grassy open (savanna) woodland, tall, rank grassland, rushes with woodland, mixed-forest woodland, and riparian woodland, damp grassland, and sedgeland all intrinsically associated with permanent surface water and regularly (seasonally) inundated areas (BirdLife Australia, 2023; DEWHA, 2010; DEWHA, 2008b). Grassy woodlands are typically interspersed with shrubs or small trees which has previously been eucalypt woodland with vine forest that had been cleared (Holmes, 1998). It often occurs among rank grass, reeds, rushes, or canegrass (BirdLife Australia, 2023). Frequently associated woodland tree species include *Eucalyptus coolabah, E. tereticornis, E. tessellaris, Melaleuca leucadendra, E. camaldulensis* and *Casuarina cunninghamiana* (Holmes, 1998). Woodland tree species may also be dominated by *Pandanus*, paperbarks, such as Weeping paperbarks, eucalypts including Coolibah, Forest Red Gum, River Red Gum Moreton Bay Ash,	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The species has only been detected on a single occasion within the desktop search extent and the Study Area contains limited marginal habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			casuarinas such as River Sheoak or combinations of these (BirdLife Australia, 2023). This species avoids expansive open lands without trees or shrubs (Holmes, 1998). In Lakefield NP, QLD, they disperse to nearby saltmarsh during wet season and return to grasslands at the end of the wet season to breed (BirdLife Australia, 2023). Sometimes occurring in farmland, such as irrigated pasture or rice fields, or cane fields, around stockyards and sewage ponds (BirdLife Australia, 2023). On Cape York, the species is known from the following vegetation types: • woodlands and open woodlands dominated by *Eucalyptus chlorophylla*, *E. microtheca* and *E. acroleuca* • woodlands and open woodlands dominated by *E. clarksoniana*, *E. novoguinensis* or *E. polycarpa* • low open woodlands and low woodlands dominated by broad-leaved paperbarks *Melaleuca viridiflora* on depositional plains • tussock grasslands on marine and alluvial plains or on longitudinal drainage depressions • woodlands and herblands on beach ridges and at the littoral margins; and • sedgelands, lakes and lagoons (Holmes, 1998). Most records from Cape York Peninsula come from grasslands or open woodlands, and in the east, near Princess Charlotte Bay, the dominant grasses are *Sporobolus virginicus, Dichanthium sp.*, *Panicum maximum, Xerochloa imberbis* and *Oryza*			

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			australiensis, with the sedge *Fimbristylis littoralis* (Holmes, 1998). The distribution of star finch is poorly known but it is thought to only occur in central Queensland from Bowen in the north, to Winton in the west and Wowan in the south (DCCEEW, 2025j). It is possible that the distribution extends farther north to Mount Surprise and the Cloncurry-Mount Isa region, but records from these locations could relate to the subspecies *N. r. subclarescens* (DCCEEW, 2025j). Recent studies estimate the total population at 50 individuals or as being possibly extinct (DEWHA, 2008b). Species movements are poorly known though generally considered sedentary or resident with some localised movements (BirdLife Australia, 2023; Holmes, 1998). During a banding study of star finches in Western Australia, it was found that the average distance star finches moved within the one Study Area was 4.05 km. Average movements between separate Study Areas was 10.2 km and of the banded birds, only 6% were making these larger movements (Lewis, & Leyrer, Jutta, 2015).			
Osprey, Eastern Osprey *Pandion haliaetus/ Pandion cristatus*	Marine, Migratory (Bonn)	SL	The species inhabits littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. The species has been recorded within a variety of wetland habitats including swamps and marshes; margins of rivers and lakes; damp or flooded grasslands, pastures or agricultural lands; reservoirs; sewage treatment ponds; drainage channels; salt pans and salt lakes; salt marshes; estuarine mudflats, tidal streams; mangrove swamps; coastal lagoons; and offshore reefs (DCCEEW, 2025j). The species occurs along the coast around the entirety of Australia, with the breeding range extending from the south-west coast of Western Australia, up and around through Queensland and south to Lake Macquarie in NSW. They	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The species has not been previously recorded within the desktop search extent and the Study Area contains limited marginal habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			occasionally travel inland along major rivers, particularly in northern Australia. They can occur in central Australia between May and December during years of average or above-average rainfall, when fish are abundant in inland waterways (DCCEEW, 2025j).			
Glossy ibis *Plegadis falcinellus*	Marine, Migratory (Bonn)	SL	The species typically inhabits freshwater marshes at the edges of lakes and rivers, lagoons, floodplains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. The species is occasionally found in coastal locations such as estuaries, deltas, saltmarshes and coastal lagoons. Sometimes recorded in wooded swamps, artificial wetlands (such as irrigated fields), and in mangroves for breeding. Feeds in very shallow water (DCCEEW, 2025). The species is found in most states of Australia and throughout Queensland. Commonly in largest numbers in drying Top End grass/sedge swamps and Channel Country grass/forb meadows. The glossy ibis breeds at only a limited number of locations within Australia, including the Channel Country of Queensland/South Australia (wetlands of the Bulloo, Diamantina and Georgina River systems, occasionally also Cooper Creek) (DCCEEW, 2025).	Suitable habitat present.	2 occurrence records (ALA, Wildnet) within desktop search extent, the nearest record 1.5km Northeast of the Study Area.	**Likely to occur** The species has been observed within the previous surveys (EMM), approximately 2 km north of the current Study Area in habitat consistent with that present within the Study Area.
Black-throated finch (southern subspecies) *Poephila cincta cincta*	E	E	Occurs mainly in dry, open, grassy woodlands and forests, typically dominated by *Eucalyptus, Corymbia* and *Melaleuca,* and occasionally in tussock grasslands of the tropics and subtropics with seeding grasses and free water (BirdLife Australia, 2023; DCCEEW, 2025j). They mainly inhabit dry, open to very open (savanna) eucalypt woodlands, often along or near watercourses, or in the vicinity of water but also woodlands dominated by paperbarks or acacias (BirdLife Australia, 2023; DCCEEW, 2025j). Almost all recent records of the finch from south of the tropics have been in riparian habitat (Black-throated Finch Recovery Team, 2007). Some of	No suitable habitat present.	No occurrence records within desktop search extent.	**Unlikely to occur** There are no occurrence records for this species and there is no suitable habitat present within the Study Area.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			the more common species of eucalypts in woodlands and forests frequented by the subspecies include *Eucalyptus platyphylla, Corymbia clarksoniana, Melaleuca viridiflora, E. melanophloia, E. brownii, E. similis, E. crebra, E. tereticornis* and *E. camaldulensis.* (DAWE, 2023). Areas with a high diversity of grass species, particularly native grass species are likely to be favoured by the species as they are a specialist granivore requiring year-round access to grass seed (DAWE, 2023). On Atherton Tableland, ne. Qld, recorded in grassy grevillea–paperbark woodland dominated by Fern-leaved Grevillea *Grevillea pteridifolia*, Bushman's Clothes Pegs *G. glauca*, Yellow-barked Paperbark *Melaleuca nervosa*and *M. stenostachya*, with ground-cover of grasses *Setaria*, *Rhynchelytrum*, *Schizarchyrium*, *Panicum* and *Aristida*, and with several dams and an irrigation channel nearby; and also recorded in open mixed forests of eucalypts, casuarinas, *Tristania* and acacias, with *Callistemon* along streams (BirdLife Australia, 2023). In se. Qld, formerly recorded in dry open forest on ridges, grassy hillsides and 'mountain flats'; and, round Inverell, northern NSW, in riparian vegetation of thickets of Yellow Tea-tree *Leptospermum flavescens* and *Melaleuca*, and dense River Sheoaks surrounded by grassy open woodland (BirdLife Australia, 2023). Also, often on grassy plains; and on C. York Pen. and near coast, on grassy flats with *Pandanus*. Recorded in cultivation surrounded by woodland, and grazed paddocks. Said usually to avoid settled areas (Immelmann), though recorded on mown lawn near Ashford, NSW, once recorded in suburban garden in Townsville and formerly said to have been found in towns and cities in se. Qld (BirdLife Australia, 2023). This subspecies historically contacted the northern subspecies near Mareeba where the current distribution of the black-throated finch (southern) has now largely contracted and is			

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			only locally common in Queensland at sites near Townsville and Charters Towers, with small flocks scattered throughout the Brigalow Belt North and Desert Uplands bioregions (Black-throated Finch Recovery Team, 2007). Very few records occur south of Rockhampton after the 1970s and no populations are known to occur on conservation reserves (DCCEEW, 2025j). There are no modern records (since 2000) in the northern Bowen Basin (DAWE, 2023). Although movements are poorly known they are probably sedentary or resident around Charters Towers, Innisfail, Townsville and Rockhampton in QLD (BirdLife Australia, 2023). Some movement may be triggered by drought: gather in large mobile flocks around waterholes during drought (BirdLife Australia, 2023).			
Australian painted snipe *Rostratula australis*	E, Marine	E	This species inhabits shallow terrestrial freshwater (occasionally brackish) wetlands (ephemeral and permanent) (BirdLife Australia, 2023; DCCEEW, 2025j). This primarily includes temporary and permanent lakes, swamps, claypans, inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains (BirdLife Australia, 2023; DCCEEW, 2025j). Vegetation in these habitat areas typically include emergent tussocks of grass, sedges, rushes, reeds or samphire, often with lignum *Muehleneckia* sp. (lignum), cane grass or tea-tree *Melaleuca*; sometimes tree-lined, with some scattered fallen or washed-up timber (BirdLife Australia, 2023; DCCEEW, 2025j). The structure of vegetation is important for the species, with patchy to continuous low vegetation in and/or surrounding the wetland being essential (Rogers et al., 2003). Extensive reed-beds (or similar) are avoided (Rogers et al., 2003). Breeding occurs in shallow wetlands with areas of bare wet mud and both upper and canopy cover nearby, typically from or near small islands in freshwater wetlands (BirdLife Australia, 2023;	Suitable habitat is present. Constructed dams and flooded Gilgai known to provide suitable habitat for the species.	This species has been recorded on 3 occasions by EMM ecologists (2020) within the Study Area on lease ML1762 during both dry and wet conditions.	**Known to occur** Suitable habitat to support the species is present within the Study Area, and the species has been recorded in the Study Area (EMM).

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			DCCEEW, 2025j). Use modified habitats, such as low-lying woodlands converted to grazing pasture, sewage farms, dams, bores and irrigation schemes (BirdLife Australia, 2023). This species occurs in all states of Australia but is most common in eastern Australia being well-known from the Murray-Darling basin (BirdLife Australia, 2023; DCCEEW, 2025j). Other sightings include the Channel Country and the Fitzroy basin, and recently from the floodwater plains of coastal central and north Qld (DCCEEW, 2025j). The migratory patterns of the Australian painted snipe is poorly known, however, they are possibly dispersive or migratory due to evidence of irregular and infrequent occurrence and breeding at various locations (DCCEEW, 2025j). Dispersive moments have been attributed to local conditions as the species seeks flooded and wetland areas to avoid areas affected by drought (DCCEEW, 2025j). There have been claims of regular seasonal influxes, for example species numbers increasing in spring-summer or summer in Cunnamulla and Minden in Queensland (DCCEEW, 2025j). Suspected to be regular migrants to coastal floodwater plains, in autumn and winter (DCCEEW, 2025j).			
Diamond firetail *Stagonopleura guttata*	V	V	Habitat critical to the survival of the diamond firetail includes areas of eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats including farmlands and grasslands scattered with trees; habitat with low tree density, few large logs, and little litter cover but high grass cover for foraging, roosting and breeding; and drooping she-oak (*Allocasuarina verticillata*) within the Mt Lofty Ranges (DCCEEW, 2023h). Often inhabit open woodlands and forests, usually dominated by eucalypts such as red gums (particularly River Red Gum and Blakely's Red Gum) and other gums (e.g. Yellow Gum, Spotted Gum, Manna Gum), stringybarks (especially Broad-leaved Stringybark), ironbarks and box	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** There are no occurrence records of this species within the desktop search extent and the Study Area is outside of the species

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			eucalypts (especially Yellow, Grey and White Box) and other species such as Moreton Bay Ash, and typically with open or sparse (though occasionally dense) understorey of shrubs, small trees or regrowth, and grass ground-cover (e.g. of Kangaroo Grass *Themeda australis*. and including mallee woodlands (BirdLife Australia, 2023). Sometimes also in woodlands dominated by casuarinas, such as Buloke or Belah, and cypress-pines *Callitris*, such as White Cypress-pine *Callitris columellaris*, sometimes in mixed associations with eucalypts (BirdLife Australia, 2023). The species is found on the south-east mainland of Australia from south-east Queensland to Eyre Peninsula, South Australia and 300km inland from coastal areas. In Qld, their range previously extended to north Queensland, however it has greatly retracted and they now only occur in the very south of the state (DCCEEW, 2023h). Movements are apparently mainly resident or sedentary throughout its range, but short-distance migrant in parts of western Victorian (<200km), and seasonal occurrence or movements reported elsewhere in Victoria and SA (BirdLife Australia, 2023). Described as resident or present throughout year in many areas throughout range: e.g. Rockhampton, QLD; various sites and regions in NSW; round Caniambo, northern Victoria; and in Scott CP on Fleurieu Peninsula, SA (BirdLife Australia, 2023). At Boree, NSW, vacated garden in winter, and suggested to have moved into nearby bushland (BirdLife Australia, 2023).			current known distribution.
Black-breasted button-quail *(Turnix melanogaster)*	V	V	Black-breasted button-quail in SE QLD are restricted to rainforests and forests with a thick leaf litter between 3-10cm deep, a largely closed canopy with >70-80% canopy cover, and that receive 800-1200 mm annual average rainfall (BirdLife Australia, 2023; Mathieson & Smith, 2009). They prefer drier low closed forests, particularly semi-evergreen vine thicket, low microphyll vine forest, araucarian microphyll forest and	No suitable habitat present within Study Area.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			araucarian notophyll vine forest. The species also is found in softwood scrubs, vine scrub regrowth, mature hoop pine plantations, especially where there is lantana, dry sclerophyll forest adjacent to rainforest and Acacia and Austromyrtus scrubs on sandy coastal soils (TSSC, 2015b). The shrub layers vary from dense to absent and often comprises many fruit-producing plants and a sparse ground cover (BirdLife Australia, 2023). Favoured vegetation is described as Bottletree scrub: dry rainforest of Brigalow Acacia harpophylla, Belah Casuarina cristata and Bottletree Brachychiton rupestris, with or without emergent Hoop Pine Araucaria cunninghamii, with shrub understorey and thick litter (BirdLife Australia, 2023). Other records in se. Qld from semi-evergreen vine thicket with emergent Coowarra Box Eucalyptus cambageana and Australian Teak Flindersia australis; semi-evergreen vine thicket with undergrowth of shrubs and Prickly Pear Opuntia; open sclerophyll forest dominated by Spotted Gum Eucalyptus maculata, with ground cover comprising clumps of Wallaby Grass Danthonia and deep litter; forest or rainforest with an understorey of introduced lantana; lantana thickets; and occasionally plantations of Hoop Pine or introduced Pinus (BirdLife Australia, 2023). On Fraser Island, in Brush Box Tristania conferta, Pink Bloodwood Eucalyptus intermedia and Forest Red Gum E. tereticornis forest, with an understorey of Black She-oak Allocasuarina littoralis, acacia, lantana and berry-bearing shrubs (BirdLife Australia, 2023). Occasionally occur in grain stubble, well distant from forest, e.g. Moore area, Brisbane R (BirdLife Australia, 2023). Nests are often found in areas with the following understorey plants: Pteridium esculentum, Doodia aspera and Lantana camara (TSSC, 2015b). This species is endemic to eastern Australia and is restricted to coastal and near-coastal regions of south-eastern QLD and north-eastern NSW (DCCEEW, 2025j). The main populations occur within south-east QLD (DCCEEW, 2025j). It has been			does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			recorded from the Byfield region in the north to at least the Border Ranges rainforests, generally east of the Great Dividing Range, although some observations have been made on its western slopes, up to 300 km inland at locations such as Palm Grove National Park and Barakula State Forest in QLD (DCCEEW, 2025j). A lack of knowledge of the species' dispersal capability and propensity makes it difficult to determine whether isolated groups represent single interbreeding populations (DCCEEW, 2025j). However, given the species' specialised habitat requirements and the lack of records from intervening cleared land and other habitats, it may be surmised that little interchange occurs between widely fragmented populations (DCCEEW, 2025j). It is generally considered to be a sedentary species, although it can appear intermittently or as a transient in other areas and has an estimated home-ranges ranged from 1.9 ha to 6.2 ha (BirdLife Australia, 2023; DCCEEW, 2025j).			

[1] CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SLC = Special Least Concern.

[2] Habitat types including microhabitat features where relevant and distribution of the species from reputable online sources and databases.

[3] Presence, extent, condition and proximity/connectivity to other habitat and type of habitat whether breeding, feeding, shelter, dispersal, and temporary use.

[4] Nearest and notable records of the species from relevant databases.

[5] Most suitable and relevant survey timing and required effort to detect the species (time of year, rainfall events, temperature etc.).

[6] Assessment result of likelihood of species occurring.

Mammals

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Silver-headed antechinus *Antechinus argentus*	E	E	At Kroombit Tops National Park, the silver-headed antechinus occurs on an undulating sandstone plateau bounded on the eastern side by an escarpment with cliffs, at an elevation of 850-900 m asl. The habitat comprises of *Eucalyptus montivaga* (a blackbutt) with subdominant *Corymbia trachyphloia* (brown bloodwood) shrubby tall open forest. At Blackdown Tableland National Park and Bulburin National Park, the silver-headed antechinus occurs in similar wet, high altitude open forest habitat (DCCEEW, 2025j; TSSC, 2018). The silver-headed antechinus is known from three isolated subpopulations located in central eastern Queensland - the plateau at the eastern escarpment of Kroombit Tops National Park, located 70 km south-west of Gladstone; Blackdown Tableland National Park, located 220 km west of Gladstone (Mason et al., 2016); and Bulburin National Park, located 80 km south-east of Gladstone (TSSC, 2018).	No suitable habitat present within Study Area.	2 occurrence records (ALA) within the desktop search extent. The nearest record occurs approximately 23km from the Study Area in Blackdown Tableland National Park.	**Unlikely to occur** The Study Area is outside of the known distribution and does not contain suitable habitat.
Large-eared pied bat	E	E	Sandstone cliffs and fertile woodland valley habitat within	No suitable habitat present within Study	2 occurrence records (ALA, Wildnet) within	**Unlikely to occur**

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Chalinolobus dwyeri			proximity of each other is habitat of importance to the large-eared pied bat. Records from southeast Queensland suggest that rainforest and moist eucalypt forest habitats on other geological substrates (rhyolite, trachyte and basalt) at high elevation are of similar importance to the species (DCCEEW, 2025j). Records in Queensland are known from sandstone escarpments in the Carnarvon and Expedition Ranges, Blackdown Tablelands and Cania Gorge. It is likely that these areas support a high proportion of Queensland populations. Additional records exist in the Scenic Rim near the NSW/Queensland border (DCCEEW, 2025j).	Area. The Study Area occurs 10km west of the species distribution extent in Arthurs Bluff State Forest.	the desktop search extent, the nearest record approximately 12km East in Blackdown Tableland National Park.	The Study Area is outside of the species known distribution.
Northern quoll *Dasyurus hallucatus*	E	LC	The species inhabits a diverse range of habitats including eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert. The species is also known to occupy non-rocky lowland habitats such as beach scrub communities in central Queensland. Their habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal. Rocky habitats are	No suitable habitat present within Study Area.	No occurrence records within this desktop search extent.	**Unlikely to occur** The Study Area does not comprise of suitable habitat for the species and there are no historical occurrence records within the desktop search extent.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			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. Dens are made in rock crevices, tree holes or occasionally termite mounds (DCCEEW, 2025j). The northern quoll occurs in five regional populations across northern Australia, including Queensland, the Northern Territory, Western Australia and offshore islands. In Queensland, they are known to occur as far south as Gracemere and Mt Morgan, south of Rockhampton; as far north as Weipa; and as far west in central Queensland to the vicinity of Carnarvon Range National Park (McGoldrick, 2013; Woinarski et al., 2008). There are occasionally records as far south as Maleny on the Sunshine Coast hinterland. Recent records in central Queensland are from around Proserpine, Midge Point, Eungella and Cape Upstart. In northern Queensland recent records exist from Mareeba, Mount			

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Carbine, Tolga, Weipa and around Cooktown (DCCEEW, 2025j).			
Ghost Bat *Macroderma gigas*	V	E	The species occurs across a range of habitats, from arid Pilbara to tropical savanna woodlands and rainforests. During the daytime they roost in caves, rock crevices and old mines. Roost sites used permanently are generally deep natural caves or disused mines with a relatively stable temperature of 23°–28°C and a moderate to high relative humidity of 50–100 percent. The average foraging distance is approximately 2 km from the daytime roost (TSSC, 2016a). The species' current range is discontinuous, with geographically disjunct colonies occurring in the Pilbara, Kimberley (including several islands), northern Northern Territory (including Groote Eylandt), the Gulf of Carpentaria, coastal and near coastal eastern Queensland from Cape York to near Rockhampton, and western Queensland (including Riversleigh and Cammoweal districts (TSSC, 2016a).	No suitable habitat present within Study Area.	No occurrence records within desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
South-eastern long-eared bat	V	V	This species inhabits inland woodland vegetation types, including woodlands of *Allocasuarina luehmannii*, *Acacia*	No suitable habitat present within Study Area.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Nyctophilus corbeni			*harpophylla*, *Casuarina cristata*, *Angophora costata*, *Eucalyptus camaldulensis*, *E. largiflorens* and various types of tree mallee, however, the most common is box, ironbark and cypress pine vegetation (TSSC, 2016). The species is most abundant in more extensive stands of vegetation and habitats with a distinct tree canopy and dense, cluttered understorey (TSSC, 2016). It also appears to prefer old-growth forest where it roosts in dead trees or dead spouts of live trees (TSSC, 2016). The species has also been found to nest in exfoliating bark (DEWHA, 2010). It generally forages in concentrated tree patches within the landscape (TSSC, 2016). The species is found in southern central Queensland, central western New South Wales, north-western Victoria and eastern South Australia, where it is patchily distributed, with most of its range in the Murray Darling Basin. Most records are from inland of the Great Dividing Range. The species is uncommon within this distribution and is rarely recorded, except in some areas including the Nandewar and Brigalow Belt South bioregions in			distribution range and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			New South Wales and Queensland (TSSC, 2015).			
Bridled nail-tail wallaby *Onychogalea fraenata*	E	E	The preferred habitat of bridled nail tail wallabies is the narrow band of transitional vegetation that separates dense *Acacia* scrub from open grassy eucalypt woodland. Within Taunton National Park, bridled nail tail wallabies are found in open grassy eucalypt woodland dominated by *Eucalyptus populnea* (poplar box), dense acacia forest dominated by *Acacia harpophylla* (brigalow) and transitional vegetation intermediate between the woodland and forest areas of very dense *brigalow regrowth ylla* (brigalow) scrub, preferring areas with the most fertile soil. During the day, the species prefers habitat that consists of young Acacia harpophylla regrowth or contains fallen logs, for shelter. They generally choose shelter sites with the densest cover of foliage and stems at the species height (25-50 cm), and this type of shelter is concentrated at the edges of wooded areas such as Acacia harpophylla regrowth (DCCEEW, 2025j; TSSC, 2016c). The historical distribution of the bridled nail tail wallaby extended across inland eastern Australia, from north-central Victoria to	No suitable habitat present within the Study Area. Taunton National Park (30km to the East of the Study Area) contains a dense brigalow *Acacia harpophylla* forest and grassy eucalypt woodland habitat (Department of Environment and Resource Management, 2011), and supports a population of the species.	No occurrence records within desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution range and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			near Ravenswood in Queensland. The bridled nail tail wallaby is now restricted to Taunton National Park, central Queensland (area of occupancy: 4 km2), Avocet Nature Refuge, central Queensland (area of occupancy: 2 km2) and Scotia Sanctuary, New South Wales (area of occupancy: 80 km2) (DCCEEW, 2025j; TSSC, 2016c).			
Greater glider (southern and central) *Petauroides volans/ Petauroides volans volans*	E	E	This species is largely restricted to eucalypt forests and woodlands of eastern Australia, typically found in highest abundance in taller, montane, moist eucalypt forest on fertile soils, with relatively old trees and abundant hollows. Six species were identified as dominant or co-dominant species to the majority of greater glider habitat: *Corymbia citriodora, Eucalyptus moluccana, E. tereticornis, E. crebra, C. intermedia and E. portuensis*. Size of trees is also important for Greater Gliders, with trees >30cm DBH preferentially selected for foraging and >50cm DBH for denning as they are more likely to contain suitable hollows for sheltering. Greater glider shelters in tree hollows, with a preference for large hollows in large old trees that are both dead and alive.	No suitable habitat present within Study Area.	4 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest record (1994) occurs approximately 7km North of the Study Area. More recent observations (2022-2025) occur approximately 20km from the Study Area in Blackdown Tableland National Park.	**Unlikely to occur** The Study Area does not comprise of suitable habitat for the species.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			In SE QLD, the species shows a strong preference for three den-tree species; broad-leaved white mahogany, red ironbark, and forest red gum. The species requires at least two-four live den trees for every 2 ha of suitable forest habitat. The species also prefers a cool microclimate and favours protected gullies, sheltered high elevation areas, coastal lowland areas and southern slopes (DAWE, 2022a). The species occurs in eastern Australia, where it has a broad distribution from around Proserpine in Qld, south through NSW and the ACT, to Wombat State Forest in central Victoria. It occurs across an elevational range of 0–1200 m above sea level (DAWE, 2022a).			
Yellow-bellied glider *Petaurus australis australis*	V	V	This species occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. The subspecies shows a preference for large patches of mature old growth forest that provide old, large (usually more than one meter in diameter) hollow bearing trees that can be utilised as den sites for breeding and sheltering during	Lack of suitable habitat present within Study Area.	8 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest record occurs approximately 7km West of the Study Area. Multiple occurrence records recorded within Blackdown Tableland National Park.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			the day (DAWE, 2022). There is also a clear preference for forests with a high proportion of winter-flowering and smooth-barked eucalypts. They are found at altitudes ranging from sea level to 1400 m above sea level (DAWE, 2022). The species utilised for sap feeding include; *Angophora leiocarpa, Corymbia citriodora, C. intermedia, Eucalyptus biturbinata*, E. longirostrata, *E. major, E. melliodora, E. mollucana, E. tereticornis, E. racemosa, E. resinifera, E. laevopinea* and *E. sphaerocarpa* (Eyre & Goldingay, 2005). They have a widespread but patchy distribution from southeast Queensland (Qld) to far southeast SA near the SA-Vic border. Most of the Qld distribution is coastal, extending southward along the eastern seaboard from north of Mackay and continuing through the NSW-Qld border. However, isolated subpopulations are found inland in the Blackdown and Canarvon Ranges of central Qld (DAWE, 2022).			
Koala *Phascolarctos cinereus*	E	E	In Queensland, koalas inhabit moist coastal forests, southern and central western subhumid woodlands, and several eucalypt	Small patches of suitable habitat are present.	5 occurrence records (ALA) within the desktop search extent. Several old scratches	**Known to occur** The species has been indirectly observed in the Study Area during previous

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			woodlands adjacent to waterbodies in semi-arid western parts of the state. Surveys in north-western Qld found koalas were patchily distributed and associated with creek-lines and areas of higher tree species richness, with higher abundance correlating with leaf-moisture content. Koalas are reported to utilise more than 400 different tree species for their food and habitat requirements, with tree species varying by habitat type and location across their range. Primary food species differ across habitats and may be as few as two at a particular location (DAWE, 2022b). Koalas feed on approximately 120 species of *Eucalyptus, Corymbia and Angophora*. The listed population of the koala has a wide but patchy distribution that spans the coastal and inland areas of QLD north to the Herberton area and westwards into hotter and dryer semi-arid climates of central QLD, NSW and the ACT. Koalas are widespread across QLD, occurring in patchy and often low-density populations across the different bioregions. They occur as far north as the Einasleigh Uplands and Wet		have been identified on Blue Gums along Taurus Creek on ML1762 by EMM ecologists.	surveys (EMM) with suitable habitat present within the Study Area.

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
			Tropics bioregions, and to the south and west in the Desert Uplands, Central Mackay Coast, Mitchell Grass Downs, Mulga Lands, Brigalow Belt North, Brigalow Belt South, and South Eastern QLD bioregions, where they are most frequently sighted (DAWE, 2022b).			
Short-beaked echidna *Tachyglossus aculeatus*	-	SL	The species occurs throughout Australia in a wide variety of habitats including mountains, tropics, open woodlands, grasslands, arid zones and coastal environments; wherever there is a supply of ants and termites, upon which it feeds. They prefer to inhabit areas with vegetation that provides cover such as gaps under rocks, hollow logs, hollows at the base of trees, piles of leaves or bunched grasses (S. C. Nicol et al., 2011). The species also enters a period of torpor or deep hibernation during autumn and winter, during which time it also requires these forms of cover (ALA, 2025). The short-beaked echidna is found throughout Australia including Tasmania (Van Dyck & Strahan, 2008).	Suitable habitat is present, particularly within Amaroo State Forest.	17 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest occurrence is approximately 1km Northwest of the Study Area, with multiple occurrences within Amaroo State Forest.	**Likely to occur** Suitable habitat to support the species is present within the Study Area, and the species has been previously recorded within the desktop search extent.

[1] CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SLC = Special Least Concern

Species name	EPBC Act Status[1]	NC Act Status[1]	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]

[2] Habitat types including microhabitat features where relevant and distribution of the species from reputable online sources and databases

[3] Presence, extent, condition and proximity/connectivity to other habitat and type of habitat whether breeding, feeding, shelter, dispersal, and temporary use.

[4] Nearest and notable records of the species from relevant databases

[5] Most suitable and relevant survey timing and required effort to detect the species (time of year, rainfall events, temperature etc.)

[6] Assessment result of likelihood of species occurring

Reptiles

Species name	EPBC Act Status1	NC Act Status[1] e	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Collared delma *Delma torquata*	V	V	The collared delma typically inhabits eucalypt-dominated woodlands and open forests where it is associated with suitable microhabitat features including exposed rocky outcrops, rocks, logs, bark and other coarse woody debris and mats of leaf litter (typically 30–100 mm thick). The ground cover is predominantly native grasses, such as *Themeda triandra*, *Cymbopogon refractus*, *Aristida* sp. and *Lomandra* sp. It occurs in QLD Land Zones 3 (alluvium river and creek flats), 9 (undulating country on fine-grained sedimentary rocks) and 10 (sandstone ranges), and has been recorded in REs 11.3.2, 11.9.10 ,11.10.1 and 11.10.4 Recorded from several soil types throughout SEQ. Essential (DCCEEW, 2025j; DSEWPC, 2011b). The species is endemic to QLD and has been recorded in southwest and central QLD, however most records are from southeast Queensland such as the western suburbs of Brisbane and inland to the Bunya Mountains. Recorded at the following sites: Bunya Mountains, Blackdown Tablelands National Park, Expedition National Park, Western Creek near Millmerran, Toowoomba Range, and large concentration of records from the western suburbs of Brisbane (DCCEEW, 2025j; Department of the Environment, Water, Heritage and the Arts (DEWHA), 2008c).	Limited suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and there is limited suitable habitat present within the Study Area.

Ornamental snake *Denisonia maculata*	V	V	Ornamental snake prefer moist areas in woodlands and open forests, particularly in depressions located in QLD Regional Ecosystem (RE) Land Zone 4 and in Gilgai mounds occurring in areas of deep cracking alluvial soils with high clay content (DCCEEW, 2025j).The species habitat is generally found in *Acacia harpophylla*, *A. cambagei*, *A. argyrodendron* or *Eucalyptus coolabah* dominated communities including primarily REs 11.4.3, 11.4.6, 11.4.8 and 11.4.9 (DCCEEW, 2025j). Habitat is also found in grasslands that contain Gilgai (DCCEEW, 2025j). Ornamental snake shelter under logs, leaf litter, bark, rocks and coarse woody debris on the ground, and during dry periods they will seek refuge within clay cracks in Gilgai (Brigalow Belt Reptiles Workshop, 2010). Habitat characteristics that are shared across locations in which ornamental snake have been recorded include; • located in the lowest part of the catchment • have a diversity of Gilgai size and depth • contain soils of high clay content and deep cracking characteristics • the presence of ground timber is usually common (especially piles) • burrowing frogs are abundant; and, • habitat patches are greater than 10 ha and are within, or connected, to larger areas of remnant vegetation (DCCEEW, 2025j). The ornamental snake is only known from the Brigalow Belt North, and parts of the Brigalow Belt South Bioregions. The stronghold of this species is within the Fitzroy and Dawson River catchments, particularly in the area surrounding Moranbah (DCCEEW, 2025j).	Areas of high-quality Gilgai habitat is present. Despite this, the Gilgai is observed to be at risk of degradation by cattle and non-native grass and weed species.	3 occurrence records (ALA, Wildnet) within the desktop search extent. The nearest record is approximately 10km South of the Study Area.	**Known to occur** This species has been recorded within the Study Area during previous surveys (EMM) with areas of gilgai microrelief providing habitat for the species.

Species name	EPBC Act Status1	NC Act Status[1] e	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Yakka skink *Egernia rugosa*	V	V	The species is known to occur in open dry sclerophyll forest, woodland and scrub, including on Land Zones 3, 4, 5, 7, 9 and 10. Common woodland and open forest types include *Acacia harpophylla*, *A. aneura*, *A. catenulata*, *A. shirleyi*, *Casuarina cristata*, *Eucalyptus populnea*, *Eucalyptus* spp. and *Callitris glaucophylla*. This species will often take refuge among dense ground vegetation, large hollow logs, cavities in soil-bound root systems of fallen trees and beneath rocks. The species also utilises coarse woody debris and rabbit warrens (DCCEEW, 2025j).It is commonly found in cavities under and between partly buried rocks, logs or tree stumps, root cavities and abandoned animal burrows. The species often takes refuge in large hollow logs and has been known to excavate deep burrow systems, sometimes under dense ground vegetation. In cleared habitat, this species can persist where there are shelter sites such as raked log piles, deep gullies, tunnel erosion/sinkholes and rabbit warrens. This species is not generally found in trees or rocky habitats (DoE, 2025). Yakka skink is endemic to Queensland where its distribution is patchy. Isolated populations occur throughout subhumid areas in the interior of Queensland from St George in the south, to Coen and Cape York in the north. In the southern half of the Brigalow Belt it occurs near Rockhampton, south to St George and west to Chesterton Range National Park (DotE, 2014).	No suitable habitat present within Study Area.	No occurrence records within the desktop search extent.	**Unlikely to occur** The species has not been previously recorded within the desktop search extent and the Study Area does not contain suitable habitat for the species due to it being highly degraded and containing limited suitable microhabitat features.

Species name	EPBC Act Status1	NC Act Status[1] e	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Dunmall's snake *Furina dunmalli*	V	V	The species inhabits a range of habitats including forests and woodlands on black alluvial cracking clay and clay loams dominated by *Acacia harpophylla*, other wattles (*A. burowii, A. deanii, A. leiocalyx*), *Callitris* spp. or *Allocasuarina luehmannii*; and *Corymbia citriodora*, *Eucalyptus crebra*, *E. melanophloia*, *Callitris glaucophylla* and *A. luehmannii* open forest and woodland associations on sandstone derived soils (DCCEEW, 2025j). The species has been found sheltering under fallen timber and ground litter and may use cracks in alluvial clay soils. Records indicate the species prefers habitats between 200 to 500 m above sea level (DSEWPC, 2011). Dunmall's snake is found from near the Queensland border throughout the Brigalow Belt South and Nandewar bioregions, and as far south as Ashford in NSW. In QLD, it occurs primarily in the Brigalow Belt region in the south-eastern interior. The snake is very rare or secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Tarong Power Station, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park (DCCEEW, 2025j).	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.

Species name	EPBC Act Status1	NC Act Status[1] e	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]
Grey snake *Hemiaspis damelii*	E	E	The grey snake favours woodlands (typically *Acacia harpophylla* and *Casuarina cristata*), usually on heavier, cracking clay soils, particularly in association with water bodies or in areas with small gullies and ditches (gilgai). It shelters under rocks, logs, other debris in soil cracks and abandoned burrows (DCCEEW, 2025b). The grey snake distribution extends from central inland NSW, north to several isolated populations near Rockhampton in QLD. Within QLD, records are known from near Goondiwindi and the adjacent Darling-Riverine Plain, from the Darling Downs and from the Lockyer Valley. The species core area is in the Brigalow Belt south of the Great Dividing Range, between Dalby and Glenmorgan. A single reliable record (captured, no specimen collected) is known from Currawinya National Park in western QLD (DCCEEW, 2025b).	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the species known distribution and does not contain suitable habitat.
Fitzroy River turtle *Rheodytes leukops*	V	E	Fitzroy River turtle occurs in flowing rivers with large deep pools with rocky, gravelly or sandy substrates, connected by shallow riffles. Preferred areas have high water clarity and are often associated with Ribbonweed (*Vallisneria* sp.) beds. Common riparian vegetation includes Blue Gums (*Eucalyptus tereticornis*), River Oaks (*Casuarina cunninghamiana*), Weeping Bottlebrushes (*Callistemon viminalis*) and paperbarks (*Melaleuca linariifolia*) (DCCEEW, 2025j; DEWHA, 2008). The species is restricted to the Fitzroy River and its tributaries. Known sites include Boolburra, Gainsford, Glenroy Crossing, Theodore, Baralba, the Mackenzie River, the Connors River, Duaringa, Marlborough Ck, and Gogango (DCCEEW, 2025j; DEWHA, 2008).	No suitable habitat present.	No occurrence records within the desktop search extent.	**Unlikely to occur** The Study Area is outside of the known distribution and does not contain suitable habitat.

Species name	EPBC Act Status1	NC Act Status[1] e	Habitat and Distribution[2]	Suitable habitat present within Study Area and surrounds[3]	Occurrence records[4]	Likelihood of occurrence[6]

[1] CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SLC = Special Least Concern

[2] Habitat types including microhabitat features where relevant and distribution of the species from reputable online sources and databases

[3] Presence, extent, condition and proximity/connectivity to other habitat and type of habitat whether breeding, feeding, shelter, dispersal, and temporary use.

[4] Nearest and notable records of the species from relevant databases

[5] Most suitable and relevant survey timing and required effort to detect the species (time of year, rainfall events, temperature etc.)

[6] Assessment result of likelihood of species occurring

Appendix C Flora and fauna species list

Table A - 1: Flora species identified during field surveys

Species name	Common name	Status		Exotic status[2]
		EPBC Act	NC Act[1]	
Abutilon sp.	-	-	C	-
Acacia excelsa	-	-	C	-
Acacia harpophylla	Brigalow	-	C	-
Acacia salicina	Doolan	-	C	-
Acacia sp.	-	-	C	-
Acalypha eremorum	Soft acalypha	-	C	-
Alectryon diversifolius	Scrub boonaree	-	C	-
Alstonia constricta	Bitterbark	-	C	-
Amyema quandang	-	-	C	-
Amyema salignum	-	-	C	-
Aristida calycina	-	-	C	-
Aristida latifolia	Feathertop wiregrass	-	C	-
Aristida ramosa	Purple wiregrass	-	C	-
Aristida sp.	-	-	C	-
Atalaya hemiglauca	-	-	C	-
Atriplex muelleri	Lagoon saltbush	-	C	-
Bothriochloa bladhii	-	-	C	-
Bothriochloa ewartiana	Desert bluegrass	-	C	-
*Bothriochloa pertusa**	-	-	-	-
Brachychiton rupestris	-	-	SL	-
Brachyscome sp.	-	-	C	-
*Bryophyllum daigremontianum**	-	-	-	-
*Bryophyllum delagoense**	-	-	-	RI Cat 3
*Bryophyllum pinnatum**	-	-	-	-
Capparis lasiantha	Nipan	-	C	-
Carissa ovata	Currantbush	-	C	-
Cassia brewsteri	-	-	C	-

Casuarina cristata	Belah	-	C	-
*Cenchrus ciliaris**	Buffel grass	-	-	-
Chloris divaricata	-	-	C	-
Chloris ventricosa	Tall chloris	-	C	-
Chrysopogon fallax	-	-	C	-
Citrus glauca	-	-	C	-
Clematicissus opaca	-	-	C	-
Commaleana sp.	-	-	C	-
Blakella dallachiana	-	-	C	-
Blakella tessellaris	Moreton Bay ash	-	C	-
Crotolaria sp.	-	-	C	-
*Cryptostegia grandiflora**	-	-	-	WoNS, RI Cat 3
*Cynodon dactylon**	-	-	-	-
Cyperus sp.	-	-	C	-
Dactyloctenium radulans	Button grass	-	C	-
Dichanthium sericeum	-	-	C	-
*Echinochloa colona**	-	-	-	-
Enchylaena tomentosa	-	-	C	-
Enneapogon polyphyllus	Leafy nineawn	-	C	-
Enteropogon acicularis	Curly windmill grass	-	C	-
Enteropogon ramosus	-	-	C	-
Eragrostis parviflora	Weeping lovegrass	-	C	-
*Eragrostis trichophora**	-	-	-	-
Eremophila mitchellii	-	-	C	-
Eriachne sp.	-	-	C	-
Eriochloa pseudoacrotricha	-	-	C	-
Erythroxylum australe	Cocaine tree	-	C	-
Eucalyptus camaldulensis	-	-	C	-

Eucalyptus coolabah	Coolabah	-	C	-
Eucalyptus crebra	Narrow-leaved ironbark	-	C	-
Eucalyptus melanophloia	-	-	C	-
Eucalyptus populnea	Poplar box	-	C	-
Eucalyptus tereticornis	-	-	C	-
Evolulus sp.	-	-	C	-
Fimbristylis dichotoma	Common fringe-rush	-	C	-
Flindersia dissosperma	-	-	C	-
Geijera parviflora	-	-	C	-
*Gomphocarpus physocarpus**	-	-	-	-
Grevillea parvifolia	Wilga	-	C	-
Grevillea striata	Beefwood	-	C	-
Grewia sp.	-	-	C	-
Harrisia cactus	-	-	C	-
*Harrisia martinii**	-	-	-	RI Cat 3
Heteropogon contortus	Black speargrass	-	C	-
Juncus sp.	-	-	C	-
Lysiana subfalcata	-	-	C	-
Lysiphyllum carronii	Ebony tree	-	C	-
Lysiphyllum cunninghamii	-	-	C	-
Lysiphyllum hookeri	Queensland ebony	-	C	-
Maireana microphylla	-	-	C	-
*Malvastrum americanum**	-	-	-	-
*Megathyrsus maximus**	-	-	-	-
Melaleuca bracteata	-	-	C	-
Melhania oblongifolia	-	-	C	-
*Melinis repens**	-	-	-	-

Notelaea microcarpa	-	-	C	-
Nyssanthes diffusa	Barbed-wire weed	-	C	-
*Opuntia streptacantha**	-	-	-	WoNS, RI Cat 3
*Opuntia stricta**	-	-	-	WoNS, RI Cat 3
*Opuntia tomentosa**	-	-	-	WoNS, RI Cat 3
Owenia acidula	Emu apple	-	C	-
Panicum decompositum	-	-	C	-
Panicum effusum	-	-	C	-
*Parkinsonia aculeata**	-	-	-	WoNS, RI Cat 3
Parkinsonia sp.	-	-	C	-
*Parthenium hysterophorus**	-	-	-	WoNS, RI Cat 3
*Portulaca oleracea**	-	-	-	-
Portulaca sp.	-	-	C	-
Salsola australis	-	-	C	-
Santalum lanceolatum	-	-	SL	-
Scleroleana muricata	-	-	C	-
Sesbania cannabina	-	-	C	-
Sida fibulifera	-	-	C	-
*Sida filiformis**	-	-	-	-
Sida hackettiana	-	-	C	-
Solanum elachophyllum	-	-	E	-
Sporobolus actinocladus	Katoora grass	-	C	-
Sporobolus caroli	Fairy grass	-	C	-
Sporobolus creber	-	-	C	-
*Stylosanthes scabra**	-	-	-	-
*Synedrella nodiflora**	-	-	C	-
Terminalia oblongata	-	-	C	-
Themeda triandra	Kangaroo grass	-	C	-

*Urochloa mosambicensis**	-	-	-	-
*Vachellia farnesiana**	-	-	-	-

Notes:

* Species is introduced to Queensland

1 Species is listed as E = endangered, SL = special least concern, C = least concern under the Queensland Nature Conservation Act 1999

3 GBO = general biosecurity obligation, RI Cat2 to 5 = Restricted invasive species category under the Queensland Biosecurity Act 2014

Table A - 2: Fauna species identified during field surveys

Common name	Species name	Status		Exotic status[3]
		EPBC Act[1]	NC Act[2]	
Apostlebird	*Struthidea cinerea*	-	C	-
Australasian darter	*Anhinga novaehollandiae*	-	C	-
Australasian grebe	*Tachybaptus novaehollandiae*	-	C	-
Australasian pipit	*Anthus novaeseelandiae*	Ma	C	-
Australian bustard	*Ardeotis australis*	-	C	-
Australian magpie	*Cracticus tibicen*	-	C	-
Australian owlet-nightjar	*Aegotheles cristatus*	-	C	-
Australian reed-warbler	*Acrocephalus australis*	Ma	C	-
Bar-shouldered dove	*Geopelia humeralis*	-	C	-
Black kite	*Milvus migrans*	-	C	-
Black-faced cuckoo-shrike	*Coracina novaehollandiae*	Ma	C	-
Black-faced woodswallow	*Artamus cinereus*	-	C	-
Black-shouldered kite	*Elanus axillaris*	-	C	-
Blue-faced honeyeater	*Entomyzon cyanotis*	-	C	-
Broad palmed rocketfrog	*Litoria latopalmata*	-	C	-
Brown falcon	*Falco berigora*	-	C	-
Brown honeyeater	*Lichmera indistincta*	-	C	-
Brown quail	*Coturnix ypsilophora*	-	C	-
Bush stone-curlew	*Burhinus grallarius*	-	C	-
Cane toad*	*Rhinella marina**	-	-	GBO
Common brushtail possum	*Trichosurus vulpecula*	-	C	-
Common green treefrog	*Litoria caerulea*	-	C	-

Common myna*	*Acridotheres tristis**	-	-	GBO
Crested pigeon	*Ocyphaps lophotes*	-	C	-
Dingo*	*Canis lupus dingo**	-	-	Cat 3,4,5 & 6
Dog*	*Canis lupus familiaris**	-	-	Cat 3,4 & 6
Double-barred finch	*Taeniopygia bichenovii*	-	C	-
Dusky moorhen	*Gallinula tenebrosa*	-	C	-
Eastern great egret	*Ardea alba modesta*	-	C	-
Eastern grey kangaroo	*Macropus giganteus*	-	C	-
European hare*	*Lepus europaeus**	-	-	GBO
European rabbit*	*Oryctolagus cuniculus**	-	-	Cat 3,4,5 & 6
Feral cat*	*Felis catus**	-	-	Cat 3,4 & 6
Forest kingfisher	*Todiramphus macleayii*	Ma	C	-
Fork-tailed swift	*Apus pacificus*	Ma, Mi	C	-
Freshwater snake	*Tropidonophis mairii*	-	SL	-
Galah	*Eolophus roseicapilla*	-	C	-
Golden-headed cisticola	*Cisticola exilis*	-	C	-
Grey butcherbird	*Cracticus torquatus*	-	C	-
Grey fantail	*Rhipidura albiscapa*	-	C	-
Grey shrike-thrush	*Colluricincla harmonica*	-	C	-
Grey-crowned babbler	*Pomatostomus temporalis*	-	C	-
Hardhead	*Aythya australis*	-	C	-
Horsfield's bronze-cuckoo	*Chalcites basalis*	Ma	C	-
Jacky winter	*Microeca fascinans*	-	C	-
Little friarbird	*Philemon citreogularis*	-	C	-
Little pied cormorant	*Microcarbo melanoleucos*	-	C	-
Little red flying-fox	*Pteropus scapulatus*	-	C	-
Magpie-lark	*Grallina cyanoleuca*	Ma	C	-
Masked lapwing	*Vanellus miles*	-	C	-

Masked woodswallow	*Artamus personatus*	-	C	-
Mistletoebird	*Dicaeum hirundinaceum*	-	C	-
Myall snake	*Suta suta*	-	C	-
Noisy friarbird	*Philemon corniculatus*	-	C	-
Noisy miner	*Manorina melanocephala*	-	C	-
Ornate burrowing frog	*Platyplectrum ornatum*	-	C	-
Pacific black duck	*Anas superciliosa*	-	C	-
Pale-headed rosella	*Platycercus adscitus*	-	C	-
Pied butcherbird	*Cracticus nigrogularis*	-	C	-
Pig*	*Sus scrofa**	-	-	Cat 3,4 & 6
Plum-headed finch	*Neochmia modesta*	-	C	-
Red-backed fairy-wren	*Malurus melanocephalus*	-	C	-
Red-winged parrot	*Aprosmictus erythropterus*	-	C	-
Rufous whistler	*Pachycephala rufiventris*	-	C	-
Salmon-striped frog	*Limnodynastes salmini*	-	C	-
Singing honeyeater	*Gavicalis virescens*	-	C	-
Spangled drongo	*Dicrurus bracteatus*	Ma	C	-
Spotted bowerbird	*Ptilonorhynchus maculatus*	-	C	-
Striped burrowing frog	*Cyclorana alboguttata*	-	C	-
Striped honeyeater	*Plectorhyncha lanceolata*	-	C	-
Sulphur-crested cockatoo	*Cacatua galerita*	-	C	-
Superb fairy-wren	*Malurus cyaneus*	-	C	-
Torresian crow	*Corvus orru*	-	C	-
Tree martin	*Petrochelidon nigricans*	Ma	C	-

Wedge-tailed eagle	*Aquila audax*	-	C	-
Whistling kite	*Haliastur sphenurus*	Ma	C	-
White-bellied cuckoo-shrike	*Coracina papuensis*	Ma	C	-
White-breasted woodswallow	*Artamus leucorynchus*	-	C	-
White-faced heron	*Egretta novaehollandiae*	-	C	-
White-necked heron	*Ardea pacifica*	-	C	-
Willie wagtail	*Rhipidura leucophrys*	-	C	-
Zebra finch	*Taeniopygia guttata*	-	C	-

Notes:
* Species is introduced to Queensland
1 Species listed as Ma = marine, M = migratory under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999
2 Species is listed as SL = special least concern, C = least concern under the Queensland Nature Conservation Act 1999
3 GBO = general biosecurity obligation, RI Cat2 to 6 = Restricted invasive species category under the Queensland Biosecurity Act 2014

Appendix D MNES Significant Residual Impact Assessments

Definitions

Key terms are used within the significant impact assessment criteria and must be addressed as part of the assessment. These include:

- important populations
- habitat critical to the survival of the species or ecological community; and
- important habitat and significant proportion of a population for migratory species.

Important populations

The Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) Matters of National Environmental Significance: Significant Impact Guidelines 1.1 (MNES SIA guidelines) (DotE, 2013) define important populations for vulnerable species listed under the EPBC Act as a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species' range.

Habitat critical to the survival of the species or ecological community

The MNES SIA guidelines (DotE, 2013) define habitat critical to the survival of a species or ecological community as areas that are necessary:

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

Species specific referral guidelines, recovery plans and conservation advice may further define habitat critical to the survival of a species or community.

Important habitat for migratory species

The MNES SIA guidelines (DotE, 2013) define an area of 'important habitat' for a migratory species as:

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species
- habitat that is of critical importance to the species at particular life-cycle stages
- habitat utilised by a migratory species which is at the limit of the species range; and/or
- habitat within an area where the species is declining.

Ecologically significant proportions of a population of a migratory species

Additionally, the *Referral guidelines for the 14 migratory species under the EPBC Act* (Migratory Bird Guidelines) identify ecologically significant proportion of the population of a migratory species (Department of the Environment (DotE), 2015c). Where this is not available for the species the Internation Union for Conservation of Nature (IUCN) estimated, total population was extrapolated to estimate internationally and nationally ecologically significant proportions of a population (IUCN, 2025). The ecologically significant proportion of the population of migratory species applicable to the Project are detailed in Table A - 3.

Table A - 3: Ecologically significant proportions of a migratory species population

Species	Ecologically significant proportion of a population (individuals)[1]	
	Internationally	Nationally
White-throated needletail (*Hirundapus caudacutus*)	100	10
Fork-tailed swift (*Apus pacificus*)	1,000	100
Latham's snipe (*Gallinago hardwickii*)	300[2]	18[2]
Glossy ibis (*Plegadis falcinellus*)	1,190-8,600[3]	119-860[3]

[1] For species that aggregate in flocks, 1% of the population is considered internationally important, 0.1% as nationally important (Department of the Environment (DotE), 2015c).
[2] The migratory species not listed in the Migratory Bird Guidelines, internationally and nationally ecologically significant proportions of a population are described in conservation advice for the species (DCCEEW, 2024).
[3] The migratory species not listed in the Migratory Bird Guidelines, as such ecologically significant proportions of a population have been extrapolated based on IUCN population estimates (IUCN, 2025).

D.1 Brigalow TEC

The Brigalow (Acacia *harpophylla* dominant and co-dominant) Threatened Ecological Community (Brigalow TEC) is listed as endangered under the EPBC Act.

Habitat preferences and distribution

The Brigalow TEC occurs in semi-arid eastern New South Wales and Queensland, predominantly west of the Great Dividing Range (DotE, 2013a). For additional information on the Brigalow TEC habitat preferences and distribution, refer to Section 4.1.2.1.

Presence in the Disturbance Footprint

A total of 40.29 ha of Brigalow TEC was recorded within the Disturbance Footprint during field surveys. These areas are associated with high value regrowth and remnant sections of Regional Ecosystems (REs) 11.3.1, 11.4.9, and 11.9.5, where *Acacia harpophylla* was identified as a dominant or co-dominant species and met the TEC condition thresholds. Further details regarding the presence of Brigalow TEC can be found in Section 4.1.2.1.

Habitat critical to the survival of the species

Habitat considered critical to the survival of the Brigalow TEC is any vegetation meeting the criteria listed in the conservation advice (DotE, 2013a). Therefore, all areas of Brigalow TEC present in the Disturbance Footprint are considered habitat critical to the survival of the community.

Threatening processes

Key threats to the Brigalow TEC have been identified as those that may lead to further reduction in extent or cause a decline in condition (DotE, 2013a). These are listed and discussed below in order of significance:

- clearing for resource extraction and illegal logging
- the introduction of invasive pasture species such as Rhode's grass (*Chloris gayana*), Buffel grass (*Cenchrus ciliaris)* and Green panic (*Megathyrsus maximus)*, which increases biomass and fuel load and subsequently increase fire risk
- the infestation of introduced weeds can alter the structure of the community
- feral animals, particularly feral pigs which degrade habitat by disturbing soil and destroying young and small plants; and
- cattle grazing which can impact the ground layer through disturbing leaf litter, interfering with recruitment, altering the composition of the ground and shrub layer and compacting soil.

Recovery actions

Priority recovery and threat abatement actions listed in the approved conservation advice for the Brigalow TEC (DotE, 2013a) include, but are not limited to:

- protecting and conserving remnant and regrowth areas of the Brigalow TEC
- managing areas of the Brigalow TEC to reduce threats, including through fire management and targeted weed and feral animal control
- encouraging landholders to balance primary production and the conservation of native flora and fauna within and close to the Brigalow TEC

- undertaking regeneration of high-value regrowth sites and revegetation of degraded sites
- devising and implementing water management, sediment erosion and pollution control and monitoring plans; and
- consulting with land managers, local and state authorities and Indigenous groups to develop environmentally sustainable management guidelines and education programs (DotE, 2013a).

Significant impact assessment

Approximately 40.29 hectares (ha) of Brigalow TEC is located within the Disturbance Footprint and will be cleared for the Project (Figure 9). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 4.

Table A - 4: Significant impact assessment for the Brigalow TEC

MNES Significant Impact Guideline criteria for TEC	Response
An action is likely to have a significant impact on a critically endangered or endangered ecological community if there is a real chance or possibility that it will:	
reduce the extent of an ecological community	A total seven patches of Brigalow TEC, totalling 40.29 ha, will be directly removed for surface infrastructure and mining operations for the Project. As such the Project would reduce the extent of the ecological community.
fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	A total of 40.29 ha of Brigalow TEC will be removed as a result of surface infrastructure and mining operations for the Project. The Project will fragment or increase fragmentation of the ecological community in the Disturbance Footprint, as it partially impacts five patches of TEC. These patches are primarily located along Two Mile Gully, Deep Creek and associated tributaries.
adversely affect habitat critical to the survival of an ecological community	Surface disturbance associated with the Project would result in the direct removal of 40.29 ha, which is identified as habitat critical to the survival of Brigalow TEC as outlined above. As such, the Project would adversely affect habitat critical to the survival of the TEC.
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	Alterations to surface water drainage patterns, as well as physical changes to soil and nutrient profiles has the potential to impact downstream TEC patches outside of the Disturbance Footprint (Palamara et al., 2006; Lechner et al., 2016). Mitigation measures described in Section 7.4.2 which includes erosion and sediment control and annual monitoring of these measures will negate these potential impacts for the Brigalow TEC. As such, there is no real chance or possibility that the Project would modify abiotic factors necessary for the ecological community's survival outside of the Disturbance Footprint.

MNES Significant Impact Guideline criteria for TEC	Response
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	Indirect impacts (e.g. edge effects and weed invasion) which can alter species composition or loss of functionality in the Threatened Ecological Community (TEC), can be reasonably managed and avoided as per mitigation and management measures discussed in Section 7.1.3. Dust and weed management measures identified in Section 7.5.2 and 7.3.2 will be essential to ensure that degradation of adjacent retained patches of Brigalow TEC does not occur as a result of the Project. Additionally, prescribed burning is not expected to occur as part of the Project and can be reasonably managed with mitigation actions described in Section 7.6.2, including Bushfire Management Plans, appropriate chemical storage, designated access tracks and fire breaks and emergency response procedures. Additionally, there is no scope for flora harvesting associated with this Project. As such, there is a very low chance or possibility that the Project would cause a substantial change in the species composition of an occurrence of an ecological community.
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 presence of weeds, particularly species most threatening to Brigalow TEC such as Rhode's grass (*Chloris gayana*), Buffel grass (*Cenchrus ciliaris)* and Green panic (*Megathyrsus maximus)* (DoE, 2013a), are already present within the landscape and abundant in some locations as described in Section 4.1.4. These species increase may increase fire frequency and severity within Brigalow TEC (DoE, 2013a). The implementation of mitigation measures presented in Section 7.3.2 are expected to reasonably manage the introduction and proliferation of weeds and pests within the Study Area, reducing the risk of changes to species composition or loss of functionality in the TEC as a result of the Project. Storage and management of equipment and chemicals on site will be contained and involve relatively small quantities in any given location. Furthermore, the risk of spills, leaks or other accidental mobilisation of hazardous materials will be avoided and managed in accordance with management plans identified in Section 7.4.2. Therefore, there is a very low possibility that the Project would cause a substantial reduction in the quality or integrity of an occurrence of this TEC within the remainder of the Study Area by assisting weed invasion or mobilisation of hazardous materials.
interfere with the recovery of an ecological community	There is no Recovery Plan for the Brigalow TEC, however, the approved conservation advice is recommended as an effective guide to support the recovery of this TEC. Land clearance is listed as a key threatening process under the EPBC Act and is relevant to this TEC. As such, due to the removal of 40.29 ha of Brigalow TEC, the Project has a real chance or possibility to interfere with the recovery of the ecological community.
Conclusion	*The Project would have a significant residual impact to the Brigalow TEC due to the area of clearing proposed, which is habitat critical to the survival of the TEC and the potential for this impact to interfere with the recovery of the TEC.*

D.2 Australian painted snipe *(Rostratula australis)*

The Australian painted snipe is listed as endangered under the EPBC Act.

Habitat preferences and distribution

This species generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans (DCCEEW, 2025j). This species occurs in all states of Australia but is most common in eastern Australia and is well-known from the Murray-Darling basin (DCCEEW, 2025j).

For additional information on the Australian painted snipe habitat preferences and distribution, refer to Section 4.2.3.3.

Presence in the Disturbance Footprint

DPM (2026) describe that the lacustrine wetlands (hydrologically modified or artificial) within the Study Area are either farm dams with constructed earthen walls on the downstream side or are constructed mine water dams. Some dams identified within the Study Area were not considered suitable habitat as they contained unvegetated steep bank margins. As this species requires dense low vegetation for cover (Department of the Environment and Energy, 2019), these areas were excluded from habitat. Additionally, some gilgai microrelief lacked suitable native aquatic vegetation, were extremely shallow and lacked the capability to hold water for prolonged periods (Rogers et al., 2005).

A total of 610.00 ha of foraging habitat for Australian painted snipe was identified in the Study Area, of which only 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat (farm dams [man-made]) occurs within the Disturbance Footprint. No suitable breeding habitat was identified within the Disturbance Footprint.

For additional information on Australian painted snipe habitat in the Study Area, refer to Section 4.2.3.2.

Habitat critical to the survival of the species

Habitat critical to the survival of the Australian painted snipe is recognised in the National Recovery Plan for the species but is not clearly defined. The National Recovery Plan describes habitats that provide suitable combinations of plants, animals, water depth, geology, landforms and climate that is relevant to the geographical unit (DCCEEW, 2022). It also refers to habitats that may be a natural wetland where the species is likely or known to occur or an area that may be periodically occupied by the Australian painted snipe when wetland conditions are favourable (DCCEEW, 2022). The listing advice for the species also refers to preservation of wetland habitat suitable for breeding as ‘critical to the species’ survival (TSSC, 2013). Habitat critical to the survival of the species is defined within the MNES SIA guidelines as habitat that contains features that are crucial for the species’ persistence in an area, including for activities such as foraging, breeding, roosting or dispersal (DotE, 2013)..

The species was observed within dams and non-remnant gilgai habitat, which provide suitable foraging opportunities. No suitable breeding habitat was identified within the Study Area.

Given the degraded nature of non-remnant gilgai habitat within the Study Area and the extensive occurrence of similar intermittent foraging habitat throughout the region, these areas are not considered habitat critical to the survival of the species. Furthermore, given the permanent foraging habitat present within the Study Area largely consists of constructed farm dams and similar farm dams are abundant throughout the landscape, these areas are not considered crucial for the species’ persistence in an area and therefore not considered habitat critical to the survival of the species.

Threatening processes

The main identified threat to the Australian painted snipe is the loss and degradation of wetlands, through drainage and the diversion of water for agriculture and reservoirs. Loss of breeding habitat is noted for the Murray-Darling Basin through hydrological changes. These changes have occurred in parallel with an extended period of drought in Australia which has intensified the impacts of wetland degradation and water diversion in the Murray-Darling Basin (Lane & Rogers, 2000) (Rogers et al., 2005).

Other more broadly described threats to the Australian painted snipe include (Department of Sustainability, Environment, Water, 2013):

- grazing and the associated trampling of wetland vegetation and nests
- nutrient enrichment
- reduced rainfall and runoff in the Murray Darling basin associated with climate change
- predation by feral animals (e.g. nest predation by foxes or cats)
- coastal port and infrastructure development
- shale oil mining near autumn-winter sites; and
- the replacement of native wetland vegetation by invasive weeds.

Recovery actions

The *National Recovery Plan for the Australian Painted Snipe* describes a key objective as sustaining a positive population trend in the number of mature individuals (DCCEEW, 2022). The strategies to achieve this objective are listed below:

- manage and protect known Australian painted snipe habitat at the landscape scale
- develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions
- reduce, or eliminate threats at breeding and non-breeding habitats
- undertake research to improve knowledge of the habitat requirements, biology and behaviour of Australian painted snipe
- engage community stakeholders to improve awareness of the conservation of Australian painted snipe; and
- coordinate, review and report on recovery progress.

Significant impact assessment

Approximately 20.86 ha of Australian painted snipe foraging habitat is located within the Disturbance Footprint, including 6.41 ha of permanent foraging habitat in the form of dams and 14.45 ha of intermittent foraging habitat (Figure 14). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 5.

Table A - 5: Significant impact assessment for the Australian painted snipe

MNES Significant Impact Guideline criteria for Endangered Species	Response
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of a population	The Australian painted snipe population is small, likely to be continuous, dispersive or migratory (DCCEWW, 2022) and unlikely to comprise local sub-populations. The Project would result in the removal of 20.86 ha of foraging habitat for Australian painted snipe, with no suitable breeding habitat present within the Disturbance Footprint (refer to Section 4.2.3.2). The foraging habitat present consists of 6.41 ha of permanent foraging opportunities in the form of farm dams and 14.45 ha of ephemeral/intermittent foraging opportunities in the form of cleared gilgai pastureland. Areas of similar foraging habitat are abundant throughout the wider Study Area, including 10.03 ha of farm dams or wetlands, 520.20 ha of non-remnant gilgai and 8.71 ha of remnant RE 11.3.27 providing wetland habitat. Therefore, given the Project would not result in the removal of breeding habitat and impact a small proportion (3.42%) of available foraging habitat within the Study Area, there is a very low chance or possibility that the Project would lead to a long-term decrease in the size of a population.
reduce the area of occupancy of the species	The area of occupancy for the Australian painted snipe is estimated to be 2,000 square kilometres (km^2), with low reliability (S. T. Garnett et al., 2011). Given, the species is widespread and dispersive, and the Project would result in the removal of a small portion (20.86 ha/3.42%) of similar foraging habitat within the Study Area, there is a very low possibility that the Project would likely reduce the area if occupancy of the species.
fragment an existing population into two or more populations	The Australian painted snipe is a mobile avian species, and the Project would not create barriers to movement. The species will be able to persist within the landscape. Therefore, there is no chance or possibility that the Project would fragment and existing population.
adversely affect habitat critical to the survival of a species	The species was observed within dams and non-remnant gilgai habitat within the Study Area, which provide suitable foraging opportunities. No suitable breeding habitat was identified within the Study Area. Given the degraded nature of non-remnant gilgai habitat within the Study Area and the extensive occurrence of similar intermittent foraging habitat throughout the region, these areas are not considered habitat critical to the survival of the species. Furthermore, given the permanent foraging habitat present within the Disturbance Footprint consists solely of constructed farm dams and similar farm dams are abundant throughout the landscape, these areas are not considered crucial for the species' persistence in an area and therefore not considered habitat critical to the survival of the species.

MNES Significant Impact Guideline criteria for Endangered Species	Response
disrupt the breeding cycle of a population	Foraging habitat in the form of ephemeral gilgais and dams are proposed to be impacted for the Project. However, this habitat is not expected to support breeding resources for the species as described in Section 4.2.3.2. Nonetheless, the Land and Biodiversity Management Plan ((Whitehaven Coal Pty Ltd, 2020)) will be updated to manage potential impacts to Australian painted snipe (refer to 7.2.2). Therefore, there is no real chance or possibility that the Project would disrupt the breeding cycle of a population of Australian painted snipe.
modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The removal of 6.41 ha of permanent foraging habitat and 14.45 ha of intermittent foraging habitat for this species is unlikely to decrease the availability of habitat to the extent the species is likely to decline due to the extent of similar habitat retained within the broader Study Area (refer to Section 4.2.3.2) and the highly mobile nature of the species, which minimises the risk of isolation of habitat. Similarly, potential indirect impacts such as changes to the hydrology, invasion by exotic weeds and disturbance and predation by pest animals will be managed (as described in Section 7.4.1 and Section 7.3.1 respectively) to the extent they are unlikely to decrease the availability or quality of habitat remaining in the Study Area. Therefore, there is a very low chance or possibility that the Project would modify, destroy, remove or decrease the availability of habitat to the extent that the species is likely to decline.
result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The Study Area is already impacted by grazing, clearing and mining activities and invasive species are established in the area. Threats to the species as a result of this existing disturbance includes proliferation of weed species, degradation of already modified seasonal and ephemeral wetland habitat by feral pigs and predation by feral cats. Management and control of weed and pest species, as described in Section 7.3, will include standard industry accepted measures to minimise the spread of weeds and pest animals (e.g. feral pigs, that have the potential to degrade the ground layer and foraging resources for the Australian painted snipe, and feral cats which prey on the species). Therefore, there is no real chance or possibility that the Project would contribute substantially to an invasive species becoming established in Australian painted snipe habitat.
introduce disease that may cause the species to decline	There are no diseases listed as threats to the Australian painted snipe. Therefore, the Project is not expected to result in the introduction of a disease that would cause the species to decline.

MNES Significant Impact Guideline criteria for Endangered Species	Response
interfere with the recovery of the species	The strategies identified to achieve the recovery plan objectives include the management and protection of known habitat at a landscape level, reduce or eliminate threats at breeding and non-breeding habitat as well as research activities relating to population trajectories, habitat requirements and the engagement of stakeholders (DCCEWW, 2022). While the removal of 6.41 ha of permanent foraging habitat and 14.45 ha of intermittent foraging habitat is not conducive with reducing threats to the species, given the availability of similar habitat within the Study Area and broader region, the extent of proposed clearing is not considered of a scale which is likely to interfere with the recovery of the species.
Outcome	*While The Project would result in the removal of 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat for Australian painted snipe. Given the extent of similar habitat available throughout the Study Area and wider region, these impacts are not considered important, notable, or of consequence, having regard to its context and intensity.*

D.3 Koala (*Phascolarctos cinereus*)

The Koala is listed as endangered under the EPBC Act.

Habitat preferences and distribution

Koalas inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by species from the genera *Eucalyptus*, *Corymbia* and *Angophora* (Martin & Handasyde, 1999). Within central Queensland, Koalas have been studied at Tambo (Mitchell Grass Downs bioregion), Springsure and Blair Athol (both in Brigalow Belt North bioregion). Koalas in this region typically occur in low densities and have large home ranges (Ellis et al., 2002).

For additional information on Koala habitat and preferences, refer to Section 4.2.3.6.

Presence in the Disturbance Footprint

Previous ecological assessments undertaken by EMM Pty Ltd (EMM) recorded evidence of Koala activity (i.e. tree scratch marks) within the Study Area (EMM, 2020). Based on desktop and field investigations, the Disturbance Footprint contains 50.01 ha of habitat for the species. This includes:

- 2.72 ha of breeding and foraging habitat; and
- 48.29 ha of dispersal habitat.

For additional information on Koala presence in the Study Area, refer to Section 4.2.3.6.

Habitat critical to the survival of the species

Habitat critical to the survival of the species is the area that the species relies on to halt decline and promote the recovery of the species. The approved conservation advice for the species describes key questions for evaluating habitat critical to the survival of the Koala as:

- whether the habitat is used during periods of stress (examples flood, drought or fire)
- whether the habitat is used to meet essential life cycle requirements (e.g. foraging, breeding, social behaviour, dispersal)
- the extent to which the habitat is used by important populations
- whether the habitat is necessary to maintain genetic diversity and long-term evolutionary development
- whether the habitat is necessary for use as corridors to allow the species to move freely between sites used to meet essential life cycle requirements
- whether the habitat is necessary to ensure the long-term future of the species or ecological community through reintroduction or re-colonisation; and
- any other way in which habitat may be critical to the survival of the listed threatened species (DAWE, 2022c).

Vegetation is highly fragmented, and there are no large, intact eucalypt woodlands present. While some riparian corridors may support limited breeding and foraging activity, these areas are sparse and degraded. The habitat is not likely used by important Koala populations, nor is it essential for maintaining genetic diversity or ensuring the species' long-term survival. Although the riparian corridors may facilitate movement between sites, their fragmentation significantly reduces their effectiveness.

Based on these factors, there is no habitat critical to the survival of the species present within the Disturbance Footprint.

Threatening processes

The main identified threats to the species are (DAWE, 2022):

- climate change driven processes and threats:
  - loss of climatically suitable habitat
  - increased intensity/frequency of drought, heatwaves and bushfire
  - declining nutritional value of foliage
- human related activities:
  - clearing and degradation of Koala habitat
  - encounter mortality with vehicles and dogs; and
- disease and health:
  - Koala retrovirus (KoRV) and chlamydia (*Chlamydia percorum*).

Drought and extreme heat are also known to cause significant mortality, and post-drought recovery may be substantially impaired by the range of other threatening factors (DAWE, 2022).

Recovery actions

The objectives for the recovery of the species listed in the National Recovery Plan for the Koala (DAWE, 2022) are as follows:

- the area of occupancy and estimated size of populations that are declining, suspected to be declining, or predicted to decline are instead stabilised then increased

- the area of occupancy and estimated size of populations that are suspected and predicted to be stable are maintained or increased
- metapopulation processes are maintained or improved; and
- partners, communities and individuals have a greater role and capability in Koala monitoring, conservation and management.

Significant impact assessment

Approximately 2.72 ha of Koala breeding and foraging habitat, and 48.29 ha of dispersal habitat is located within the Disturbance Footprint and will be cleared for the Project (Figure 18). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 6.

Table A - 6: Significant impact assessment for Koala

MNES Significant Impact Guideline criteria for Endangered Species	Response
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of a local population	The Project would remove a total of 50.01 ha of habitat for the species. This will comprise of 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, with majority of habitat highly degraded as a result of historical clearing (refer to Section 4.1.1). Given the paucity of records within the Study Area and the degraded nature of the habitat, no resident populations are expected to occur within the Study Area, with any individuals likely to occur transiently when moving between areas of higher quality habitat. Additionally, habitat present within the Disturbance Footprint does not provided connectivity between areas of higher quality habitat, with the primary movement corridor along Taurus Creek and Two Mile Gully being retained. Therefore, given the Study Area is unlikely to contain a resident population of Koalas and the Project would result in the removal of 88.47 ha of highly degraded habitat which is unlikely to be utilised by the species, there is a very low chance or possibility that the Project would cause a long term decrease in the size of a local population.
reduce the area of occupancy of the species	In 2023, the area of occupancy for the species was calculated as 19,428 km^2 with a contracting trend (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2023e). While the Project would result in the removal of 50.01 ha of habitat, including 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, these areas are highly degraded and do not provide connectivity between areas of higher quality habitat. As such these areas are considered unlikely to be occupied by Koalas. Therefore, given habitat within the Disturbance Footprint is unlikely to be occupied by Koalas and the primary movement corridor within the Study Area (i.e. Taurus Creek and Two Mile Gully) is being retained, there is a very low chance or possibility that the Project would reduce the area of occupancy of the species.

MNES Significant Impact Guideline criteria for Endangered Species	Response
fragment an existing population into two or more populations	Koalas are known to traverse up to 1-3 km on ground and will often travel through cleared or treeless areas (DAWE, 2022). While the Project would result in the removal of 50.01 ha of habitat, including 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, these areas are highly degraded and do not provide connectivity between areas of higher quality habitat. Therefore, given the Project would not impact habitat providing connectivity for Koalas and the primary movement corridor within the Study Area (i.e. Taurus Creek and Two Mile Gully) is being retained, there is a very low chance or possibility that the Project would fragment an existing population.
adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the Koala does not occur within the Disturbance Footprint, as outlined in the section above. As a result, there is no real chance or possibility that the Project would have an adverse effect on habitat that is considered critical to the survival of the species.
cause disruption to the breeding cycle of a population	Koalas do not have specific breeding habitat requirements. Males are most active during the breeding season and can cover areas of several kilometres (km) with limited vegetation (DAWE, 2022c). Clearing for the Project would not fragment habitat to the extent that dispersing males looking for mates would be unable to do so. Additionally, it is considered unlikely that habitat within the Disturbance Footprint would be occupied by the species. Nonetheless, vegetation clearing during construction activities, has the potential to disrupt breeding individuals, therefore, Koala specific management measures will be put in place as part of the updated Blackwater Mine Land and Biodiversity Management Plan (Whitehaven Coal Pty Ltd, 2020) to ensure this threat is mitigated (Section 7.2.2). Important measures will include but not be limited to; pre-clearance surveys to detect the presence of Koalas, directional clearing towards habitat to be retained, leaving identified Koalas in place with dispersal routes and connecting trees available until the individual has moved on without interference. As a result, there is a very low chance or possibility that the Project would disrupt the breeding cycle of a population.
modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	While the Project would result in the removal of 50.01 ha of habitat, including 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, these areas are highly degraded, do not provide connectivity between areas of higher quality habitat and don't provide refuge habitat. Additionally, the implementation of mitigation measures presented in Sections 7.2.2, 7.3.2 and 7.5.2 will reduce indirect impacts to Koala as a result of the Project including construction disturbance, and weed and pest incursion. Therefore, based on the proposed minimal direct impacts Koala habitat and negligible indirect impacts, there is a very low chance or possibility that the project is likely to modify, destroy, remove, isolate or decrease the availability of quality of habitat of habitat to the extent that the species is likely to decline.

MNES Significant Impact Guideline criteria for Endangered Species	Response
result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The primary invasive species, which poses a threat to Koala are dogs (DAWE, 2022). Dogs were recorded in the Study Area during the field survey, though given the already highly disturbed nature of the Study Area and the Project implementing specific environmental management plans including a Pest and Weed Management Plan to mitigate the threat of dogs (see Section 7.3.2), it is unlikely that the Project would proliferate the occurrence of dogs within the area. Therefore, there is no real chance or possibility that the Project would result in invasive species that are harmful to Koala becoming established in Koala habitat.
introduce disease that may cause the population to decline	Diseases such as Chlamydia (*Chlamydia pecorum*) and Koala retrovirus (KoRV) have been identified in the populations within the region (DAWE, 2022). The prevalence of disease (chlamydiosis) has been found to increase following extreme stress from hot weather, drought, habitat loss and fragmentation (Lunney et al., 2012; McCallum et al., 2017). Symptoms of individuals carrying Chlamydia can become overt when subjected to additional stress. Such stress may be caused by habitat clearing associated with the Project. However, Koala specific management measures will be put in place as part of the updated Blackwater Mine Land and Biodiversity Management Plan (Whitehaven Coal Pty Ltd, 2020) to ensure this threat is mitigated (Section 7.1.2). Important measures will include but not be limited to; pre-clearance surveys to detect the presence of Koalas, directional clearing towards habitat to be retained, leaving identified Koalas in place with dispersal routes and connecting trees available until the individual has moved on without interference. Implementation of these measures will ensure there is no real chance or possibility that the Project would introduce diseases or exacerbate existing diseases that may cause the species to decline.
interfere with the recovery of the species	The National Recovery Plan identifies recovery objectives and threats to be managed for the recovery of the species (DAWE, 2022). The key threats to the species listed in the recovery plan that are relevant to the Project include habitat loss, fragmentation and degradation. In relation to these threats: • the Disturbance Footprint will involve clearing of habitat, although these areas are considered unlikely to be occupied by individuals, will not impact refuge habitat and will not fragment remaining habitat to the extent the species cannot continue to disperse through the landscape; and • suitable habitat will remain in the Study Area and will continue to be available to support the long-term persistence of the species. As the species is expected to persist in the Study Area, there is a very low chance or possibility that the Project would interfere with the recovery of the species.

MNES Significant Impact Guideline criteria for Endangered Species	Response
Outcome	*Given the limited extent of proposed clearing, the species being considered unlikely to occupy habitat within the Disturbance Footprint, the absence of habitat critical to the Koala's survival, and the Project not fragmenting or isolating populations, there is a very low chance or possibility that the Project would result in a significant impact on the Koala.*

D.4 Latham's snipe (*Gallinago hardwickii*)

The Latham's snipe is listed as vulnerable and migratory (Bonn, JAMBA, ROCKAMBA) under the EPBC Act.

Habitat preferences and distribution

This species typically occurs in permanent and ephemeral wetlands up to 2,000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies) (DCCEEW, 2025j). The species is known from all east coast areas and extends inland over the eastern tablelands in south-eastern Queensland (and occasionally from Rockhampton in the north), and to the west of the Great Dividing Range in New South Wales (DCCEEW, 2025j).

For additional information on Latham's snipe habitat preferences and distribution, refer to Section 4.2.3.3.

Presence in the Disturbance Footprint

No individuals of Latham's snipe were observed within the Disturbance Footprint during field surveys. Suitable foraging habitat within the Disturbance Footprint comprises dams and non-remnant gilgai habitat. This includes 14.45 ha of intermittent foraging habitat in the form of all remnant, high value regrowth or non-remnant areas with gilgai microrelief, and 6.41 ha of permanent foraging habitat in the form of dams/wetlands with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges). No suitable breeding habitat was identified within the Disturbance Footprint.

For additional information on Latham's snipe presence in the Study Area, refer to Section 4.2.3.3.

Important populations

The entire population of Latham's snipe is thought to migrate to Australia during the northern hemisphere's winter (i.e. December to February) (DCCEEW, 2025j). While the Species Profile and Threats Database (SPRAT) profile and Conservation Advice for Latham's snipe (DCCEEW, 2025j) do not detail information about important populations of this species, the Conservation Advice refers to 'important sites or habitat' as those areas regularly supporting internationally significant numbers of the species, which is 300 individuals.

Nationally important habitat is described as areas previously been identified as internationally important or areas that support at least 18 individuals (DCCEEW, 2024). Based on outcomes of the seasonal surveys, the Study Area does not support an important population of Latham's snipe as evidence of large numbers of the species would have been identified.

Habitat critical to the survival of the species

The Conservation Advice for Latham's snipe states habitat critical to the survival of the species as areas that are necessary for:

- foraging, breeding (outside Australia), roosting or dispersal activities
- long term maintenance of the species
- maintaining genetic diversity and long-term evolutionary development; or
- assisting in the reintroduction of populations or recovery of the species (DCCEEW, 2024).

Based on the definitions above, habitat within the Disturbance Footprint has potential to be considered habitat critical to the survival of the species. However, given the degraded nature of non-remnant gilgai

habitat within the Disturbance Footprint and the extensive occurrence of similar intermittent foraging habitat throughout the region, these areas have not been considered habitat critical to the survival of the species.

Threatening processes

Threats to the Latham's snipe, as identified on the SPRAT profile include loss of habitat, which includes drainage and modification of wetlands, excess mortality from hunting. However, bans on shooting have been implemented throughout Australia (DCCEEW, 2025j).

Threats identified in the Latham's snipe Conservation Advice (DCCEEW, 2024) include habitat loss caused by residential and commercial development, habitat degradation by high-intensity grazing, increased frequency or severity of drought and fires, cat and fox predation, broad-leaved tea-tree invasion of grasslands, and hunting.

Recovery actions

Latham's snipe does not have an adopted or made Recovery Plan. Conservation and recovery actions, listed in the Conservation Advice outlines actions to address and manage the following key threats:

- habitat loss
- habitat degradation caused by high-intensity grazing
- climate change and severe weather impacts; and
- hunting (DCCEEW, 2024).

Significant impact assessment

Approximately 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat is located within the Disturbance Footprint and will be cleared for the Project (Figure 15). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 7.

Table A - 7: Significant impact assessment for the Latham's snipe

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of an important population	As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat has no chance or possibility of leading to a long-tern decrease in the size of an important population.
reduce the area of occupancy of an important population	The Area of Occupancy for Latham's Snipe has been estimated as 3,430,000 km^2 (DCCEEW, 2024). As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of 6.41 ha of permanent foraging opportunities in the form of dams and 14.45 ha of ephemeral/intermittent foraging opportunities in the form of cleared gilgai pastureland has a no chance or possibility of reducing the area of occupancy of an important population.

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
fragment an existing important population into two or more populations	As described in the sections above, the Study Area does not support an important population of the species. Latham's snipe are a highly mobile species, able to travel long distances and the Project would not cause a barrier to movement for this species. Furthermore, the species will be able to persist in remaining habitats in the Study Area and broader landscape. Therefore, there is a no chance or possibility that Project would result in the fragmentation of an important population, nor an existing population of Latham's snipe.
adversely affect habitat critical to the survival of a species	The Project will not remove habitat considered critical to the survival of the species, as no individuals were recorded in the Disturbance Footprint, and habitat within the Disturbance Footprint is degraded and is unlikely to support important populations.
cause disruption to the breeding cycle of an important population	As described above, the Study Area does not support an important population. Further, Latham's snipe does not breed within Australia. Therefore, there is no chance or possibility that the Project would result in a disruption to the breeding cycle of this species.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The removal of 6.41 ha of permanent foraging opportunities in the form of dams and 14.45 ha of ephemeral/intermittent foraging opportunities in the form of cleared gilgai pastureland. for this species is unlikely to decrease the availability of habitat to the extent the species is likely to decline due to the extent of similar habitat retained within the broader Study Area (refer to Section 4.2.3.3) and the highly mobile nature of the species, which minimises the risk of isolation of habitat. Similarly, potential indirect impacts such as changes to the hydrology, invasion by exotic weeds and disturbance and predation by pest animals will be managed (as described in Section 7.4.1 and Section 7.3.1 respectively) to the extent they are unlikely to decrease the availability or quality of habitat remaining in the Study Area. Therefore, there is no real chance or possibility the Project would modify, destroy, remove, isolate or decrease the availability of habitat available that would result in the decline of the Latham's snipe.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The Study Area is already impacted by grazing, clearing and mining activities and invasive species are established in the area. Threats to the species as a result of this existing disturbance includes proliferation of weed species and the degradation of habitat by feral pigs and predation by feral cats. Management and control of weed and pest species, as described in Section 7.3.2, will include standard industry accepted measures to minimise the spread of weeds and pest animals (e.g. feral pigs, that have the potential to degrade the ground layer and foraging resources for the Latham's snipe, and feral cats which prey on the species). Therefore, there is no real chance or possibility that the Project would contribute substantially to an invasive species becoming established in Latham's snipe habitat.

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
introduce disease that may cause the population to decline	The Approved conservation advice for Latham's snipe does not identify any diseases that are likely to impact the species (DCCEEW, 2024). The Project is not expected to result in the introduction of a disease that would impact Latham's snipe.
interfere substantially with the recovery of the species	While the removal of 14.45 ha of intermittent foraging habitat and 6.41 ha of permanent foraging habitat is inconsistent with the objective of reducing habitat loss, given the availability of similar habitat within the Study Area and broader region, the extent of proposed clearing is not considered of a scale which is likely to interfere with the recovery of the species.
Outcome	*While The Project would result in the removal of 20.86 ha of foraging habitat for the Latham's snipe, given the extent of similar habitat available throughout the Study Area and wider region, these impacts are not considered important, notable, or of consequence, having regard to its context and intensity.*

D.5 Ornamental snake (*Denisonia maculata*)

The Ornamental snake is listed as vulnerable under the EPBC Act.

Habitat preferences and distribution

This species prefer moist areas in woodlands and open forests, particularly in depressions located in Queensland RE Land Zone 4 and in gilgai mounds occurring in areas of deep cracking alluvial soils with high clay content (DCCEEW, 2011). Ornamental snake shelter under logs, leaf litter, bark, rocks and coarse woody debris on the ground, and during dry periods they will seek refuge within clay cracks in gilgai (Brigalow Belt Reptiles Workshop, 2010).

For additional information on the Ornamental snake habitat preferences and distribution, refer to Section 4.2.3.1

Presence in the Disturbance Footprint

Ornamental snake was not recorded within the Disturbance Footprint. Based on field investigations, the Disturbance Footprint does not contain breeding and foraging habitat for the species, as it lacks suitable microhabitat features such as soil cracks.

For additional information on the Ornamental snake habitat, refer to Section 4.2.3.1.

Important populations

Important habitat for the Ornamental snake has been defined by the DCCEEW as of gilgai depressions and mounds, as well as habitat connectivity between gilgais and other suitable habitat (DCCEEW, 2023c).

The DCCEEW considers that an occurrence of important habitat for the Ornamental snake is a surrogate for an 'important population' of the species (DCCEEW, 2025j). A total of 497.52 ha of gilgai habitat in the Study Area meets the definition of important habitat and therefore is considered to support an important population of the species.

Important habitat

Draft Referral Guidelines for the Nationally Listed Brigalow Belt Reptiles (DCCEEW, 2023c) specifies that for Brigalow Belt reptiles, important habitat is considered a surrogate for an important population. Additionally, any suitable habitat where the species presence has been confirmed, is near the limit of the known range, or is a large patch of contiguous suitable habitat, is considered to be important habitat. This species has not been identified in the disturbance footprint during field surveys. Additionally, no habitat for this species has been identified in the disturbance footprint, therefore, there is no important habitat within the disturbance footprint.

Habitat critical to the survival of the species

Given the highly disturbed and degraded nature of the Disturbance Footprint, and the absence of suitable habitat for the species, there is no habitat critical to the survival of the species is located within the Disturbance Footprint.

Threatening processes

The Ornamental snake has undergone a decline in abundance in the past few decades. There are a variety of factors that are possibly contributing to this decline, including:

- habitat loss through clearing (roads, ploughing, railways, mining-related activities, pipeline constructions)
- habitat fragmentation
- habitat degradation by overgrazing by stock, especially cattle, or grazing of gilgais during the wet season leads to soil compaction and compromising of soil structure
- alteration of landscape hydrology in and around gilgai environments
- alteration of water quality through chemical and sediment pollution of wet areas
- contact with the cane toad
- predation by feral species; and
- invasive weeds (Brigalow Belt Reptiles Workshop, 2010); Cogger et al. 1993).

Recovery actions

The Ornamental snake does not have a contemporary recovery plan. Research priorities and conservation actions are described in the species conservation advice and include the following matters:

- refine understanding of population metrics, habitat needs, and threat impacts
- develop and apply monitoring in key habitats and priority areas
- track existing populations to identify emerging threats
- evaluate recovery progress and adapt management strategies as needed
- identify and prioritise key populations for conservation
- explore legal protection options for private and crown lands, including reserve inclusion
- reduce land-use pressures at known sites
- control invasive species, particularly pigs, at critical locations
- establish and implement cane toad management practices; and
- promote awareness of the Ornamental snake within the Brigalow Belt Bioregion (DEWHA, 2014).

Significant impact assessment

No habitat for the Ornamental snake is located within the Disturbance Footprint (Figure 13). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 8.

Table A - 8: Significant impact assessment for the Ornamental snake

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of an important population	No Ornamental snake habitat was identified within the Disturbance Footprint. Additionally, indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, the Project would not lead to a long-term decrease in the size of an important population.
reduce the area of occupancy of an important population	The current area of occupancy for this species is 21,315 km^2 (ALA, 2025). Whilst the Study Area is considered likely to contain an important population, no Ornamental snake habitat was identified within the Disturbance Footprint. Additionally, indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, the Project would not reduce the area of occupancy of an important population.
fragment an existing important population into two or more populations	Whilst the Study Area is considered likely to contain an important population, no Ornamental snake habitat was identified within the Disturbance Footprint. As such, there is no chance or possibility the Project would fragment an existing important population into two or more populations.
adversely affect habitat critical to the survival of a species	The habitat in the Study Area and Disturbance Footprint is unlikely to be habitat critical to the survival of the species as due to the degraded and highly disturbed nature of the habitat.
cause disruption to the breeding cycle of an important population	Whilst the Study Area is considered likely to contain an important population, no Ornamental snake habitat was identified within the Disturbance Footprint. Additionally, indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, the Project would not cause disruption to the breeding cycle of an important population.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No Ornamental snake habitat was identified within the Disturbance Footprint and indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, the Project would not modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Threats to the species include habitat degradation by feral herbivores such as rabbits and feral pigs, contact with cane toads, proliferation of weed species and predation by feral carnivores, such as foxes and feral cats. The Study Area is already impacted by grazing, clearing and mining extraction activities and invasive species are already established in the landscape, including those listed as potential threats above. Management and control of weed and pest species, as described in Section 7.3.2, will include standard industry accepted measures to minimise the spread of weeds and proliferation of pest animals that have the potential to impact the Ornamental snake. Therefore, the Project would not result in an invasive species becoming established in the Ornamental snake habitat remaining in the Study Area.
introduce disease that may cause the population to decline	No introduced diseases are known to significantly impact this species. As such, there is no real chance of possibility that the Project would introduce a disease that may cause the population to decline.
interfere with the recovery of the species	No Ornamental snake habitat was identified within the Disturbance Footprint, and indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, the Project would not interfere with the recovery of the species.
Outcome	*The Project is unlikely to have a significant impact on the Ornamental snake, as no habitat will be directly removed and potential indirect impacts on retained habitat is considered negligible based on implementation of proposed mitigation measures.*

D.6 Squatter pigeon (southern) (*Geophaps scripta scripta*)

The Squatter pigeon (southern) is listed as vulnerable under the EPBC Act.

Habitat preferences and distribution

The subspecies occurs on the inland slopes of the Great Dividing Range from the Burdekin-Lynd Divide in central Queensland, west to Longreach and Charleville and south to Moree in New South Wales (TSSC, 2015). The Squatter pigeon (southern) inhabits eucalypt woodland communities with a grassy understorey in proximity to permanent water sources, such as rivers, creeks and dams (TSSC, 2015a).

For additional information on the Squatter pigeon (southern) habitat preferences and distribution, refer to Section 4.2.3.4.

Presence in the Disturbance Footprint

This species has not been recorded in the Disturbance Footprint during field surveys. Habitat within the Disturbance Footprint includes 26.05 ha of breeding and foraging, 6.41 ha of foraging, and 262.34 ha of dispersal habitat.

For additional information on the Squatter pigeon (southern) habitat preferences and distribution, refer to Section 4.2.3.4.

Important populations

As this species currently has no adopted recovery plan, important populations of Squatter pigeon (southern) have been defined as per those listed in the SPRAT database (DCCEEW, 2025f):

- populations occurring in the Condamine River catchment and darling downs of southern Queensland
- the populations known to occur in the Warwick-Inglewood-Texas region of southern Queensland; and
- any populations potentially occurring in northern New South Wales.

Based on these criteria, any Squatter pigeon (southern) within the Study Area is unlikely to be part of an important population. Furthermore, in consideration of the MNES SIA Guidelines, the local population is unlikely to be a key source population for breeding or dispersal, or maintaining genetic diversity due to its relatively common occurrence in the local region and the Study Area is not at the limit of the species distribution.

Habitat critical to the survival of the species

Habitat critical to the survival of the species is not defined for the species in the approved conservation advice or listing advice. As such the MNES SIA guidelines (DotE, 2013) for habitat critical to the survival of a species is applied and includes as areas for activities such as foraging, breeding, roosting, or dispersal. Habitat within the Study Area does not provide particularly unique or rare resources that are important for the long-term maintenance of the species, maintaining genetic diversity, or provide area to support reintroductions of the species. Given the degraded nature of habitat within the Disturbance Footprint and no records of Squatter pigeon (southern) have been recorded in the Disturbance Footprint, it is unlikely to be considered habitat critical to the survival of the species.

Threatening processes

Current threats to the Squatter pigeon (southern) include (DCCEEW, 2025f):

- ongoing vegetation clearance and fragmentation

- overgrazing of habitat by livestock and feral herbivores such as rabbits, cows and sheep
- introduction and degradation of habitats by invasive weeds, such as Buffel grass
- inappropriate fire regimes
- thickening of understorey vegetation
- predation by feral cats and foxes and avian predators; and
- trampling of nests by domestic stock.

Recovery actions

Conservation and management actions specified by the Approved Conservation Advice (TSSC, 2015a) for the species are as follows:

- identify sub-populations of high conservation priority, especially in the southern part of the Squatter pigeon (southern) range
- protect and rehabilitate areas of vegetation that support important sub-populations
- protect sub-populations of the listed subspecies through the development of covenants, conservation agreements or inclusion in reserve tenure
- develop and implement a stock management plan for key sites
- develop and implement a management plan, or nominate an existing plan to be implemented, for the control and eradication of feral herbivores in areas inhabited by the Squatter pigeon (southern); and
- raise awareness of the Squatter pigeon (southern) within the local community, particularly among land managers.

Significant impact assessment

Approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat for the Squatter pigeon (southern) is located within the Disturbance Footprint and will be cleared for the Project (Figure 16). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 9.

Table A - 9: Significant impact assessments for Squatter pigeon (southern)

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of an important population	As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat, has no chance or possibility of leading to a long-term decrease in the size of an important population.
reduce the area of occupancy of an important population	The area of occupancy for the species has been calculated to be 2,888 km^2 (Queensland Resources Council, 2015). As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat, has no chance or possibility of reducing the area of occupancy of an important population.
The action is likely to fragment an existing important population into two or more populations	As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat, has no chance or possibility of fragmenting and important population.
adversely affect habitat critical to the survival of a species	Habitat critical to the survival of the species for the squatter pigeon (southern) is not present within the Disturbance Footprint. As such, the Project will not adversely affect habitat critical to the survival of the species.
cause disruption to the breeding cycle of an important population	As described in the section above, the Study Area does not support an important population of the species. Therefore, the Project would not disrupt the breeding cycle of an important population. Nonetheless, the Blackwater Land and Biodiversity Management plan will be updated for the Project as discussed in Section 7.2.2 and will include industry standard and acceptable measures to avoid and minimise impacts to animal breeding places and unnecessary stress on native fauna.
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 proposes the removal of approximately 32.46 ha of combined potential breeding and foraging habitat for the species. Although this represents a relatively large area, no individuals were recorded in the Disturbance Footprint, which suggests limited use of the habitat by the species. In addition, the substantial extent of similar habitat retained within both the Study Area and the broader region, along with the minimal potential for indirect impacts on retained habitat, indicates that the Project has a very low chance or possibility to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Threats to the species include overgrazing by feral herbivores such as rabbits, proliferation of weed species and predation by feral carnivores such as Foxes and feral cats. The Disturbance Footprint is already impacted by grazing, clearing and mining activities and invasive species are established in the area including feral cats. Implementation of a Weed and Pest Management Plan, as described in Section 7.3.2, will include standard industry accepted measures to minimise the spread of weeds and proliferation of pest animals that have the potential to degrade the ground layer and foraging resources for the Squatter pigeon (southern). Therefore, there is a very low chance or possibility the Project would contribute to a harmful invasive species becoming established in Squatter pigeon (southern) habitat within the Study Area.
introduce disease that may cause the population to decline	Disease has not been identified as a threat to the Squatter pigeon (southern). Therefore, the Project is not expected to result in the introduction of a disease that may cause population decline.
interfere with the recovery of the species	Recovery actions primarily address impacts to important sub-populations of the Squatter pigeon (southern), of which none occur in the Study Area. Given the low abundance of individuals recorded in the Study Area and availability of similar habitat elsewhere in the region, there is a very low chance or probability that the Project would interfere with the recovery of the Squatter pigeon (southern).
Outcome	*The Project is unlikely to have a significant impact on the Squatter Pigeon (southern subspecies), as the Study Area does not support an important population or habitat critical to the survival of the species. Additionally, the Project has a very low possibility to remove or isolate the availability of habitat to the extent that the species is likely to decline.*

D.7 White-throated needletail (*Hirundapus caudacutus*)

The White-throated needletail is listed as vulnerable and migratory (CAMBA, JAMBA, ROCKAMBA) under the EPBC Act.

Habitat preferences and distribution

The White-throated needletail is a non-breeding visitor to Australia where it is widespread across eastern and south-eastern Queensland (TSSC, 2019). It is most often recorded above wooded areas such as open forest and rainforest (TSSC, 2019).

For additional information on White-throated needletail habitat preferences and distribution, refer to Section 4.2.3.5.

Presence in the Disturbance Footprint

White-throated needletail has not been recorded during any surveys; however, the species is considered likely to occur based on habitat availability and previous records within the vicinity of the Study Area. Suitable foraging habitat for the species was identified as the airspace above the entirety of the Study Area.

For additional information on White-throated needletail presence in the Study Area, refer to Section 4.2.3.5.

Important populations

An important population has not been specifically defined for the White-throated needletail and in consideration of the MNES SIA definition for 'important population', the Study Area is unlikely to support such a population as outlined below:

- a key source population either for breeding or dispersal – the species is a non-breeding migrant to Australia and the Study Area does not support a population of this species as it is likely to only overfly the Study Area
- populations that are necessary for maintaining genetic diversity –the Study Area is unlikely to support a nationally or internationally significant proportion of a population; and
- populations that are near the limit of the species range – the Study Area is not at the limit of this species migratory range in Australia.

The Migratory Bird Guidelines (DotE, 2015c) addresses referral considerations for the White-throated needletail. The relationship between important habitat and important populations is discussed, whereby avoiding impacts to important habitat for the species and implementing mitigation measures will help reduce the risk of a significant impact on the population. For the White-throated needletail, important habitat is described as large tracts of native vegetation, particularly forest, and the species appears to have traditional roost sites (DotE, 2015c). The Study Area does not contain large tracts of forested habitat; instead, remnant vegetation is highly fragmented and patchily distributed. However, approximately 8.5 km east of the Study Area lie the Blackdown Tablelands, which support extensive and intact forested ecosystems that may offer more suitable habitat for the species.

The Migratory Bird Guidelines (DotE, 2015c) also provide advice about 'ecologically significant proportions' of populations. For the white throated needletail, an ecologically significant proportion of the national population is 10 birds (0.1% of the population) and for the international population is 100 birds (i.e. 1% of the population) (DotE, 2015c) . The Study Area is unlikely to support an ecologically significant proportion of the population.

Habitat critical to the survival of the species

Habitat critical to the survival of the species has not been defined for the White-throated needletail (DCCEEW, 2025e; TSSC, 2019). Areas deemed as habitat critical to the survival of the species may be considered traditional roost sites where the species has been known to frequent, which are not evident within the Study Area. All areas that provide foraging habitat in the airspace above the Study Area are not considered habitat critical to the survival of the species due to the availability of similar habitat throughout the region. Therefore, the Study Area is not considered to contain habitat critical to the survival of the species.

Threatening processes

Due to the widespread distribution and aerial nature of the White-throated needletail, no significant threats have been identified for the species in Australia (DCCEEW, 2025e; TSSC, 2019). Some potential threats have been suggested to include collision with wind turbines, overhead wires, windows and lighthouses, and degradation of forest and woodland area resulting in the loss of roosting sites and reduction in availability of prey (TSSC, 2019).

Recovery actions

No specific recovery actions have been identified for the White-throated needletail, however primary conservation actions relevant to the species within Australia include:

- identify requirements of important habitat in Australia
- support initiatives to improve habitat management at key sites in Australia
- stakeholder engagement to promote conservation and the exchange of information
- enhance existing monitoring programs particularly to improve coverage in under surveyed parts of Australia; and
- information and research priorities including improved knowledge on threatened processes and understanding of life history, population size, distribution and ecological requirements in Australia (TSSC, 2019).

Significant impact assessment

Approximately 2,316.58 ha of aerial foraging habitat is located within the Disturbance Footprint and will be cleared for the Project (Figure 17). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 10.

Table A - 10: Significant impact assessment for the White-throated needletail

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
lead to a long-term decrease in the size of an important local population	As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of approximately 2,316.58 ha of aerial foraging habitat, has no chance or possibility of leading to a long-term decrease in the size of an important population.

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
reduce the area of occupancy of an important population	As described in the section above, the Study Area does not support an important population of the species. Therefore, the removal of approximately 2,316.58ha of aerial foraging habitat, has no chance or possibility of reducing the area of occupancy of an important population.
fragment an existing important population into two or more populations	As described in the section above, the Study Area does not support an important population of the species. Additionally, the species is highly mobile, almost exclusively aerial species. Therefore, the removal of approximately 2,316.58 ha of aerial foraging habitat, has no chance or possibility of fragment an existing important population.
adversely affect habitat critical to the survival of a species	As described in the section above, given this is a non-breeding visitor to Australia, is an almost exclusively aerial species within Australia and the Disturbance Footprint and surrounding Study Area is unlikely to provide preferred roosting habitat for this species, the Study Area is not considered likely to contain habitat critical to the survival of the species. As such, there is no chance the Project would adversely affect habitat critical to the survival of a species.
cause disruption to the breeding cycle of an important population	The White-throated needletail does not breed within Australia. Therefore, the Project would not result in disruption to the breeding cycle of this species.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Clearing and disturbance of vegetation communities, over which this species is likely to forage and disperse, is proposed as part of the Project. However, this species is highly mobile, and almost exclusively aerial, occurring over a variety of habitats throughout Australia. As such, there is a very low chance that the Project would modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The conservation advice does not identify any invasive species that are considered likely to impact the species. Additionally, the Project is not expected to result in the introduction of an invasive species that would be harmful to White-throated needletails becoming established within the Study Area.
introduce disease that may cause the population to decline	The conservation advice does not identify any diseases that are likely to impact the species. Therefore, the Project is not expected to result in the introduction of a disease that may cause population decline.
interfere substantially with the recovery of the species	The species is unlikely to directly use vegetation communities in the Disturbance Footprint and surrounding Study Area therefore it is not considered to provide habitat critical for the survival of the species or support an important population, therefore there is a very low chance or possibility that the Project would interfere substantially with the recovery of the species.

MNES Significant Impact Guideline Criteria for Vulnerable Species	Response
Outcome	*Given the Study Area is unlikely to contain an important population or habitat critical to the survival of the species, and impacts will be limited to aerial foraging habitat which is widely available throughout the region, the Project is considered unlikely to result in a significant impact to this species.*

D.8 Migratory species

Fork-tailed swift (*Apus pacificus*)

The Fork-tailed swift is listed as migratory (CAMBA, JAMBA, ROCKAMBA) under the EPBC Act.

Habitat preferences and distribution

The Fork-tailed swift is almost exclusively aerial in Australia, where it occurs primarily over inland areas of dry or open habitat comprising riparian woodlands, tea-tree swamps, low scrub, heath or saltmarsh (DCCEEW, 2025j). The Fork-tailed swift is a non-breeding visitor to all states and territories of Australia (DCCEEW, 2025e; DotE, 2015). The Fork-tailed swift generally arrive to Australia in October and leave to return to their breeding grounds in Siberia during the second half of April (DCCEEW, 2025e; DotE, 2015).

For additional information on the Fork-tailed swift habitat preferences and distribution, refer to Section 4.2.4.1.

Presence in the Disturbance Footprint

This species has been observed on a single occasion during surveys above the Study Area, during the 2025 wet season survey. Suitable foraging habitat for the species was identified in the airspace above the entirety of the Study Area. Based on desktop and field investigations to date, the Study Area contains 6,907.49 ha of suitable aerial foraging habitat for the Fork-tailed swift as illustrated in Figure 20.

For additional information on the Fork-tailed swift presence in the Study Area, refer to Section 4.2.4.1.

Important habitat

The Fork-tailed swift is a non-breeding visitor to Australia. The species is found across a range of habitats from open plains to wooded areas and it is exclusively aerial (Department of the Environment (DotE), 2015c). Important habitat is defined in the Migratory Bird Guideline as:

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species
- habitat that is of critical importance to the species at particular life-cycle stages
- habitat utilised by a migratory species which is at the limit of the species range; or
- habitat within an area where the species is declining.

The Study Area is unlikely to provide important habitat for this species due to the fragmented and patchy landscape in which the Study Area is located. The species is exclusively aerial and known roosts have not been identified in the local areas. Therefore, the Study Area is considered unlikely to provide resources for this species other than as overfly habitat.

Ecologically significant proportion of the population

The Migratory Bird Guidelines define the ecologically significant proportion of the national population (0.1%) as 100 birds and for the international population (1%) 1,000 birds (Department of the Environment (DotE), 2015c).The Study Area is unlikely to support an ecologically significant proportion of the population as this would have been evident in literature or as a result of seasonal surveys.

Threatening processes

The Fork-tailed swift faces no significant threats within Australia. While potential risks such as habitat loss and predation by feral animals exist, the species' extensive range means that any localised impacts are considered negligible and unlikely to affect the overall population (BirdLife International, 2009).

Recovery actions

No specific recovery actions have been identified for the Fork-tailed swift.

Significant impact assessment

Approximately 2,316.58 ha of foraging habitat is located within the Disturbance Footprint and will be cleared for the Project (Figure 20). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 11.

Table A - 11: Significant impact assessment for the Fork-tailed swift

MNES Significant Impact Guideline Criteria for Migratory Species	Response
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:	
substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	As described in the section above, the Study Area does not support an important habitat for the species. Therefore, the removal of approximately 2,316.58 ha of aerial foraging habitat, has no chance or possibility of leading to a long-term decrease in the size of an important population.
result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or	As described in the section above, the Study Area does not support an important habitat for the species. Additionally, the Project is not expected to result in the introduction of an invasive species that would be harmful to Fork-tailed swifts becoming established within the Study Area.
result seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species	As described in the section above, the Study Area is unlikely to contain an ecologically significant proportion. Nonetheless, should an ecologically significant proportion of a population overfly the Study Area as part of migratory movements, there is a very low chance or possibility that the Projects activities would seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of the species.
Outcome	*The Project is unlikely to result in a significant impact to this species, as the Study Area is unlikely to contain important habitat or an ecological significant proportion of the population.*

Glossy ibis (*Plegadis falcinellus*)

The Glossy ibis is listed as migratory (Bonn) under the EPBC Act.

Habitat preferences and distribution

Glossy ibis typically inhabits freshwater marshes at the edges of lakes and rivers, lagoons, floodplains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation (DCCEEW, 2025j). The Glossy ibis is found throughout Queensland and breeds at only a limited number of locations within Australia including the Channel Country of Queensland/South Australia (i.e. wetlands of the Bulloo, Diamantina and Georgina River systems, occasionally also Cooper Creek) (DCCEEW, 2025j).

For additional information on Glossy ibis habitat preferences and distribution, refer to Section 4.2.4.2.

Presence in the Disturbance Footprint

While not recorded during E2M Pty Ltd (E2M) surveys, Glossy ibis has been detected on a single location during previous EMM ecological surveys, approximately 2 km north of the current Study Area. No suitable breeding habitat was mapped within the Study Area. 610 ha of suitable foraging habitat was mapped in the Study Area consisting of dams with shallow sloping margins and dense fringing vegetation (e.g. reeds and sedges), and all remnant, high value regrowth or non-remnant areas with gilgai microrelief.

For additional information on Glossy ibis habitat preferences and distribution, refer to Section 4.2.4.2.

Important habitat

Important habitat for the Glossy ibis is not defined on the species profile (DotE, 2025l). Therefore, it is considered that all known and potential breeding areas comprise important habitat for the species.

Breeding habitat in Australia is limited to five known locations, including the Murray-Darling Basin and Channel Country of Queensland/South Australia for Queensland. In addition, the species has also been recorded is small, isolated breeding colonies throughout eastern Australia (DotE, 2025l).

Breeding habitat types in Australia includes wooded and shrubby swamps in the semi-arid and arid regions of the Northern Territory and Queensland. This includes Cooba (*Acacia stenophylla*), *Eucalyptus*/lignum swamps (*Muehlenbeckia florulenta*) of the Murray-Darling Basin and in *Melaleuca*/reed swamps at near-coastal breeding colonies in the south (DotE, 2025l).

Therefore, given the Study Area is not located within any of these areas and does not contain suitable breeding habitat, it is considered unlikely that habitat within Study Area constitutes important habitat for Glossy ibis.

Ecologically significant proportion of the population

The total population of Glossy ibis globally is estimated to be between 119,000 and 860,000 individuals (IUCN, 2025). Nationally important ecologically significant proportions of a population for the species are estimated to be between 119 and 860 individuals. Therefore, considering the widespread distribution and the detection of only a single individual approximately 2 km north of the Study Area, it is unlikely that any individuals present would constitute an ecologically significant portion of the population.

Threatening processes

Threats to the Glossy ibis populations in Australia, as identified in the SPRAT Profile (DotE, 2025l) include:

- wetland habitat degradation due to agricultural expansion and urban development

- hydrological alterations from irrigation and damming, disrupting natural water regimes
- water pollution from nutrient-rich runoff and urban waste, reducing prey availability
- anthropogenic disturbance from recreational activities, especially during breeding periods
- climate variability and change, affecting rainfall patterns and wetland persistence; and
- invasive species impacts, including predation and competition for nesting sites.

Recovery actions

No specific recovery actions have been identified for the Glossy ibis.

Significant impact assessment

Approximately 20.86 ha of foraging habitat for the Glossy ibis is located within the Disturbance Footprint and will be cleared for the Project (Figure 21). A significant impact assessment has been completed against the MNES SIA Guidelines (DotE, 2013b) in Table A - 12.

Table A - 12: Significant impact assessment for the Glossy ibis

MNES Significant Impact Guideline Criteria for Migratory Species	Response
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:	
substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	As described in the section above, the Study Area does not support an important habitat for the species. Therefore, the removal of approximately 20.86 ha of foraging habitat, has no chance or possibility of leading to a long-term decrease in the size of an important population.
result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or	As described in the section above, the Study Area does not support an important habitat for the species. Additionally, the Disturbance Footprint is already impacted by grazing, clearing and mining activities and invasive species are established in the area including exotic grasses, pigs, cats and dogs. Management and control of weed and pest species, as described in Section 7.3.2, will include standard industry accepted measures to minimise the spread of weeds and proliferation of pest animals. Therefore, there is no real chance or possibility that the Project would substantially modify, destroy or isolate an area of important habitat for the species.
result seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species	As described in the section above, the Study Area is unlikely to contain an ecologically significant proportion. Nonetheless, should an ecologically significant proportion of a population utilise the Study Area, given the abundance of similar foraging habitat throughout the region, there is a very low chance or possibility the removal of 20.86 ha of foraging habitat would seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population

MNES Significant Impact Guideline Criteria for Migratory Species	Response
Outcome	*The Project is unlikely to result in a significant impact to this species, as the Study Area is unlikely to contain important habitat or an ecological significant proportion of the population.*

Appendix E MSES Significant Residual Impact Assessments

E.1 Regulated vegetation

Matters of State Environmental Significance (MSES) regulated vegetation within the Study Area was assessed using ground-truthed RE mapping. MSES Regulated Vegetation occurring within the Study Area has been assessed against the Queensland Environmental Offsets Policy – Significant Residual Impact Guideline (MSES SRI Guideline) (DSDIP, 2014) in Table A - 13. This assessment shows that an SRI is likely to occur to endangered RE 11.3.1.

Table A - 13: Regulated vegetation significant residual impact assessment

RE	VM Act status	Structure Category	Assessment criteria	Assessment	Significant residual impact likely?
Endangered and Of Concern REs					
11.3.1	Endangered	Mid-dense	Clearing of an area greater than 0.5 ha where in a mid-dense (structural category) RE.	Clearing of 1.21 ha of remnant RE 11.3.1 will be undertaken within the Disturbance Footprint.	Yes, clearing is greater than the clearing threshold of 0.5 ha.
11.3.2	Of Concern	Sparse	Clearing of an area greater than 2 ha where in a sparse (structural category) RE.	No clearing of remnant RE 11.3.2 will be undertaken within the Disturbance Footprint.	No, the clearing threshold is not exceeded.
11.3.3	Of Concern	Sparse	Clearing of an area greater than 2 ha where in a sparse (structural category) RE.	No clearing of remnant RE 11.3.3 will be undertaken within the Disturbance Footprint.	No, the clearing threshold is not exceeded.
REs within the defined distance of the defining banks of a relevant watercourse or drainage feature					
11.3.1	NA	Mid-dense	• Clearing of an area greater than 0.5 ha where in a mid-dense (structural category) RE; and • Clearing within 5 metres (m) of the defining bank.	Clearing of 0.06 ha of remnant RE 11.3.1 within a defined distance to a watercourse will be undertaken within the Disturbance Footprint including disturbance within 5 m of the defining bank.	No, the clearing threshold is not exceeded.

RE	VM Act status	Structure Category	Assessment criteria	Assessment	Significant residual impact likely?
11.3.2	NA	Sparse	• Clearing of an area greater than 2 ha where in a sparse (structural category) RE; and • Clearing within 5 m of the defining bank.	No clearing of remnant RE 11.3.2 will be undertaken within the Disturbance Footprint.	No, the clearing threshold is not exceeded.
11.3.3	NA	Sparse	• Clearing of an area greater than 2 ha where in a sparse (structural category) RE; and • Clearing within 5 m of the defining bank.	No clearing of remnant RE 11.3.3 will be undertaken within the Disturbance Footprint.	No, the clearing threshold is not exceeded.
11.3.6	NA	Sparse	• Clearing of an area greater than 2 ha where in a sparse (structural category) RE; and • Clearing within 5 m of the defining bank.	Clearing of 0.18 ha of remnant RE 11.3.6 within a defined distance to a watercourse will be undertaken within the Disturbance Footprint. This includes areas being cleared within 5 m of defining banks.	No, the clearing threshold is not exceeded.
11.3.27	NA	Sparse	• Clearing of an area greater than 2 ha where in a sparse (structural category) RE; and • Clearing within 5 m of the defining bank.	No clearing of remnant 11.3.27 will be undertaken within the Disturbance Footprint.	No, the clearing threshold is not exceeded.

E.2 Connectivity

The Landscape Fragmentation Connectivity tool performs a desktop assessment of development impacts on connectivity areas containing remnant vegetation. The tool is a test for significant residual impacts on connectivity, a Prescribed Environmental Matter (PEM) under the Environmental Offsets Framework. It is also effective as a mechanism for quantifying the fragmentation of remnant REs at the bioregion scale.

The Landscape Fragmentation Connectivity tool results for the Project are summarised in Table A - 14 below and used the Queensland Herbarium certified mapping for the Study Area. The outcome of this tool determined that no significant impact would occur for connectivity areas. Particularly, as the change of core remnant areas post impact are low (0.0%).

Table A - 14: Landscape fragmentation and connectivity significant residual impact assessment

Output	Value
Significance test one	
Regional total area	202,133.05 ha
Regional extent of core remnant	56,862.04 ha
Area of core at the local scale (pre impact)	232.49 ha
Area of core at the local scale (post impact)	232.48 ha
Percent change of core at the local scale (post impact)	0.0%
Significance test two	
The number of core remnant areas occurring on the site	0
The number of core remnant areas occurring on the site post impact	0
Result	*This analysis has determined no significant impact on connectivity areas.*

E.3 Protected Wildlife Habitat - *Solanum elachophyllum*

Solanum elachophyllum, is listed as Endangered under the Nature Conservation Act 1992 (NC Act).

Habitat preferences and distribution

S. elachophyllum is found primarily on fertile cracking-clay soils in open forest of *Eucalyptus thozetiana*, *Acacia harpophylla*, with understorey of *Geijera parviflora*, *Casuarina cristata*, *Macropteranthes leichhardtii*, *E. cambageana*, or woodland of *E. crebra* and *E. tenuipes* (Bean, 2004). This species grows in vegetation communities in which fire is normally absent (Bean, 2004) on fertile cracking soils between Middlemount and Theodore.

For additional information on *S. elachophyllum* habitat preferences and distribution, refer to Section 4.1.3.1.

Presence in the Disturbance Footprint

S. elachophyllum, has been identified numerous locations within the Disturbance Footprint, during E2M field surveys and additional locations during EMM surveys. Suitable habitat for *Solanum elachophyllum* within the Disturbance Footprint, comprises known habitat which consists of 6.00 ha of suitable habitat within 50 m of known records of the species and 2,299.78 ha of potential habitat which consists of potential suitable habitat outside areas of known habitat.

Populations within the Disturbance Footprint surveyed by E2M and EMM consisted of approximately 369 individuals across 10 discrete locations. These individuals were located in non-remnant areas and high value regrowth RE 11.3.1, 11.4.9 and 11.9.5.

For additional information on *S. elachophyllum* habitat preferences and distribution, refer to Section 4.1.3.1.

Threatening processes

The primary threats to *S. elachophyllum* include habitat loss through vegetation clearing and reduced habitat availability, particularly due to the spread of invasive species such as introduced pasture grasses (Bean, 2004). Additional risks arise from the destruction of individuals and populations on private freehold land, where small vegetation patches may be cleared without detection under the Vegetation Management Act 1999. The species is also vulnerable to stochastic events (such as changes in drainage, drought, fire, and wildlife predation) which can significantly reduce or eliminate populations. This vulnerability is heightened by the fragmented nature of remaining vegetation, with populations at the Brigalow Research Station notably impacted by heavy wallaby grazing (Bean, 2004). Furthermore, small population sizes across all known sites raise concerns about genetic inbreeding depression.

Recovery actions

There are no recovery actions for *S. elachophyllum*. However, monitoring is recommended to improve species management and knowledge (DERM, 2011). Further field studies are required to locate any additional populations and to precisely determine the number of populations, geographical range, area of occupancy and number of individuals.

Significant impact assessment

Approximately 6.00 ha of known habitat and 2,299.78 ha of potential habitat for *S. elachophyllum* is located within the Disturbance Footprint and will be cleared for the Project (Figure 10). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 15.

Table A - 15: Significant residual impact assessment for the *Solanum elachophyllum*

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	
lead to a long-term decrease in the size of a local population	A total 6.00 ha of known *S. elachophyllum* habitat, including the removal of approximately 123 stems, will be removed as part of the Project. This removal of known individuals is likely to lead to a long-term decrease in the size of the local population.
reduce the extent of occurrence of the species	The extent of occurrence for this species is 53,798 km^2 (ALA, 2025). The proposed disturbance is located in Blackwater, which lies centrally within the known distribution of the species. Therefore, given the Projects central position within the species known distribution and the number of records within the Study Area and surrounding region, the Project is unlikely to result in a reduction of the species' extent of occurrence.
fragment an existing population	The Project would require the removal of approximately 6.00 ha of known *S. elachophyllum* habitat, including the removal of approximately 123 stems, as well as an additional 2,299.78 ha of potential habitat. However, while entire patches of individuals will be removed as part of the Project, given the Study Area is already highly fragmented and individuals occur as small, isolated patches, it is unlikely that the Project would fragment an existing population.
result in genetically distinct populations forming as a result of habitat isolation	As the landscape within the Study Area is already highly fragmented and existing records of the species occur in small, isolated patches, it is unlikely that the Project would result in genetically distinct populations forming as a result of habitat isolation.
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	As discussed above, one of the greatest threats to the species is reduced habitat availability, due to the spread of invasive species such as introduced pasture grasses (Bean, 2004). Pasture grasses such as Buffel grass are already prevalent within the species habitat and widespread throughout the broader landscape. Nonetheless, implementation of a Weed and Pest Management Plan, as described in Section 7.3.2, will include standard industry accepted measures to minimise the introduction and spread of weeds. As such, it is unlikely that the Project would result in the establishment or proliferation of invasive species which are harmful to the species.
introduce disease that may cause the population to decline	There are no diseases listed as threats to *S. elachophyllum*. Therefore, the Project is not expected to result in the introduction of a disease that would cause the species to decline.

Significant impact criteria	Response
interfere with the recovery of the species	The Project would require the removal of approximately 6.00 ha of known *S. elachophyllum* habitat, including the removal of approximately 123 stems, as well as an additional 2,299.78 ha of potential habitat. While this result in a reduction in the local population, given the extent of similar habitat and known record within and surrounding the Study Area, it is considered unlikely that the Project would substantially interfere with the recovery of the species.
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	The potential habitat mapped within the Disturbance Footprint is unlikely to be an ecologically significant location as more extensive, better-connected, and higher-quality habitat is available elsewhere within the Study Area and boarder landscape. As such, the Project is unlikely to cause disruption to an ecological significant location for the species.
Outcome	*The Project is likely to lead to a long-term decrease in the size of a local population. Therefore, it is likely the Project would have a significant residual impact on S. elachophyllum.*

E.4 Protected Wildlife Habitat - Australian painted snipe (*Rostratula australis*)

The Australian painted snipe is listed as endangered under and the NC Act.

Habitat preference and distribution

Refer to Appendix D.2.

Presence within the Disturbance Footprint

Refer to Appendix D.2.

Threatening processes

Refer to Appendix D.2.

Recovery actions

Refer to Appendix D.2.

Significant impact assessment

Approximately 20.86 ha of foraging habitat for Australian painted snipe is located within the Disturbance Footprint and will be cleared for the Project (Figure 14). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 16.

Table A - 16: Significant residual impact assessment for the Australian painted snipe

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	
lead to a long-term decrease in the size of a local population	The Australian painted snipe population is small, likely to be continuous, dispersive or migratory (DCCEWW, 2022) and unlikely to comprise local sub-populations. The Project would result in the removal of 20.86 ha of foraging habitat for Australian painted snipe, with no suitable breeding habitat present within the Disturbance Footprint (refer to Section 4.2.3.2). The foraging habitat present consists of 6.41 ha of permanent foraging opportunities in the form of dams and 14.45 ha of ephemeral/intermittent foraging opportunities in the form of cleared gilgai pastureland. Areas of similar foraging habitat are abundant throughout the wider Study Area, including 10.03 ha of dams or wetlands, 520.20 ha of non-remnant gilgai and 8.71 ha of remnant RE 11.3.27 providing wetland habitat. Therefore, given the Project would not result in the removal of breeding habitat, impact a small proportion (3.42%) of available foraging habitat within the Study Area, it is unlikely the Project would lead to a long-term decrease in the size of a local population.

Significant impact criteria	Response
reduce the extent of occurrence of the species	The extent of occurrence for the species is estimated at 7,100,000 km^2 (S. T. Garnett et al., 2011). Given, the species is widespread and dispersive, and the Project would result in the removal of a small portion (20.86 ha / 3.42%) of similar foraging habitat within the Study Area, it is considered unlikely the Project would reduce the extent of occurrence of the species.
fragment an existing population	This is a highly mobile species for which the Project is unlikely to create barriers to movement, and the species will be able to persist within the landscape. Therefore, the Project is not expected to fragment an existing population.
result in genetically distinct populations forming as a result of habitat isolation	Given that the Project is unlikely to fragment an existing population, it is also unlikely to lead to the formation of genetically distinct populations through habitat isolation. Furthermore, the habitat affected by the Project is already extremely fragmented, reducing the potential for additional genetic divergence.
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	The Study Area is already impacted by grazing, clearing and mining activities and invasive species are established in the area. Threats to the species as a result of this existing disturbance includes proliferation of weed species, degradation of already modified seasonal and ephemeral wetland habitat by feral pigs and predation by feral cats. Management and control of weed and pest species, as described in 0, will include standard industry accepted measures to minimise the spread of weeds and pest animals (e.g. feral pigs, that have the potential to degrade the ground layer and foraging resources for the Australian painted snipe, and feral cats which prey on the species). Therefore, the Project is unlikely to contribute substantially to an invasive species becoming established in Australian painted snipe habitat.
introduce disease that may cause the population to decline	There are no diseases listed as threats to the Australian painted snipe. Therefore, the Project is not expected to result in the introduction of a disease that would cause the species to decline.
interfere with the recovery of the species	The strategies identified to achieve the recovery plan objectives include the management and protection of known habitat at a landscape level, reduce or eliminate threats at breeding and non-breeding habitat as well as research activities relating to population trajectories, habitat requirements and the engagement of stakeholders (DCCEWW, 2022). While the removal of 20.86 ha of foraging habitat goes against the reducing threats to the species, given the availability of similar habitat within the Study Area and broader region, the extent of proposed clearing is not considered of a scale which is likely to interfere with the recovery of the species.

Significant impact criteria	Response
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	The Project would result in the removal of 20.86 ha of foraging habitat for Australian painted snipe, with no suitable breeding habitat present within the Disturbance Footprint (refer to Section 4.2.3.2). The foraging habitat present consists of 6.41 ha of permanent foraging opportunities in the form of dams and 14.45 ha of ephemeral/intermittent foraging opportunities in the form of cleared gilgai pastureland. Therefore, given the Disturbance Footprint does not contain suitable breeding habitat for the species and similar foraging habitat is abundant throughout the Study Area and broader region, habitat within the Disturbance Footprint is unlikely to constitute ecologically significant location.
Outcome	*While The Project would result in the removal of 20.86 ha of foraging habitat for Australian painted snipe, given these areas are not considered ecological significant locations based on extensive similar habitat being available within the broader region, the Project is unlikely to have a significant impact on the species.*

E.5 Protected Wildlife Habitat - Koala (*Phascolarctos cinereus*)

The Koala is listed as endangered under the NC Act.

Habitat preference and distribution

Refer to Appendix D.3.

Presence within the Disturbance Footprint

Refer to Appendix D.3.

Threatening processes

Refer to Appendix D.3.

Recovery actions

Refer to Appendix D.3.

Significant impact assessment

Approximately 2.72 ha of Koala breeding and foraging habitat, and 48.29 ha of dispersal habitat is located within the Disturbance Footprint and will be cleared for the Project (Figure 18). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 17.

Table A - 17: Significant residual impact assessment for the Koala

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	
lead to a long-term decrease in the size of a local population	The Project would remove a total of 50.01 ha of habitat for the species. This will comprise of 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, with majority of habitat highly degraded as a result of historical clearing (refer to Section 4.1.1). Given the paucity of records within the Study Area and the degraded nature of the habitat, no resident populations are expected to occur within the Study Area, with any individuals likely to occur transiently when moving between areas of higher quality habitat. Additionally, habitat present within the Disturbance Footprint does not provided connectivity between areas of higher quality habitat, with the primary movement corridor along Taurus Creek and Two Mile Gully being retained. Therefore, given the Study Area is unlikely to contain a resident population of Koalas and the Project would result in the removal of 50.01 ha of highly degraded habitat which is unlikely to be utilised by the species, it is unlikely the Project would lead to a long-term decrease in the size of a local population.

Significant impact criteria	Response
reduce the extent of occurrence of the species	The extent of occurrence was calculated as 1,665,850 km (DAWE, 2022). While the Project would result in the removal of 50.01 ha of habitat, including 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, these areas are highly degraded and do not provide connectivity between areas of higher quality habitat. As such these areas are considered unlikely to be occupied by Koalas. Therefore, given habitat within the Disturbance Footprint is unlikely to be occupied by Koalas and the primary movement corridor within the Study Area (i.e. Taurus Creek and Two Mile Gully) is being retained, it is unlikely the Project would reduce the extent of occurrence of this species.
fragment an existing population	Koalas are known to traverse up to 1-3 km on ground and will often travel through cleared or treeless areas (DAWE, 2022). While the Project would result in the removal of 50.01 ha of habitat, including 2.72 ha of breeding and foraging habitat and 48.29 ha of dispersal habitat, these areas are highly degraded and do not provide connectivity between areas of higher quality habitat. Therefore, given the Project would not impact habitat providing connectivity for Koalas and the primary movement corridor within the Study Area (i.e. Taurus Creek and Two Mile Gully) is being retained, it is unlikely the Project would fragment an existing population.
result in genetically distinct populations forming as a result of habitat isolation	Given that the Project is unlikely to fragment an existing population, it is also unlikely to lead to the formation of genetically distinct populations through habitat isolation. Furthermore, the habitat affected by the Project is already extremely fragmented and provides limited connectivity, reducing the potential for additional genetic divergence.
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	The primary invasive species, which poses a threat to Koala are dogs (DAWE, 2022). Dogs were recorded in the Study Area during the field survey, though given the already highly disturbed nature of the Study Area and the Project implementing specific environmental management plans including a Pest and Weed Management Plan to mitigate the threat of dogs (see Section 7.3.2), it is unlikely that the Project would proliferate the occurrence of dogs within the area.

Significant impact criteria	Response
introduce disease that may cause the population to decline	Diseases such as Chlamydia (*Chlamydia pecorum*) and Koala retrovirus (KoRV) have been identified in the populations within the region. The prevalence of disease (chlamydiosis) has been found to increase following extreme stress from hot weather, drought, habitat loss and fragmentation (Lunney et al., 2012; McCallum et al., 2017). Symptoms of individuals carrying Chlamydia can become overt when subjected to additional stress. Such stress may be caused by habitat clearing associated with the Project. However, Koala specific management measures will be put in place as part of the updated Blackwater Mine Land and Management Plan (Whitehaven Coal Pty Ltd, 2020) to ensure this threat is mitigated (Section 7.1.2). Important measures will include but not be limited to; pre-clearance surveys to detect the presence of Koalas, directional clearing towards habitat to be retained, leaving identified Koalas in place with dispersal routes and connecting trees available until the individual has moved on without interference. Implementation of these measures will ensure the Project is unlikely to introduce diseases or exacerbate existing diseases that may cause the species to decline.
interfere with the recovery of the species	The National Recovery Plan identifies recovery objectives and threats to be managed for the recovery of the species (DAWE, 2022). The key threats to the species listed in the recovery plan that are relevant to the Project include habitat loss, fragmentation and degradation. In relation to these threats: • the Disturbance Footprint will involve clearing of habitat, although these areas are considered unlikely to be occupied by individuals, will not impact refuge habitat and will not fragment remaining habitat to the extent the species cannot continue to disperse through the landscape; and • suitable habitat will remain in the Study Area and will continue to be available to support the long-term persistence of the species. As the species is expected to persist in the Study Area, the Project is unlikely to interfere with the recovery of the species.
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	The suitable habitat within the Disturbance Footprint is not considered to constitute an ecological significant location, given: • the area is unlikely to occupy the habitat • is highly degraded; and • does not provide connectivity between larger areas of higher quality habitat. Additionally, potential indirect impacts on retained habitat are considered to be negligible based on the implementation of mitigation measures detailed in Section 7. As such, the Project is considered unlikely to cause disruption to ecological significant locations of the species.

Significant impact criteria	Response
Outcome	*Given the limited extent of proposed clearing, the species being considered unlikely to occupy habitat within the Disturbance Footprint, the absence of ecological significant locations and the Project not fragmenting or isolating populations, it is unlikely the Project would result in a significant residual impact on the Koala.*

E.6 Protected Wildlife Habitat - Latham's snipe (*Gallinago hardwickii*)

The Latham's snipe is listed as vulnerable under the NC Act.

Habitat preference and distribution

Refer to Appendix D.4.

Presence within the Disturbance Footprint

Refer to Appendix D.4.

Threatening processes

Refer to Appendix D.4.

Recovery actions

Refer to Appendix D.4.

Significant impact assessment

Approximately 20.86 ha of foraging habitat for the Latham's snipe is located within the Disturbance Footprint and will be cleared for the Project (Figure 15). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 18.

Table A - 18: Significant residual impact assessment for the Latham's snipe

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	

Significant impact criteria	Response
lead to a long-term decrease in the size of a local population	The Study Area is unlikely to support a local population of the species, and the entire population of Latham's snipe migrate to Australia during the northern hemisphere boreal winter where it returns to breed, and therefore local populations do not occur in the Study Area. The foraging habitat present consists of 6.41 ha of permanent foraging opportunities in the form of dams/wetlands and 14.45 ha of ephemeral/intermittent foraging opportunities in the form of cleared gilgai pastureland. Areas of similar foraging habitat are abundant throughout the wider Study Area, including 10.03 ha of dams or wetlands, 520.20 ha of non-remnant gilgai and 8.71 ha of remnant RE 11.3.27 providing wetland habitat. Therefore, given the Project would impact a small proportion (3.42%) of available foraging habitat within the Study Area, it is unlikely the Project would lead to a long-term decrease in the size of a local population.
reduce the extent of occurrence of the species	The Extent of occurrence for Latham's Snipe has been estimated at 13,000 km^2 (DCCEEW, 2024). Approximately 20.86 ha of foraging habitat to be removed within the Disturbance Footprint. Given, the species is widespread and dispersive, and the Project would result in the removal of a small portion (20.86 ha / 3.42%) of similar foraging habitat within the Study Area, there is a very low possibility that the Project would likely reduce the extent of occurrence of the species.
fragment an existing population	Latham's Snipe are a highly mobile species, able to travel long distances and the Project would not cause a barrier to movement for this species. Furthermore, the species will be able to persist in remaining habitat which offers greater quality and quantity in the Study Area and broader landscape. Therefore, the Project is not expected to result in the fragmentation of an existing population of Latham's Snipe.
result in genetically distinct populations forming as a result of habitat isolation	The Project would impact 20.86 ha of foraging habitat for this species. However, the relatively small area of impact to foraging habitat is already well isolated and, as such is unlikely to result in genetically distinct populations. In addition, Latham's snipe do not breed in Australia and the removal of 20.86 ha of foraging habitat outside of the breeding habitat for the species is unlikely to cause the creation of genetically distinct populations. Similarly, potential indirect impacts such as changes to the hydrology, invasion by exotic weeds and disturbance and predation by pest animals will be managed (as described in Section 7.4.1 and Section 7.3.1 respectively) to the extent they are unlikely to decrease the availability or quality of habitat remaining in the Study Area.

Significant impact criteria	Response
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	The Study Area is already impacted by grazing, clearing and mining activities and invasive species are established in the area. Threats to the species as a result of this existing disturbance includes proliferation of weed species, degradation of wetland habitat by feral pigs and predation by feral cats. Management and control of weed and pest species, as described in 0, will include standard industry accepted measures to minimise the spread of weeds and pest animals that have the potential to degrade the ground layer and foraging resources for the Latham's snipe and prey on the species. Therefore, the Project is unlikely to contribute substantially to an invasive species becoming established in Latham's snipe habitat.
introduce disease that may cause the population to decline	The Approved conservation advice for Latham's snipe does not identify any diseases that are likely to impact the species (DCCEEW, 2024). The Project is not expected to result in the introduction of a disease that would impact Latham's snipe.
interfere with the recovery of the species	The removal of 20.86 ha of foraging habitat is not expected to interfere with the recovery of the species. In addition, large areas of non-remnant gilgai habitat that provide high-quality foraging opportunities will remain within the Study Area, continuing to support habitat availability for the species. Therefore, it is unlikely the Project would interfere with the recovery of the species.
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	The Project proposes the removal of approximately 20.86 ha of anthropogenic wetlands and dams, along with non-remnant gilgai habitat that may offer ephemeral habitat following rainfall events. While foraging habitat does exist within the Disturbance Footprint, it is relatively isolated from larger, higher-quality habitat areas elsewhere in the Study Area. As a result, these foraging areas are unlikely to be ecologically significant locations.
Outcome	*While The Project would result in the removal of 20.86 ha of foraging habitat for the Latham's snipe, given the extent of similar habitat available throughout the Study Area and wider region, these impacts are not considered important, notable, or of consequence, having regard to its context and intensity.*

E.7 Protected Wildlife Habitat - Ornamental snake (*Denisonia maculata*)

The Ornamental snake is listed as vulnerable under the NC Act.

Habitat preference and distribution

Refer to Appendix D.5.

Presence within the Disturbance Footprint

Refer to Appendix D.5.

Threatening processes

Refer to Appendix D.5.

Recovery actions

Refer to Appendix D.5.

Significant impact assessment

No habitat for the Ornamental snake is located within the Disturbance Footprint (Figure 13). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 19.

Table A - 19: Significant residual impact assessment for the Ornamental snake

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	
lead to a long-term decrease in the size of a local population	No Ornamental snake habitat was identified within the Disturbance Footprint. The Project would therefore not result in the direct loss of suitable habitat and is unlikely to lead to a long-term decline in the size of an important population. The gilgai habitat remaining in the Study Area that is likely to support an important population will not be directly impacted by the Project
reduce the extent of occurrence of the species	The extent of occurrence for this species is 376,319 km^2 (ALA, 2025). As no Ornamental snake habitat was identified within the Disturbance Footprint, the Project would not reduce the extent of occurrence for the species. Additionally, indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, there is a very low chance or possibility that the Project would reduce the extent of occurrence of the species.
fragment an existing population	As no Ornamental snake habitat was identified within the Disturbance Footprint, the Project is unlikely to fragment an existing population. The gilgai habitat remaining in the Study Area that is likely to support an important population will not be directly impacted by the Project.

Significant impact criteria	Response
result in genetically distinct populations forming as a result of habitat isolation	As no suitable habitat for the species has been identified within the Disturbance Footprint, there is no chance or possibility the Project would result in genetically distinct populations forming as a result of habitat isolation.
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	Threats to the species include overgrazing and degradation by feral herbivores such as rabbits and feral pigs, proliferation of weed species and predation by feral carnivores, such as foxes and feral cats. The Study Area is already impacted by grazing, clearing and mining extraction activities and invasive species are already established in the landscape, including those listed as potential threats above. Management and control of weed and pest species, as described in Section 7.3.2, will include standard industry accepted measures to minimise the spread of weeds and proliferation of pest animals that have the potential to degrade the ground layer. Therefore, the Project is unlikely to contribute to an invasive species becoming established in the Ornamental snake habitat remaining in the Study Area.
introduce disease that may cause the population to decline	No introduced diseases are known to significantly impact this species. It is unlikely the Project would introduce such as disease in this region.
interfere with the recovery of the species	No Ornamental snake habitat was identified within the Disturbance Footprint, and indirect impacts on retained habitat are considered negligible based on the implementation of mitigation measures detailed in Section 7. As such, there is a very low chance or possibility that the Project would interfere with the recovery of the species.
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	As no Ornamental snake habitat was identified within the Disturbance Footprint, the Project is unlikely to cause disruption to ecologically significant locations. The gilgai habitat remaining in the Study Area that is likely to support an important population will not be directly impacted by the Project.
Outcome	*The Project is unlikely to have a significant residual impact on the Ornamental snake, as there is no habitat within the Disturbance Footprint.*

E.8 Protected Wildlife Habitat - Squatter pigeon (southern) (*Geophaps scripta scripta*)

The Squatter pigeon (southern) is listed as vulnerable under the NC Act.

Habitat preference and distribution

Refer to Appendix D.6.

Presence within the Disturbance Footprint

Refer to Appendix D.6.

Threatening processes

Refer to Appendix D.6.

Recovery actions

Refer to Appendix D.6.

Significant impact assessment

Approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat for the Squatter pigeon (southern) is located within the Disturbance Footprint (totalling 294.80 ha) and will be cleared for the Project (Figure 16). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 20.

Table A - 20: Significant residual impact assessment for the Squatter pigeon (southern)

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	
lead to a long-term decrease in the size of a local population	The Project proposes the removal of approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat. However, this impact is unlikely to lead to a long-term decrease in the size of a local population, as any individuals present are expected to be in very low numbers. Additionally, suitable breeding and foraging habitat remains available elsewhere within the Study Area.
reduce the extent of occurrence of the species	The extent of occurrence for the species has been calculated at 1,684,230 km^2 (Queensland Resources Council, 2015). The species will persist in the Study Area and broader region despite the removal of approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat. Therefore, the Project has a low chance or possibility to reduce the extent of occurrence of the species.

Significant impact criteria	Response
fragment an existing population	The proposed removal will affect approximately 26.05 ha of breeding and foraging habitat, 6.41 ha of foraging-only habitat, and 262.34 ha of dispersal habitat within the Disturbance Footprint. However, this impact has a low chance or possibility to fragment an existing population, as any individuals present are expected to be in very low numbers. Additionally, suitable breeding and foraging habitat remains available elsewhere within the Study Area.
result in genetically distinct populations forming as a result of habitat isolation	The presence of individuals within the Disturbance Footprint is anticipated to be minimal, if any. Furthermore, the habitat across the Study Area is well connected, and any impacts within the Disturbance Footprint are unlikely to result in the formation of genetically distinct populations due to habitat isolation.
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	Threats to the species include overgrazing by feral herbivores such as rabbits, proliferation of weed species and predation by feral carnivores such as foxes and feral cats. The Disturbance Footprint is already impacted by grazing, clearing and mining activities and invasive species are established in the area including feral cats. Implementation of a Weed and Pest Management Plan, as described in Section 7.3.2, will include standard industry accepted measures to minimise the spread of weeds and proliferation of pest animals that have the potential to degrade the ground layer and foraging resources for the Squatter pigeon (southern). Therefore, the Project has a low chance or possibility of contributing to an invasive species becoming established in Squatter pigeon (southern) habitat.
introduce disease that may cause the population to decline	Disease has not been identified as a threat to the Squatter pigeon (southern). Therefore, the Project would not introduce disease that may cause the species to decline.
interfere with the recovery of the species	Recovery actions primarily address impacts to important sub-populations of the Squatter pigeon (southern), of which none occur in the Study Area. Given the low abundance of individuals recorded in the Study Area and availability of habitat elsewhere in the region and mitigation proposed, it is unlikely the Project would interfere with the recovery of the Squatter pigeon (southern).
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	The Project proposed the removal of 26.05 ha of breeding and foraging habitat along with 6.41 ha of foraging-only habitat for the species. Although, habitat within the Study Area does not provide particularly unique or rare resources that are important for the long-term maintenance of the species, maintaining genetic diversity, or provide area to support reintroductions of the species.
Outcome	*The Project is unlikely to have a significant impact on the Squatter pigeon (southern) as habitat within the Disturbance Footprint is degraded and unlikely to contain important habitat for the species.*

E.9 Protected Wildlife Habitat - White-throated needletail (*Hirundapus caudacutus*)

The White-throated needletail is listed as vulnerable under the NC Act.

Habitat preference and distribution

Refer to Appendix D.7.

Presence within the Disturbance Footprint

Refer to Appendix D.7.

Threatening processes

Refer to Appendix D.7.

Recovery actions

Refer to Appendix D.7.

Significant impact assessment

Approximately 2,316.58 ha of foraging habitat is located within the Disturbance Footprint and will be cleared for the Project (Figure 17). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 21.

Table A - 21: Significant residual impact assessment for the White-throated needletail

Significant impact criteria	Response
An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:	
lead to a long-term decrease in the size of a local population	Given the species' migratory and highly mobile nature, the Study Area is unlikely to support a local population. Therefore, removal of approximately 2,316.58 ha of aerial foraging habitat has a low chance or possibility of leading to a long-term decrease in the size of a local population.
reduce the extent of occurrence of the species	The Disturbance Footprint and surrounding Study Area is unlikely to support a local population of White-throated needletail. Despite the removal of approximately 2,316.58 ha of aerial foraging habitat for the Project, the species is likely to continue to overfly the Study Area and landscapes within the broader region. Therefore, the action has no chance or possibility of reducing the extent of occurrence of the species.
fragment an existing population	The Disturbance Footprint and surrounding Study Area is unlikely to support a local population of White-throated needletails. This is a highly mobile, almost exclusively aerial species. Therefore, the clearing of vegetation within the Disturbance Footprint is unlikely to fragment an existing population.
result in genetically distinct populations forming as a result of habitat isolation	The removal of approximately 2,316.58 ha of aerial foraging habitat has no chance or possibility of resulting in habitat isolation that will lead to the formation of genetically distinct populations given that the species is highly mobile and almost exclusively aerial.

Significant impact criteria	Response
result in invasive species that are harmful to an endangered, vulnerable or near-threatened species becoming established in the endangered, vulnerable or near-threatened species' habitat	The *Conservation Advice Hirundapus caudacutus White-throated Needletail* (TSSC, 2019) does not identify any invasive species that are considered likely to impact the species. The Project is not expected to result in the introduction of an invasive species that would be harmful to White-throated needletails becoming established within overfly habitat for this species.
introduce disease that may cause the population to decline	The *Conservation Advice Hirundapus caudacutus White-throated Needletail* (TSSC, 2019) does not identify any diseases that are likely to impact the species. The Project is not expected to result in the introduction of a disease that would impact White-throated needletails.
interfere with the recovery of the species	The species is unlikely to directly use vegetation communities in the Disturbance Footprint and surrounding Study Area therefore it is not considered to provide ecologically significant habitat for the species or support a local population, therefore the action is unlikely to interfere substantially with the recovery of the species.
cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	Given this is a non-breeding visitor to Australia, an almost exclusively aerial species and the Disturbance Footprint and surrounding Study Area is unlikely to provide preferred roosting habitat for this species, the Project has no chance or possibility of causing disruption to ecologically significant locations of the species.
Outcome	*Given the species is almost exclusively aerial, the Project is unlikely to cause disruption to ecologically significant locations, fragment an existing population or lead to a long-term decrease in the size of a location population. The Project is therefore considered unlikely to result in a significant residual impact to this species.*

E.10 Protected Wildlife Habitat - Short-beaked echidna (*Tachyglossus aculeatus*)

Short-beaked echidna is listed as Special Least Concern under the NC Act.

Habitat preferences and distribution

The Short-beaked echidna is widespread and occurs throughout Australia in a broad variety of habitats where there is a supply of ants and termites upon which it feeds (Van Dyck & Strahan, 2008). The species also utilises microhabitat features such as thick bushes, hollow logs and debris piles for shelter (Van Dyck & Strahan, 2008) (refer to Section 4.2.3.7).

Presence in the Disturbance Footprint

Short-beaked echidna has not been recorded during any surveys within the Disturbance Footprint. However, given the species is widespread and utilises and range of habitats, suitable habitat within the Disturbance Footprint, includes 122.11 ha of breeding and foraging habitat consisting of remnant, high value regrowth and young regrowth communities.

For additional information on Short-beaked echidna habitat preferences and distribution, refer to Section 4.2.3.7.

Threatening processes

Across most of its range, the Short-beaked echidna is considered to have few major threats (Aplin, 2015). At an individual scale they are susceptible to predation by feral cats and pigs as well as being hit by motor vehicles (S. Nicol, 2015). Land clearing for agriculture and livestock may reduce habitat quality and microhabitat availability for the species (Eldridge et al., 2016).

Recovery actions

There are no recovery actions for the short beaked echidna as the species has a wide distribution, is a habitat generalist and there are limited key threats to the species.

Significant impact assessment

Approximately 122.11 ha of breeding and foraging habitat for the Short-beaked echidna is located within the Disturbance Footprint and will be cleared for the Project (Figure 19). A significant residual impact assessment has been completed against the MSES SRI Guidelines (DSDIP, 2014) and is provided in Table A - 22.

Table A - 22: Significant residual impact assessment for the Short-beaked echidna

Significant impact criteria	Response
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	Up to 122.11 ha of breeding and foraging is proposed to be cleared within the Disturbance Footprint. This is unlikely to lead to a long-term decrease in the size of the local Short-beaked echidna population, given: • measures to mitigate mortality or injury of animals during clearing and construction works (as detailed in Section 7.1.2 of this report) • the presence and extent of similarly suitable habitat adjacent to and connected with the Disturbance Footprint • the species' mobility and continued ability to access foraging and shelter resources within the Study Area and surrounds, and • potential utilisation of cleared and disturbed areas for foraging following rehabilitation or revegetation works.
a reduced extent of occurrence of the species	The Project is unlikely to reduce the species' extent of occurrence, given: • the extent of similarly suitable habitat adjoining and connected with the Disturbance Footprint and within the broader surrounding landscape; and • the species' mobility and continued ability to access breeding, foraging and shelter resources within the Study Area and surrounds.
fragmentation of an existing population	The Project is unlikely to fragment an existing population, as any individuals present are expected to be in very low numbers and the species is known to move across cleared areas.
genetically distinct populations forming as a result of habitat isolation	The Project is likely to remove a total of 122.11 ha of breeding and foraging habitat. This disturbance will not create dispersal barriers that would result in genetically distinct populations forming as the species is the known to move across cleared areas and any individuals present are expected to be in very low numbers.
disruption to ecologically significant locations (breeding, feeding or nesting sites) of a species	The Study Area is unlikely to support ecologically significant locations for this species given the similar nature of vegetation and habitat across the landscape in this region. Nonetheless, the Blackwater Mine Land and Biodiversity Management Plan will be updated as discussed in Section 7, and which will include industry standards to avoid and minimise impacts to animal breeding places and unnecessary stress on native fauna.
Outcome	*The Project is unlikely to result in a significant impact on Short-beaked echidna as the species is likely to occupy the surrounding landscape and the Project is unlikely to fragment or isolate populations of the species.*

Appendix F Vegetation community descriptions

RE 11.3.1 - Remnant

Habitat quality sites:
7



Landform: alluvial plains and channels

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: *Acacia harpophylla* woodland on alluvial plains. The subcanopy contained *Terminalia oblongata, Acacia excelsa* and *Lysiphyllum hookeri*. The shrub layer included *Lysiphyllum carronii, Atalaya hemiglauca, Terminalia oblongata, Erythroxylum australe,* and *Citrus glauca.*

Structural formation: Woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Endangered/ Endangered

T1

Height interval: 7-16 m	**Median Height:** 10 m	**Estimated Cover Density:** 3-46%

Species: *Acacia harpophylla* (d), *Eucalyptus coolabah* (a), *Lysiphyllum carronii* (a), *Brachychiton rupestris* (a), *Atalaya hemiglauca* (a), *Acacia excelsa* (a), *Erythroxylum australe* (a)

T2

Height interval: 3-6 m	**Median Height:** 4.5 m	**Estimated Cover Density:** 3-48%

Species: *Lysiphyllum carronii, Terminalia oblongata, Acacia excelsa, Erythroxylum australe, Brachychiton rupestris, Lysiphyllum hookeri, Grevillea parviflora*

S1

Height interval: 0.5-8 m	**Median Height:** 3 m	**Estimated Cover Density:** 1-7%

Species: *Lysiphyllum carronii, Atalaya hemiglauca, Citrus glauca, Erythroxylum australe, Terminalia oblongata, Alstonia constricta, Lysiphyllum hookeri, Notelaea microcarpa, Owenia acidula,* and *Grevillea parviflora*

Groundcover

Estimated Cover Density: 12-80%

Species: *Dichanthium sericeum, Aristida calycina, Sporobolus caroli, S. actinocladus, Cynodon dactylon*, Enteropogon ramosus, Chloris divaricata, Heteropogon contortus, Salsola australis, Atriplex muelleri, Enchylaena tomentosa, Nyssanthes diffusa, Capparis lasiantha, Cenchrus ciliaris*, Bothriochloa pertusa*, Urochloa mosambicensis*, Megathyrsus maximus*, Opuntia tomentosa*, Malvastrum americanum*, Harrisia cactus*, Eragrostis trichophora*, Parthenium sp.*, Cryptostegia grandiflora**

RE 11.3.1 – High value regrowth

Habitat quality sites:
3



Landform: alluvial plains

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: *Acacia harpophylla* low open woodland on alluvial plain. The subcanopy contained *Lysiphyllum carronii, Terminalia oblongata, A. excelsa, Erythroxylum australe, Brachychiton rupestris, L. hookeri* and *Grevillea parviflora*. The shrub layer included *Terminalia oblongata, L. carronii, Atalya hemiglauca, L. hookeri, and A. harpophylla.*

Structural formation: Woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Endangered/ Endangered

T1

Height interval: 7- 8 m	**Median Height:** 7.5 m	**Estimated Cover Density:** 17-58%

Species: *Acacia harpophylla*

T2

Height interval: 3-6 m	**Median Height:** 4.5 m	**Estimated Cover Density:** 7-12%

Species: *Lysiphyllum carronii, Terminalia oblongata, Acacia excelsa, Erythroxylum australe, Brachychiton rupestris, Lysiphyllum hookeri, Grevillea parviflora*

S1

Height interval:1-2 m	**Median Height:** 1.5 m	**Estimated Cover Density:** 1-12%

Species: *Terminalia oblongata, Lysiphyllum carronii, Atalaya hemiglauca, L. hookeri, Acacia harpophylla, Capparis sp.*

Groundcover

Estimated Cover Density: 15-51%

Species: *Sporobolus caroli, S. actinocladus, Dichanthium sericeum, Eragrostis trichophora*, Cynodon dactylon*, Cenchrus ciliaris*, Megathyrsus maximus*, Cyperus sp., Salsola australis, Sclerolaena sp., Atriplex muelleri, Portulaca sp., Parthenium hysterophorus*, Bryophyllum delagoense*, Harrisia sp.**

RE 11.3.2 - Remnant

Habitat quality sites:
2



Landform: alluvial plain

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: *Eucalyptus populnea* dominated open woodland on alluvial plain. The subcanopy contained *A. saligna, Terminalia oblongata, Owenia acidula* and *Eremophila mitchellii*. The shrub layer included *Lysiphyllum hookeri, Cassia brewsteri, Capparis lasiantha, Carissa ovata, A. excelsa, Citrus glauca, Owenia acidula,* and *A. saligna.*

Structural formation: Open woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Of concern

T1

Height interval: 10-16m	**Median Height:** 15m	**Estimated Cover Density:** 8-44%

Species: *Eucalyptus coolabah (d), E. camaldulensis (d), Lysiphyllum carronii (d), E. populnea (d), Acacia harpophylla (a)*

T2

Height interval: 4 – 7m	**Median Height:** 6m	**Estimated Cover Density:** 12%

Species: *Acacia saligna, Terminalia oblongata, Owenia acidula, Eremophila mitchellii*

S1

Height interval: 2 – 4 m	**Median Height:** 3 m	**Estimated Cover Density:** 0-4%

Species: *Lysiphyllum carronii, Acacia salicina, A. harpophylla, Grewia sp., Atalaya hemiglauca, Citrus glauca, Lysiphyllum hookeri, Owenia acidula, Cassia brewsteri, Capparis lasiantha, Carrisa ovata, Acacia excelsa, Eucalyptus populnea*

Groundcover

Estimated Cover Density: 86 -95%

Species: *Dichanthium sericeum, Chloris divaricata, Eriachne sp., Bothriochloa ewartiana, Bothriochloa pertusa*, Enneapogon polyphyllus, Enteropogon ramosus, Aristida ramosa, Themeda triandra, Eragrostis trichophora*, Stylosanthes scabra*, Abutilon sp., Sida hackettiana, Salsola australis, Melhania oblongifolia, Enchylaena tomentosa, Evolvulus sp., Sclerolaena sp., Cyperus sp., Sida filicaulis, Cenchrus ciliaris*, Megathyrsus maximus*, Urochloa mosambicensis*, Parthenium hysterophorus*, Bryophyllum delagoense*, Harrisia martinii*, Opuntia tomentosa*, Opuntia stricta**

RE 11.3.3 - Remnant

Habitat quality sites:
2



Landform: alluvial channels

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: *Eucalyptus coolabah* open forest woodland on alluvial plains. The subcanopy contained *Lysiphyllum carronii, Alstonia constricta, E. melanophloia, Brachychiton rupestris,* and *Erythroxylum australe*. The shrub layer included *Acacia harpophylla, Lysiphyllum carronii, Atalaya hemiglauca* and *Erythroxylum australe*.

Structural formation: Woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Of concern

T1

Height interval: 18m	**Median Height:** 18 m	**Estimated Cover Density:** 37-87%

Species: *Eucalyptus coolabah (d), Acacia harpophylla (a), Lysiphyllum sp. (a) and Terminalia oblongata (a).*

T2

Height interval: 8m	**Median Height:** 8 m	**Estimated Cover Density:** 12–34%

Species: *Lysiphyllum carronii, Alstonia constricta, Eucalyptus melanophloia, Brachychiton rupestris,* and *Erythroxylum australe*

S1

Height interval:1-3 m	**Median Height:** 2 m	**Estimated Cover Density:** 2–8%

Species: *Acacia harpophylla, Lysiphyllum carronii, Atalaya hemiglauca, Erythroxylum australe*

Groundcover

Estimated Cover Density: 50-52%

Species: *Dichanthium sericeum, Megathyrsus maximus*, Bothriochloa pertusa*, Cenchrus ciliaris*, Cyperus sp., Malvastrum americanum*, Vittadinia sp., Amyema preissii, Cryptostegia grandiflora*, Parthenium hysterophorus*, Bryophyllum delagoense**

RE 11.3.6 - Remnant

Habitat quality sites:
2



Landform: alluvial plains **and channels**

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: *Eucalyptus melanophloia* woodland on alluvial plan. The subcanopy included *Lysiphyllum hookeri, Terminalia oblongata, Acacia harpophylla, Alectryon diversifolius*. The shrub layer included *L. hookeri, Alstonia constricta, A. harpophylla, Terminalia oblongata, Carissa ovata, Atalaya hemiglauca,* and *A. salicina*.

Structural formation: Woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Endangered/ Endangered

T1

Height interval: 7-16 m	**Median Height:** 10 m	**Estimated Cover Density:** 12-16%

Species: *Eucalyptus melanophloia* (d), *Acacia harpophylla* (a), *Lysiphyllum carronii* (a), *Acacia excelsa* (a), *Erythroxylum australe* (a)

T2

Height interval: 6-8m	**Median Height:** 7 m	**Estimated Cover Density:** 33-35%

Species: *Lysiphyllum hookeri, Terminalia oblongata, Acacia harpophylla, Alectryon diversifolius, Atalaya hemiglauca*

S1

Height interval: 0.5-2 m	**Median Height:** 1.5 m	**Estimated Cover Density:** 1-30%

Species: *Lysiphyllum hookeri, Terminalia oblongata, Carissa ovata, Acacia harpophylla, Alstonia constricta, Atalaya hemiglauca, Acacia Salicina*

Groundcover

Estimated Cover Density: 40%

Species: *Bothriochloa bladhii, Chloris sp., Sporobolus caroli, Dichanthium sericeum, Chrysopogon fallax, Enteropogon acicularis, Cynodon dactylon*, Aristida calycina, Megathyrsus maximus*, Urochloa mosambicensis*, Cenchrus ciliaris*, Enchylaena tomentosa, Sclerolaena sp., Salsola australis, Capparis lasiantha, Brachyscome sp., Abutilon sp., Cyperus sp., Evolvulus sp., Sida hackettiana, Parthenium sp.*, Harrisia martinii*, Opuntia tomentosa*, Bryophyllum delagoense*, Cryptostegia grandiflora**

RE 11.3.6 - Disturbed Remnant

Habitat quality sites:
3



Landform: alluvial plains **and channels**

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: Disturbed *Eucalyptus melanophloia* open forest with understorey of *Lysiphyllum hookeri* and *Terminalia oblongata* along watercourse.

Structural formation: Woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Endangered/ Endangered

T1

Height interval: 7-16 m	**Median Height:** 10 m	**Estimated Cover Density:** 16-60%

Species: *Eucalyptus melanophloia* (d), Eucalyptus camaldulensis (sd), *Lysiphyllum hookeri* (sd), *Acacia harpophylla (a),*

T2

Height interval: 4.5-12m	**Median Height:** 8 m	**Estimated Cover Density:** 23-46%

Species: *Acacia harpophylla, Terminalia oblongata, Lysiphyllum hookeri, Alectryon diversifolius, Grevillia parviflora*

S1

Height interval: 0.5-4 m	**Median Height:** 2.5 m	**Estimated Cover Density:** 1-30%

Species: *Lysiphyllum hookeri, Alstonia constricta, Acacia harpophylla, Carissa ovata*

Groundcover

Estimated Cover Density: 56-95%

Species: *Bothriochloa bladhii, Chloris sp., Sporobolus caroli, Salsola australis, Enchylaena tomentosa, Sclerolaena sp., Megathyrsus maximus*, Urochloa mosambicensis*, Cenchrus ciliaris*, Parthenium sp., Harrisia martini*, Bryophyllum delagoense**

RE 11.3.27 - Remnant

Habitat quality sites:
2



Landform: swamp

Geology/Soils: Quaternary – Quaternary alluvium containing clay, silt, sand and gravel

Land zone: 3

Description: *Eucalyptus camaldulensis* woodland fringing watercourse. The subcanopy included *Eremophila mitchellii, Atalaya hemiglauca, Grevillea parvifolia, Lysiphyllum carronii, Owenia acidula, Terminalia oblongata, Acacia salicina.* The shrub layer included *Lysiphyllum carronii, Acacia harpophylla, Acacia saligna, Citrus glauca, Carissa ovata and Capparis lasiantha.*

Structural formation: Woodland

Ecologically Dominant Layer (EDL): T1

Comment: -

VM Act status/BD: Endangered/ Endangered

T1

Height interval: 15.2-16.5 m | **Median Height:** 15.9 m | **Estimated Cover Density:** 7-26%

Species: *Eucalyptus camaldulensis (d), Acacia harpophylla (a), Eucalyptus populnea (a)*

T2

Height interval: 7 m | **Median Height:** 7 m | **Estimated Cover Density:** 10%

Species: *Eremophila mitchellii, Atalaya hemiglauca, Grevillea parvifolia, Lysiphyllum carronii, Owenia acidula, Terminalia oblongata, Acacia salicina,*

S1

Height interval:1-3 m | **Median Height:** 2 m | **Estimated Cover Density:** 3-4%

Species: *Lysiphyllum carronii, Acacia harpophylla, Acacia saligna, Citrus glauca, Carissa ovata, Capparis lasiantha*

Groundcover

Estimated Cover Density: 26-34%

Species: *Bothriochloa ewartiana, Enchylaena tomentosa, Megathyrsus maximus*, Cenchrus ciliaris*, Chloris ventricosa, Aristida ramosa, Urochloa mosambicensis*, Harrisia martinii*, Malvastrum americanum**

RE 11.4.9 – High value regrowth

Habitat quality sites:
2



Landform: gently undulating clay plains

Geology/Soils: Late Tertiary / Quaternary – Locally red-brown mottled, poorly consolidated sand, silty clay, minor gravel; high-level alluvial deposits (generally related to present stream valleys but commonly dissected

Land zone: 4

Description: *Acacia harpophylla* low open forest. The shrub layer included *Carissa ovata, Lysiphyllum carronii, Acacia harpophylla, Citrus glauca, Terminalia oblongata,* and *Acacia salicina*

Structural formation: Low open forest	**Ecologically Dominant Layer (EDL):** T1
Comment: No T2 layer present.	**VM Act status/BD:** Endangered/ Endangered

T1

Height interval: 6-8 m	**Median Height:** 5 m	**Estimated Cover Density:** 26%

Species: *Clematicissus opaca, Atalaya hemiglauca, Owenia acidula, Geijera parviflora, Santalum lanceolatum, Acacia harpophylla (d), Lysiphyllum hookeri (sd), Eucalyptus populnea (scattered), Lysiphyllum carronii, Apophyllum anomalum, Cassia brewsteri, Eremophila mitchellii, Terminalia oblongata, Acacia salicina, Lysiana subfalcata,* and *Amyema quandang.*

T2

Height interval: NA	**Median Height:** 0 m	**Estimated Cover Density:** NA

Species: NA

S1

Height interval:1-2 m	**Median Height:** 1.5 m	**Estimated Cover Density:** 4%

Species: *Carissa ovata, Lysiphyllum carronii, Acacia harpophylla, Citrus glauca, Terminalia oblongata,* and *Acacia salicina.*

Groundcover

Estimated Cover Density: 66%

Species: *Aristida ramosa, Sporobolus caroli, Panicum decompositum, Eriachne mucronata, Eriochloa sp., Sida fibulifera, Cheilanthes sieberi, Oxalis sp., Salsola australis, Enchylaena tomentosa, Trianthema triquetra, Euphorbia sp., Indigofera sp., Cenchrus ciliaris*, Harrisia martinii*, Opuntia stricta*, Abutilon sp., Chloris gayana*, Melinis repens*, Megathyrsus maximus*,* and *Bothriochloa pertusa*.*

RE 11.9.5 – High value regrowth

Habitat quality sites:
4



Landform: gently undulating plains

Geology/Soils: Early Triassic / Middle Triassic - Lithic sandstone, pebbly lithic sandstone, green to reddish brown mudstone and minor volcanilithic pebble conglomerate.

Land zone: 9

Description: *Acacia harpophylla* open woodland. The shrub layer included *Lysiphyllum carronii*, *Atalaya hemiglauca, Terminalia oblongata, Erythroxylum australe*, and *Citrus glauca.*

Structural formation: Woodland	**Ecologically Dominant Layer (EDL):** T1
Comment: -	**VM Act status/BD:** Endangered/ Endangered

T1

Height interval: 6-8.5 m	**Median Height:** 7.8 m	**Estimated Cover Density:** 12-31%

Species: *Acacia harpophylla (d), Flindersia dissosperma (sd), Terminalia oblongata, Santalum lanceolatum, Eremophila mitchellii, Eucalyptus populnea, Brachychiton rupestris*

T2

Height interval: 3-5 m	**Median Height:** 4 m	**Estimated Cover Density:** 8-24%

Species: *Acacia harpophylla, Lysiphyllum carronii, Terminalia oblongata, Owenia acidula, Acacia salicina, Amyema quandang,* and *Atalaya hemiglauca.*

S1

Height interval: 1-2 m	**Median Height:** 1.5 m	**Estimated Cover Density:** 0-16%

Species: *Acacia harpophylla, Terminalia oblongata, Acacia salicina, Atalaya hemiglauca, Carissa ovata, Eremophila mitchellii, Santalum lanceolatum, Grewia latifolia, Alstonia constricta, Jasminum didymum subsp. lineare, Capparis loranthifolia. Cynanchum viminale, Lysiphyllum carronii, Capparis lasiantha, Capparis mitchellii*

Groundcover

Estimated Cover Density: 5-13%

Species: *Achyranthes aspera, Trianthema triquetra, Cenchrus ciliaris*, Enchylaena tomentosa, Enteropogon acicularis, Enteropogon ramosus, Chloris divaricata, Panicum decompositum, Aristida latifolia, Aristida ramosa, Dipteracanthus australis, Sporobolus caroli, Sporobolus actinocladus, Harrisia martini*, Dactyloctenium radulans*, Hypochaeris sp., Phyllanthus sp., Sida sp., Dianella sp., Enneapogon sp.*