



Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

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4001

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Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Whitehaven Daunia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Acronyms and Abbreviations

ALA	Atlas of Living Australia
DBH	Diameter at breast height
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Cwth)
DES	Department of Environment and Science (now DETSI)
DETSI	Department of Environment, Tourism, Science and Innovation (QLD)
DNM	Daunia Mine
DNRMMRRD	Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
EA	Environmental Authority
EDL	Ecologically Dominant Layer
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwth)
EPC	Exploration Permit (Coal)
ESA	Environmentally sensitive area
GTDTHQ	Guide to determining terrestrial habitat quality
KoRV	Koala Retrovirus
LFC tool	Landscape Fragmentation and Connectivity tool
ML	Approved Mining Lease under the <i>Mineral Resources Act 1989</i>
MLAA	Mining Lease Application Area
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NC Act	<i>Nature Conservation Act 1992</i> (QLD)
PMST	Protected matter search tool
Project	The Project is the construction and operation of an out-of-pit dump to the west of, and adjacent to, ML1781, off-lease from DNM
Project Site	The proposed area of the out-of-pit dump to the west of, and adjacent to, ML1781, off-lease from DNM
RE	Regional ecosystem
SAT	Spot-assessment technique
SLC	Special least concern
SLR	SLR Consulting Pty Ltd
SMP	Species Management Program
Study area	The Project Site plus 20 km buffer
TEC	Threatened ecological community
VM Act	<i>Vegetation Management Act 1999</i> (QLD)
WHC	Whitehaven Daunia Pty Ltd
WoNS	Weeds of National Significance



1.0 Introduction

1.1 Project background

Whitehaven Daunia Pty Ltd (WHC) owns and operates the Daunia Mine (DNM) which is comprised of three Mining Leases (ML) ML1781, ML70115 and ML70116. DNM is located approximately 25 km southeast of Moranbah and 170 km southwest of Mackay. The DNM operates under Environmental Authority (EA) EPML00561913 and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval 2008/4418 on ML1781, ML70115 and part of ML70116. The DNM was approved on a 30-year mine plan across defined multi-seam extents. WHC also holds tenure for Exploration Permit (Coal) (EPC) EPC1951 and EPC27334 (**Figure 1-1**).

1.2 Project area description

Due to space constraints in the existing mining leases, WHC proposes the construction and operation of an out-of-pit dump, haul road and two dams (herein referred to as the Project) to the west and adjacent to ML1781, off-lease from DNM within the Mine Lease Application Area (MLAA). The Project is required to support ongoing open cut mining in the Pandora pit and will require the construction of additional haul roads to transport material from the Pandora pit to the short-haul out-of-pit dump. The proposed Project Site (**Figure 1-2**) has been selected as it provides a shorter haulage distance, reduced diesel fuel consumption (and thereby greenhouse gas emissions) and also reduces the overall dust and noise emissions of the haul routes.

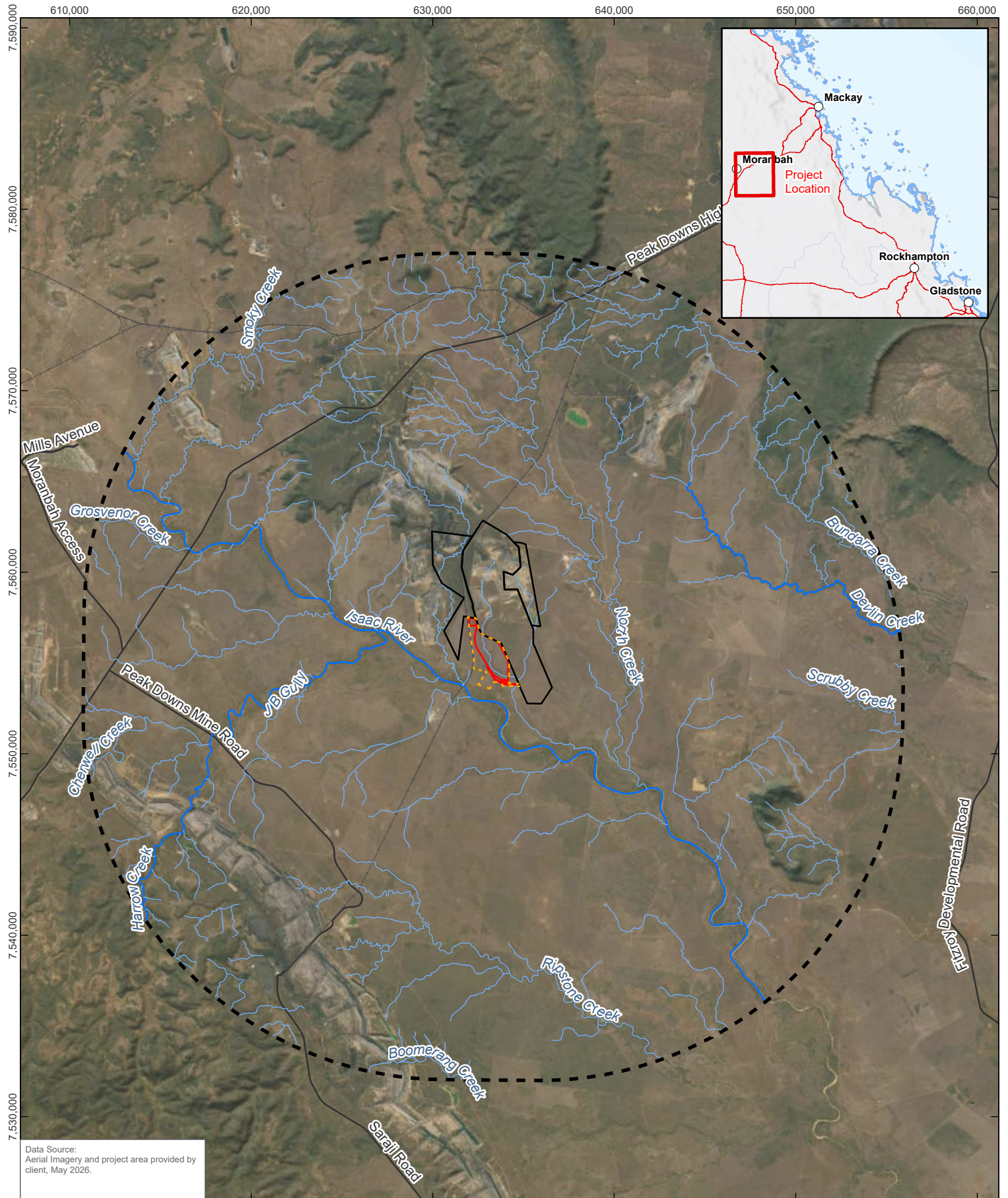
The proposed Project preparation will involve vegetation clearing and formalising of access tracks and haul roads. The proposed Project Site includes a total of 305 ha, of which, 282 ha consists of the out-of-pit dump.

1.3 Purpose and objectives


WHC engaged SLR Consulting Australia Pty Ltd (SLR) to undertake a terrestrial ecological assessment for the proposed Project. The ecological assessment included:

- a desktop assessment to identify ecological values potentially occurring within the MLAA and Project Site;
- a likelihood of occurrence assessment of conservation significant flora and fauna species and communities occurring within the MLAA and Project Site;
- review of previous field surveys from 2021-2023 which included ground-truthing of vegetation and targeted searches for flora and fauna species within and adjacent to the MLAA;
- additional fauna and flora field surveys (2025) to assess vegetation communities and target conservation significant fauna; and
- preparation of an ecological assessment report to identify areas of ecological significance and to recommend measures to avoid, minimise or mitigate potential impacts of the Project.





Data Source:
Aerial Imagery and project area provided by
client, May 2026.

 0 2.5 5 km
 Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:275,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 27-May-2026
 Drawn by: RB

- LEGEND**
-  Road
 -  Railway
 -  Major Watercourse
 -  Minor Watercourse
 -  Mining Lease
 -  MLLA
 -  Project Site
 -  Study Area

**DAUNIA WEST
 INFRASTRUCTURE PROJECT
 TERRESTRIAL FLORA AND FAUNA
 TECHNICAL REPORT 2025**

PROJECT SITE



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 1-1

632,000

633,000

634,000

635,000

7,557,000

7,556,000

7,555,000


7,554,000

ML 70116

ML 1781

New Chum Creek
Isaac River

Data Source:
Aerial Imagery and project area provided by
client, May 2026.

 0 250 500 m







Coordinate System: GDA2020 MGA Zone 55

Scale: 1:20,000 at A4

Project Number: 620.042120.00001

Date Drawn: 27-May-2026

Drawn by: RB

- LEGEND**
-  Railway
 -  Major Watercourse
 -  Minor Watercourse
 -  Mining Lease
 -  MLAA
 -  Project Site

**DAUNIA WEST
INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025**

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FIGURE 1-2

2.0 Methodology

2.1 Report conventions

2.1.1 Areas of investigation

- MLAA – area to the west of, and adjacent to, ML1781, off-lease from DNM;
- Project Site – disturbance area within the MLAA including the proposed out-of-pit dump, haul road and dams (305 ha); and
- Study area – the Project Site plus 20 km buffer.

The MLAA and Project Site differ as there are portions of the MLAA that will not be disturbed. The Project Site is the disturbance footprint within the MLAA, this excludes the area of the Project Site that extends into the existing and authorised ML1781. **Figure 1-1** and **Figure 1-2** present the spatial extent of the MLAA, Project Site and Study area.

2.1.2 Terminology and nomenclature

Conservation significant species include flora and fauna species that are listed as:

- Threatened (critically endangered, endangered or vulnerable) and/or migratory under the EPBC Act; and
- Threatened, near threatened or special least concern (SLC) species under the *Nature Conservation Act 1992* (NC Act).

The use of scientific and common names for flora and fauna species is in accordance with the Queensland WildNet database (DETSI 2025b). Where no common name is provided in the WildNet database, a search was conducted for other accepted common names and, if none were found, only the scientific name was used.

2.2 Desktop assessment

A desktop assessment was completed to identify any mapped or previously recorded ecological values known to occur within the MLAA and Study area, which includes the Project Site plus a 20 km buffer and encompasses the MLAA. The desktop assessment considered the outcomes of the previous ecological surveys completed to date for the MLAA and Project Site. The desktop sought to specifically identify:

- conservation significant species of flora and fauna that potentially occur within the Study area,
- Threatened ecological communities (TECs) listed under the EPBC Act; and
- Other Matters of National Environmental Significance (MNES);
- Matters of State Environmental Significance (MSES);
- Regulated vegetation and regional ecosystems (REs) administered under the *Vegetation Management Act 1999* (VM Act);
- Biosecurity matters listed under the *Biosecurity Act 2014*, Weeds of National Significance (WoNS), and locally significant weed species.

The following sources of information were accessed as part of the desktop assessment:

- Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEE) databases:



- EPBC Act protected matters search tool (PMST) identifying MNES (DCCEEW, 2025a);
- Species profile and threats database (DCCEEW, 2025b);
- Queensland Department of Environment, Tourism, Science and Innovation (DETSI) databases:
 - MSES reporting tool;
 - WildNet database (DETSI, 2025b);
 - Wetland/Info database;
 - Protected plant flora survey trigger mapping;
- Queensland Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (DNRMMRRD) databases:
 - Regulated vegetation management map (version 7.13);
 - Vegetation management RE map (version 13.00);
 - Vegetation management watercourse and drainage feature map (version 7.00);
 - Vegetation management wetlands map (version 9.15);
 - Essential habitat map (version 12.15);
- Atlas of Living Australia (ALA) species database (ALA, 2025);
- other relevant mapping maintained by the Queensland government, including koala habitat mapping, wildlife habitat mapping, wetland mapping and Environmentally Sensitive Areas (ESA);
- available aerial photography;
- other published and non-published literature including but not limited to:
 - Pandora Project Terrestrial Flora and Fauna Technical Report (SLR, 2023);
 - Daunia Coal Mine Project Environmental Impact Statement (BMA, 2008);
 - Coordinator-General's evaluation report for an environmental impact statement Bowen Basin Coal Growth Project: Daunia Mine (Queensland Government, 2009).

2.2.1 Likelihood of occurrence

The information obtained through the updated desktop assessment was used to characterise the existing ecological values of the MLAA. For conservation significant species, a likelihood of occurrence assessment was undertaken. This assessment considered information relating to species habitat preferences, known or suspected distribution, database records from the Study area, the occurrence of suitable habitat based on desktop information and field assessments, or confirmed presence of species within the Study area (i.e., known records).

The likelihood of occurrence assessment was based upon publicly available species records and/or other information sources, such as field guides and web-based species profiles, including, but not limited to:

- Commonwealth Government's Species Profile and Threats (SPRAT) Database for the threatened species and ecological communities listed under the EPBC Act;



- species descriptions available on the DETSI threatened species website for the threatened species revealed by a WildNet database search;
- ALA species database;
- eBird Cornell Lab of Ornithology online database of bird distribution and abundance, (Cornell Lab of Ornithology, 2025); and
- field assessments and surveys.

The likelihood of threatened flora and fauna species and TECs occurring in the Project Site, has been assessed against the criteria outlined in **Table 2-1**. For the purpose of data validity, records have been curtailed to the past 20 years (2005 - 2025).

Table 2-1: Key assessment criteria for the likelihood of occurrence of conservation significant species

Likelihood of occurring	Key criteria
Known to occur	Species positively identified during field surveys within the MLAA.
High	Species previously recorded within the Study area and the MLAA contains habitat that is suitable for the species.
Moderate	Species previously recorded within the Study area and the MLAA contains marginal / low quality habitat for the species OR No previous records of the species within the Study area, but the Project Site contains suitable habitat for the species and is within the known range of the species.
Low	Species previously recorded within the Study area, but the MLAA does not contain suitable habitat for the species OR No previous records of the species within the Study area and the Project Site contains marginal / low quality habitat for the species or there is no suitable habitat in the Project Site OR No previous records of the species within the Study area and the Study area is beyond the current known geographic range of the species.

If the likelihood of occurrence assessment identified threatened flora and/or fauna species with a moderate, high or known likelihood of occurrence within the MLAA, potential habitat and animal breeding places for those species were targeted during field surveys.

Field surveys were conducted within and immediately adjacent to the MLAA to gain an improved understanding of the flora and fauna values that may occur.

2.3 Flora survey methods

Flora surveys followed standard Queensland Herbarium methods (Neldner et al., 2022). To assess vegetation communities and flora species occurring within the MLAA, SLR completed the following:

- quaternary and tertiary assessments in representative vegetation communities to ground-truth REs, identify remnant, regrowth and non-remnant areas, and record vegetation boundaries;



- identified and recorded the location of MNES or MSES flora species and ecological communities;
- identified and recorded the location of potential habitat features;
- identified the presence of invasive flora and fauna species listed under the *Biosecurity Act 2014*;
- collection of GPS points for any conservation significant flora species; and
- BioCondition assessment.

2.3.1 BioCondition assessment

Methods followed *BioCondition: a condition assessment framework for terrestrial biodiversity in Queensland* (Eyre *et al.*, 2015). BioCondition assessments include a landscape component that uses GIS mapping and a field survey component that measures site-based attributes within a 50 m by 100 m plot. The BioCondition method calculates a condition score (out of 10) for each site by comparing the site-based data to benchmark data developed by the Queensland Herbarium for each RE type (Eyre *et al.*, 2015; Neldner *et al.*, 2022). The benchmark condition for an RE represents that RE in an undisturbed, reference condition.

Plots were orientated to minimise any environment gradients (e.g., long axis following altitudinal contour, ridge line, riparian zone). Where no gradient was evident, the long axis of the plot was aligned in a north-south or east-west direction. GPS coordinates were recorded at the 0 m, 50 m and 100 m points of all plots.

Table 2-2 summarises methods that were used to assess the site-based BioCondition attributes for REs that have BioCondition benchmarks.

Table 2-2 Methods used to measure site-based BioCondition attributes

Attribute	Scale	Assessment method
Large trees	100 m x 50 m plot	The large trees attribute records the number of trees within the 100 m x 50 m plot area (i.e., 0.5 ha) over a certain diameter at breast height (DBH) size threshold. The DBH threshold is provided in the benchmark document for the RE being assessed. The count is multiplied by 2 to give a count per ha (for comparison with the benchmark value).
Tree canopy height	100 m x 50 m plot	Tree canopy height (measured to the top of the highest leaves) is the median canopy height (m), estimated for the trees in the ecologically dominant layer (i.e., canopy or T1 layer) within the 100 m x 50 m plot area.
Recruitment of dominant canopy species	100 m x 50 m plot	The recruitment attribute assesses the presence of regeneration of the dominant/abundant canopy species within the 100 m x 50 m plot area.
Tree canopy cover	100 m transect	The vertically projected crown cover of the native tree canopy layer is measured along the 100 m transect, using the line intercept method. If the community includes the presence of a distinct emergent or subcanopy layer, these layers are assessed separately. In BioCondition, a tree is defined as a single-stemmed woody plant more than 2 m tall (or a



Attribute	Scale	Assessment method
		multi-stemmed mallee eucalypt over 8 m tall and with at least three stems over 10 cm DBH).
Shrub layer cover	100 m transect	The vertically projected crown cover of native shrubs is measured along the 100 m transect, using the line intercept method. In BioCondition, a shrub is defined as a woody plant that is multi-stemmed from the base (or within 200 mm from ground level) or if single stemmed, less than 2 m tall.
Coarse woody debris	50 m x 20 m sub-plot	Coarse woody debris measures logs or dead timber on the ground that are >10 cm in diameter and >0.5 m in length and >80% in contact with the ground. Assessment is conducted by measuring the length of all coarse woody debris within the 50 m x 20 m sub-plot (i.e., 0.1 ha). The total length is multiplied by 10 to give a length per ha.
Native plant species richness by lifeform	100 m x 50 m plot (trees) 50 m x 10 m sub-plot (other life forms)	Assessment is based on the number of native tree, shrub, grass and forb/other species. Tree species richness is assessed within the 100 m x 50 m plot, while other life forms are assessed within the 50 m x 10 m sub-plot. Appendix 7 and 8 of the BioCondition manual (Eyre et al., 2015) define these life form groups. A tree species is also included in the shrub species count if an individual <2 m tall is present in the 50 m x 10 m sub-plot.
Non-native plant cover	50 m x 10 m sub-plot	Non-native plant cover is the vertically projected crown cover of exotic and non-indigenous species, assessed within the 50 m x 10 m sub-plot. Cover is assessed across all vegetation layers by a vertical projection downwards from the canopy and cannot be greater than 100% (e.g., cover of non-native shrubs is excluded where it is directly below the vertically projected cover of non-native trees).
Native perennial grass cover	5 x 1 m ² quadrats	Perennial grass cover is the foliage projective cover of native perennial grasses, including living and attached plant material. Cover is assessed within each of the five 1 m x 1 m quadrats and averaged to give a value for the site.
Organic litter cover	5 x 1 m ² quadrats	Organic litter includes both fine and coarse organic material such as fallen leaves, twigs and branches <10 cm in diameter, and dead unattached plant material including dead grass. Organic litter cover is assessed as foliage projective cover within each of the five 1 m x 1 m quadrats and averaged to give a value for the site.

2.4 Fauna survey methods

The fauna survey generally incorporated survey timing and effort recommendations outlined in the *Terrestrial Vertebrate Survey Guidelines for Queensland* (Eyre et al., 2022a). The assessment methodology completed included:

- identification and verification of fauna habitats within the MLAA;



- assessment of habitat value for conservation significant fauna species including identifying critical elements for species usage such as feed trees, hollowing bearing trees, waterway and riparian habitat and other micro-habitat features; and
- targeted searches for conservation significant fauna species considered likely to occur.

Fauna habitat assessments included recording the location and habitat condition of the following within the Project Site:

- rocks and rocky outcrops, gravel areas, exfoliating rocks with crevices;
- sandy or cracking soils;
- trees and logs with hollows, presence of senescent (old) or dead trees (stags) and trees or logs with peeling or loose bark;
- vegetation cover: canopy, shrub, ground cover and leaf litter;
- habitat features and or food resources, such as termite mounds, mistletoe (abundance), flowering trees;
- standing water or ephemeral waterways including wetland, riverine and groundwater springs (presence / absence); and
- scats, tracks and other traces of fauna utilisation.

These assessments assisted in determining the likelihood of occurrence for conservation significant species within the Project Site. Opportunistic fauna sightings of all species were also recorded.

2.4.1 Habitat quality assessments

Habitat quality assessments for conservation significant species were conducted in accordance with the *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy, version 1.3* (GTDTHQ) (DES, 2020). This approach incorporates a range of indicators to measure the overall viability of a site and its capacity to support a prescribed environmental matter (DES, 2020).

For each species, specific habitat quality indicators were developed for conservation significant species considered highly likely to occur at the desktop stage. These indicators were developed to determine the:

- quality and availability of food and habitat required for foraging;
- quality and availability of habitat required for shelter and breeding;
- quality and availability of habitat required for mobility; and
- absence of threats.

Examples of the species quality indicator datasheets are found in **Appendix I**. Indicators are scored from zero to five in the field, with the exception of threat indicators being scored zero to five. Each score (excluding threat indicators) is multiplied by five to convert to a score between 0 and 25. The species habitat attribute score is calculated by averaging each indicator score (excluding absence of threats) to obtain an overall score out of 25.

Scoring for absence of threats requires identifying all known and potential threat factors, assigning each a rating for scope and severity (out of 25) and using the threat matrix provided in GTDTHQ (DES, 2020). A threat factor rating of 1 poses a very high threat and a



rating of 25 poses a very low threat to the species. The final score for absence of threats is the scoring threat factor. The overall species habitat score is calculated by summing all attribute scores and dividing by 10 to provide a final score.

2.4.2 Targeted surveys

The targeted survey effort that has been undertaken within the MLAA (including surveys adjacent to the MLAA) in 2021, 2023 and 2025 is detailed in **Table 2-3**. The findings in this report have been informed by the results from these surveys. Targeted survey methods followed State and/or Commonwealth survey guidelines for fauna considered likely to occur within the MLAA, however, survey effort for some species (e.g. cryptic species such as ornamental snake (*Denisonia maculata*)) focused on habitat suitability and applying the precautionary principle rather than meeting the extensive required survey effort for the species.

Table 2-3 Targeted fauna survey methods

Survey method	Description	Total survey effort from 2021 to 2025 within and adjacent to the MLAA
Elliott traps	At each trapping site, type-A Elliott traps were placed on the ground approximately 5 to 10 m apart in a straight line. Twenty traps were employed at each site. All traps were baited with a mixture of rolled oats, peanut butter and honey.	20 traps x 4 nights x 5 sites = 400 trap nights
Bat detectors	An Anabat or SM4 bat call detector was deployed for one night to identify the presence/absence of microbat species.	4 sites x 1 night = 4 nights
Active diurnal searches	Active diurnal searches were undertaken concurrently with vegetation assessments throughout the Project Site. This technique involved intensive investigation of ground layer habitat features (such as under logs, rocks and leaf litter), low vegetation (under bark and tree stumps) for cryptic fauna, particularly reptiles. Searches were focused during the hotter times of the day when reptile activity was likely to be at its peak.	105 person minutes x 2 persons x 10 days = 35 person-hours
Diurnal bird surveys	Birds were surveyed in each vegetation community for a total of at least one hour at multiple periods throughout the day, but with a particular focus during peak activity in the morning. Incidental observations made whilst conducting other survey techniques were also recorded. Birds were identified from either direct observation or by their calls. Targeted survey effort included flushing surveys for squatter pigeon (southern) (<i>Geophaps scripta scripta</i>) and early-morning watches of standing water for more cryptic bird species.	54 person minutes x 2 persons x 10 sites = 18 person-hours
Nocturnal surveys	High-powered spotlights were used to survey nocturnal mammals (flying, arboreal	100 person minutes x 2 persons x 5 nights =



Survey method	Description	Total survey effort from 2021 to 2025 within and adjacent to the MLAA
	and terrestrial), birds (active nocturnal species, and roosting diurnal species), reptiles and frogs. Focus was placed on searches for ornamental snake (<i>Denisonia maculata</i>) in remnant, regrowth and non-remnant Brigalow communities on Cainozoic cracking clays, and searches for greater glider (central and southern) (<i>Petauroides volans</i>) in remnant eucalypt-dominated riparian woodland with high density of tree hollows.	16 person-hours
Infrared motion-sensitive trail cameras	Camera traps (motion-sensing infrared cameras) were utilised at multiple locations within the MLAA and adjacent area to target cryptic species. Camera traps were baited with the peanut-butter rolled oat mixture and sardines.	5 cameras x 4 nights = 20 camera nights
Koala spot assessment technique (SAT)	For each SAT, 30 suitable koala trees (e.g. <i>Eucalyptus tereticornis</i>) were examined for koala scratches, urine stains and the ground up to 1 m from the base of each tree examined for scats (Phillips and Callaghan, 2011). This survey aims to detect the presence and activity level of koala in a specified area. Activity level is determined by the number of trees recording evidence of koala divided by the total number of trees searched multiplied by 100.	2 person-hours x 2 persons x 2 sites = 8 person-hours
Incidental sightings	Observations for scats, scratches, cone chewings "orts", burrows and dreys, or other signs of fauna activity.	Opportunistically

2.5 Survey effort and limitations

Five field survey periods were completed in three separate years (2021, 2023 and 2025), those being:

- 19 to 23 April 2021;
- 25 to 28 May 2021;
- 6 to 9 November 2021;
- 6 to 11 November 2023; and
- 1 to 3 September 2025.

The 2021 April and November survey periods were both truncated due to heavy rainfall throughout the MLAA and adjacent area. As many portions of the MLAA and adjacent area and most access tracks are dominated by black alluvial soils, even a small amount of precipitation impeded access to site. The digging of pitfall traps was not permitted on site as per client and cultural heritage request. No fauna trapping was undertaken during the November 2021 and 2023 surveys due to high day-time temperatures and a high chance of



rain, which would impede access to trap sites resulting in the potential for fauna mortalities and contravene SLR's animal ethics permit requirements.

Significant vegetation management had been undertaken by the landowner just prior to the September 2025 survey. Vegetation management resulted in heavily disturbing the existing environment and made it difficult to assess certain habitat attributes including suitability of cracking clays for ornamental snake habitat.

As a general note, field surveys may confirm the presence of a species, but not the absence. Species not recorded during the field surveys may still occur in the MLAA, but would require further investigation to confirm their presence. The likelihood of occurrence has been used to assess the presence of species and aid in overcoming this limitation.

Survey results only present a snapshot in time, and may not detect those species that are nomadic, migratory or are more active (and detectable) at particular times of the year. Factors such as seasonal variation, weather conditions, species detectability, and survey timing can influence the likelihood of recording certain flora and fauna. Some species may only be present intermittently, occur in low densities, or utilise the site during particular life stages or seasonal movements. As such, the absence of records during surveys does not necessarily indicate true absence, and results should be interpreted with consideration of these constraints.

2.6 Threatened species habitat mapping

Habitat values and quality were assessed for each species within or adjacent to the MLAA. Where conservation significant species were identified as highly likely to occur within the MLAA based on the likelihood of occurrence and field survey, species specific habitat mapping was developed. This included a detailed literature review of individual species habitat requirements from the following sources:

- DCCEEW SPRAT Database (DCCEEW, 2025b);
- conservation advice and listing advice documents; and
- DETSI Species Profiles (DETSI, 2025a).



3.0 Desktop Assessment Results

Table 3-1 summarises the MNES and MSES identified within or adjacent to the MLAA by the desktop assessment. **Appendix A** and **Appendix B** contain the results of the desktop searches. The key environmental values mapped within the MLAA and / or Study area are presented in **Figure 3-1**.

Table 3-1 MNES and MSES summary

Ecological value	Description/Status/Presence or likely absence
MNES	
World Heritage Places	None within the Study area
National Heritage Places	None within the Study area
Wetlands of International Importance	None within the Study area
Great Barrier Reef Marine Park	None within the Study area
Commonwealth Marine Area	None within the Study area
Threatened Ecological Communities (TECs)	Four TECs were returned within the Study area, including: <ul style="list-style-type: none"> • Brigalow (<i>Acacia harpophylla</i> dominant and codominant) (endangered); • Poplar Box Grassy Woodland on Alluvial Plains (endangered); • Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin (endangered); and • Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions (endangered).
Threatened Species*^	30 threatened species have potential to occur including: <ul style="list-style-type: none"> • 12 birds; • six plants; • five mammals; and • seven reptiles.
Migratory Species*^	10 migratory bird species have potential to occur.
MSES#	
Protected areas	No protected areas are mapped within the MLAA or Study area. The closest protected area is the Dipperu National Park, located approximately 42 km to the northeast of the Project Site.
Regulated Vegetation	The Project Site is mapped as Category X non-remnant vegetation (Figure 3-1). The following regulated vegetation is mapped within 1 km of the Project Site: <ul style="list-style-type: none"> • Category B (endangered); • Category B (least concern); and • Category C (least concern).



Ecological value	Description/Status/Presence or likely absence
Regional Ecosystem	<p>The MLAA occurs within the Brigalow Belt Bioregion (Bioregion 11) and is mapped as non-remnant (Figure 3-2). Pre-clear mapping for the Project Site identifies the pre-clear RE as 11.9.2, 11.9.2/11.9.5 and 11.4.9.</p> <p>The following REs are mapped as occurring within 500 m of the Project Site:</p> <ul style="list-style-type: none"> • 11.3.2/11.3.7/11.3.1; • 11.4.9; and • 11.5.3/11.4.9.
Vegetation management wetlands and watercourses (Queensland Government, 2025)	<p>No wetlands of high ecological significance are mapped to occur within the MLAA or Study area. The following wetlands and watercourses are mapped within the MLAA and Project Site:</p> <ul style="list-style-type: none"> • regulated vegetation watercourse (Figure 3-1); • VM Act wetland (Figure 3-2); and • regulated vegetation (100 m from wetland) (Figure 3-1).
Essential habitat	<p>No essential habitat is mapped within the MLAA. Essential habitat for squatter pigeon (southern), ornamental snake and koala (<i>Phascolarctos cinereus</i>) is mapped within 200 m of the Project Site (Figure 3-1).</p>
Wildlife habitat	<p>Not mapped within the MLAA or Study area.</p>
Environmentally Sensitive Area (ESA)	<p>No ESA is mapped within the Project Site. Category B ESA – Endangered RE (biodiversity status) is mapped within 13 m of the Project Site.</p>
DETSI Protected Plants Flora Trigger map	<p>No protected plant flora survey trigger areas are mapped within the MLAA or Study area.</p>
Waterways (<i>Fisheries Act 1994</i>)	<p>One green (low impact) waterway runs through the MLAA and Project Site.</p>
Watercourses (<i>Water Act 2000</i>)	<p>No watercourses are mapped within the MLAA, however the Isaac River runs to the south-west of the Project Site (Figure 3-1).</p>
WildNet species	<p>A total of 19 conservation significant species (16 threatened and near-threatened, and three SLC) were returned from database searches including:</p> <ul style="list-style-type: none"> • four birds; • five mammals; • two reptiles; and • eight plants.
Legally secured offset areas	<p>Not mapped within the MLAA or Study area.</p>
Biodiversity Significance	<p>Areas of biodiversity significance are mapped within the MLAA and Project Site (Figure 3-3), this includes:</p> <ul style="list-style-type: none"> • State;



Ecological value	Description/Status/Presence or likely absence
	<ul style="list-style-type: none"> • State habitat for conservation significance species; and • Local or other value.

* PMST and WildNet searches include a 20 km buffer on the MLAA.

^ PMST results for marine species have been excluded.

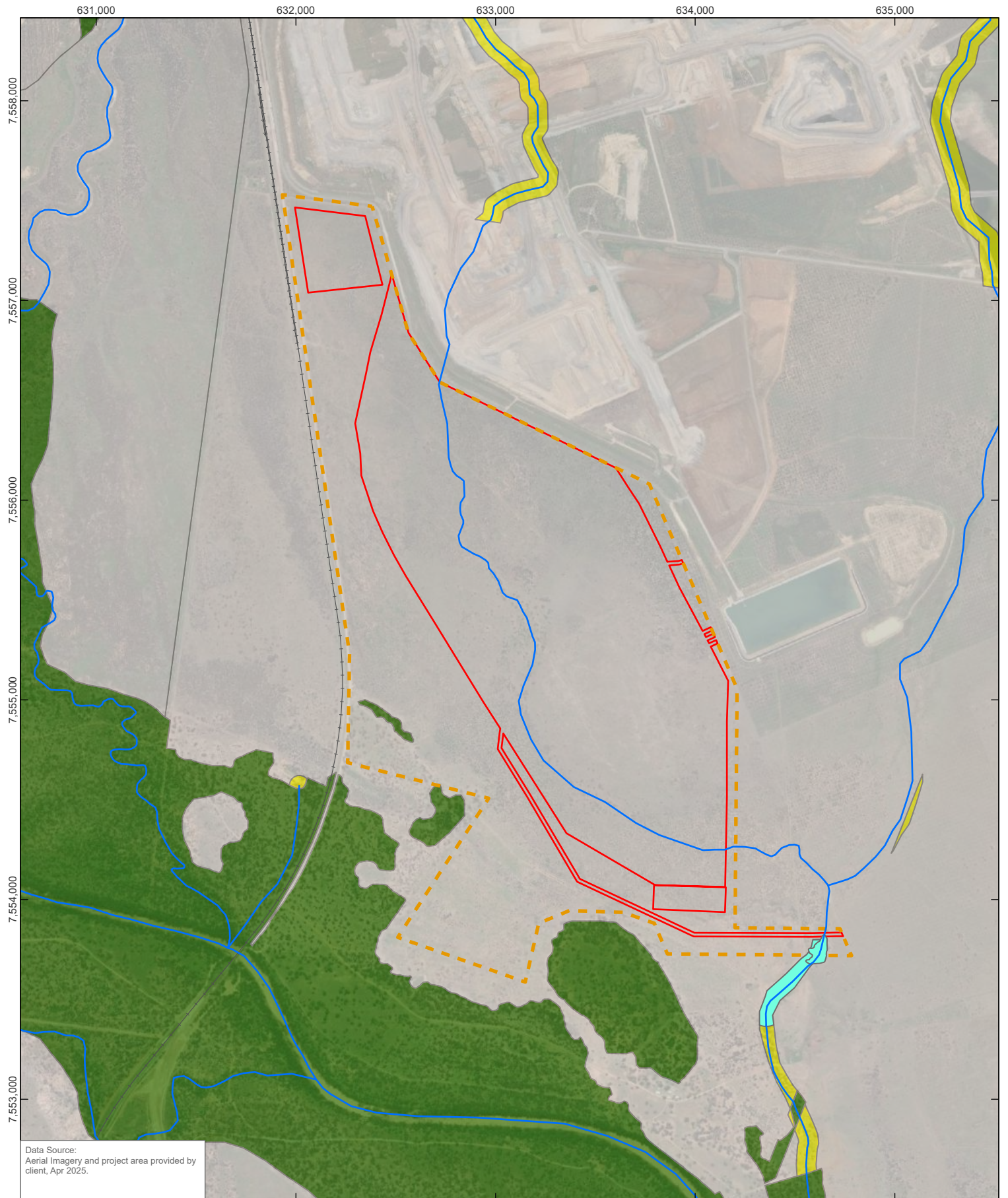
MSES searches include a 2 km buffer on the MLAA.

The four TECs returned in the PMST search, and their component or corresponding REs are summarised in **Table 3-2**.


Table 3-2 Desktop likelihood of occurrence assessment for TECs




TEC	Likelihood of occurrence
Brigalow (<i>Acacia harpophylla</i> dominant and codominant) (endangered)	<p>Unlikely.</p> <p>Conservation advice lists the following REs as corresponding to this ecological community within the Queensland Brigalow Belt Bioregion: 11.3.1, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.5.16, 11.9.1, 11.9.5, 11.9.6, 11.11.14, 11.12.21.</p> <p>None of these REs are mapped within the MLAA or Project Site.</p>
Popular Box Grassy Woodland on Alluvial Plains (endangered)	<p>Unlikely.</p> <p>Conservation advice lists the following REs as corresponding to this ecological community: 11.3.2, 11.3.17, 11.4.7, 11.4.12, 12.3.10.</p> <p>None of these REs are mapped within the MLAA or Project Site.</p>
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin (endangered)	<p>Unlikely.</p> <p>Conservation advice lists the following REs as corresponding to this ecological community: 11.3.21, 11.4.4, 11.4.11, 11.8.11, 11.9.3, 11.9.3, 11.9.12, 11.11.17.</p> <p>None of these REs are mapped within the MLAA or Project Site.</p>
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions (endangered)	<p>Unlikely.</p> <p>Conservation advice lists the following REs as corresponding to this ecological community: 11.3.11, 11.4.1, 11.8.13, 11.11.18, 11.2.23, 11.9.4</p> <p>None of these REs are mapped within the MLAA or Project Site.</p>










Data Source:
Aerial Imagery and project area provided by
client, Apr 2025.

 0 250 500 m
Coordinate System: GDA2020 MGA Zone 55
Scale: 1:25,000 at A4
Project Number: 620.042120.00001
Date Drawn: 27-May-2026
Drawn by: RB

LEGEND
 Railway
 MLAA
 Project Site

 MSES Regulated Vegetation
(defined watercourse)
 MSES Regulated Vegetation
(100m from wetland)
**Regulated Vegetation Management
Map**
 Category B
 Category R
 Category X

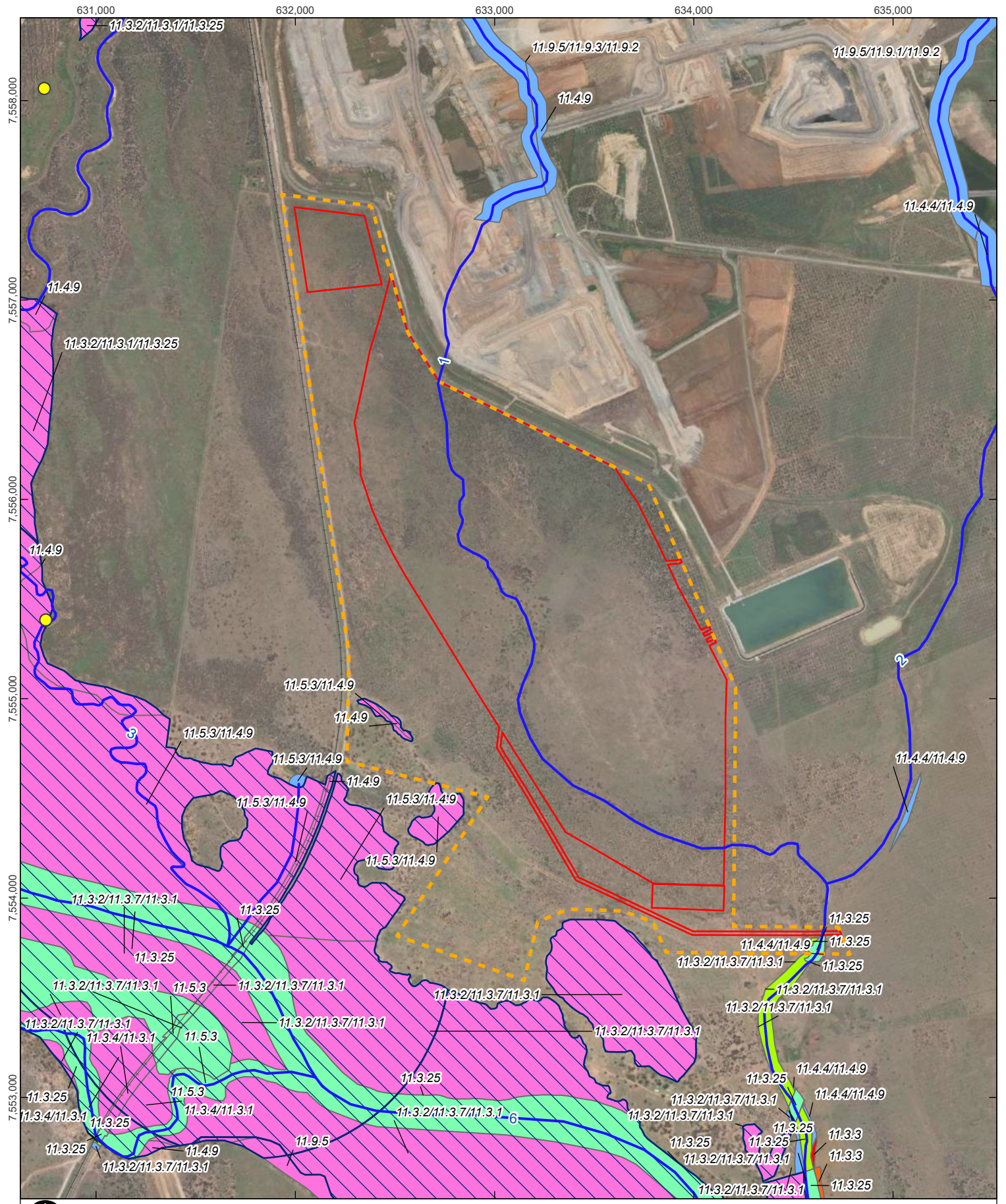
**DAUNIA WEST
INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025**

**DESKTOP ASSESSMENT
RESULTS -
REGULATED VEGETATION**



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 3-1



0 250 500 m
 Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:25,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 27-May-2026
 Drawn by: RB

- LEGEND**
- WildNet Record
 - Railway
 - Vegetation Management Act
 - Watercourse
 - MLLA
 - Project Site
 - Essential Habitat

- State-Mapped Regional Ecosystem (VM Act Status)**
- Remnant**
- Endangered
 - Of Concern
 - Least Concern
- Regrowth**
- Endangered
 - Of Concern
 - Least Concern

**DAUNIA WEST
 INFRASTRUCTURE PROJECT
 TERRESTRIAL FLORA AND FAUNA
 TECHNICAL REPORT 2025**

**DESKTOP ASSESSMENT
 RESULTS - VEGETATION
 MANAGEMENT ACT**



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 3-2

631,000

632,000

633,000

634,000

635,000

7,558,000

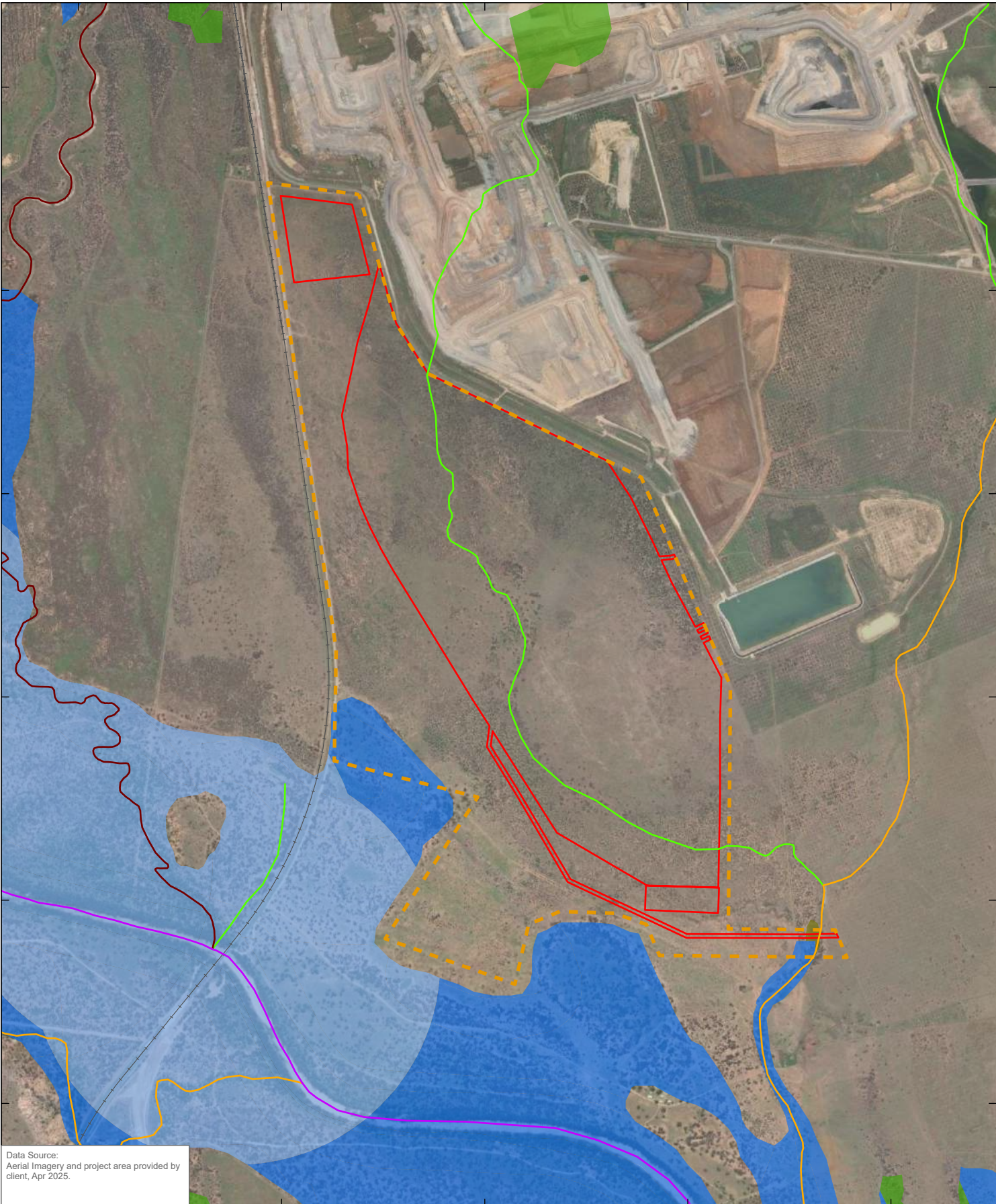
7,557,000

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Data Source:
Aerial Imagery and project area provided by
client, Apr 2025.

 0 250 500 m








Coordinate System: GDA2020 MGA Zone 55





Scale: 1:25,000 at A4

Project Number: 620.042120.00001

Date Drawn: 27-May-2026

Drawn by: RB

- LEGEND**
-  Railway
 -  MLAA
 -  Project Site
 - Biodiversity Significance**
 -  Local or Other Values
 -  Regional
 -  State
 -  State Habitat for EVNT taxa

- Queensland waterways for
waterway barrier works**
-  Low
 -  Moderate
 -  High
 -  Major

**DAUNIA WEST
INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025**

**DESKTOP ASSESSMENT
RESULTS -
OTHER STATE VALUES**



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 3-3

4.0 Field Results

4.1 Weather conditions

Weather data relevant to the fauna survey periods was obtained from the Bureau of Meteorology (BoM, 2025) Moranbah Airport Weather Station (station number: 034035), located approximately 23 km to the northwest of the MLAA. Daily temperature and rainfall data for each survey period is provided in **Table 4-1**. Weather conditions during the surveys were considered favourable for detecting most vertebrate faunal groups. However, rainfall over the April and November 2021 and November 2023 surveys resulted in access limitations to the MLAA and adjacent area.

Monthly rainfall data up to and including a six-month period prior to field assessments is shown in **Figure 4-1** and compared to the historical monthly average (available for the 2012 to 2025 period). Above average rainfall prior to surveys in 2021 resulted in favourable conditions for the growth and vigour of flora species and the assessment of vegetation communities. Conversely, monthly rainfall was well below the historical average over August, September and October 2023, leading to very dry conditions, which impacted groundcover species in flora assessment sites.

Table 4-1 Daily temperature and rainfall data over the 2021, 2023 and 2025 survey periods

Survey period	Date	Temperature (°C)		Rainfall (mm)
		Minimum	Maximum	
1	19/04/2021	17.7	31.3	0.0
	20/04/2021	17.9	31.2	0.0
	21/04/2021	19.7	-	4.4
	22/04/2021	20.6	23.1	-
	23/04/2021	17.5	23.5	10.8
2	24/05/2021	11.8	27.5	0.0
	25/05/2021	12.6	26.6	0.0
	26/05/2021	12.5	27.4	0.0
	27/05/2021	9.5	28.5	0.0
	28/05/2021	10.8	24.5	0.0
3	06/11/2021	19.4	35.7	0.0
	07/11/2021	20	36.8	0.0
	08/11/2021	23.3	37.1	0.0
	09/11/2021	22.9	30.9	10.4
4	06/11/2023	19.6	31.0	7.0
	07/11/2023	18.8	29.3	3.2
	08/11/2023	17.6	32.6	0.0
	09/11/2023	19.6	33.0	0.0
	10/11/2023	16.1	33.6	0.0



Survey period	Date	Temperature (°C)		Rainfall (mm)
		Minimum	Maximum	
	11/11/2023	17.6	33.2	0.0
5	01/09/2025	6.3	26.8	0
	02/09/2025	11.5	27.4	0
	03/09/2025	10.1	27.7	0
	04/09/2025	12.0	28.6	0

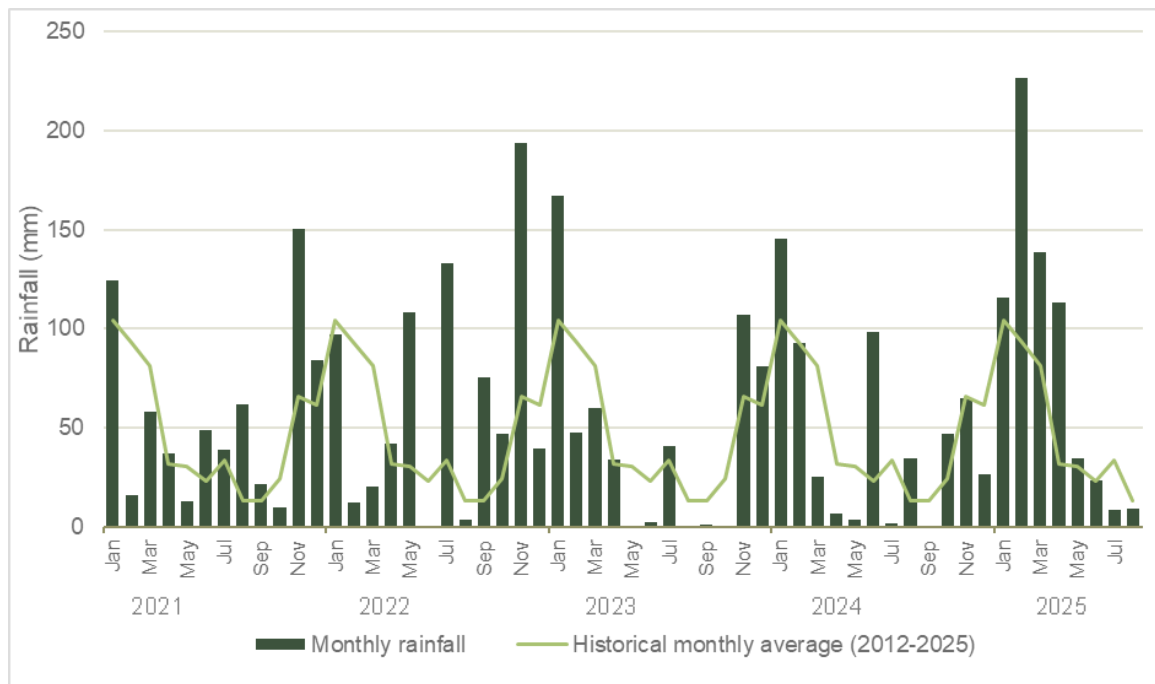


Figure 4-1 Monthly rainfall data from 2021 to 2025 compared to the historical monthly average

4.2 Likelihood of occurrence of conservation significant species

The desktop likelihood of occurrence of all conservation significant species was updated with the field results (**Appendix D**). It was deemed three species of conservation significance are highly likely to occur within the MLLAA (**Table 4-2**). One species has a moderate likelihood of occurrence. No conservation significant species were recorded within the Project Site or MLLAA.



Table 4-2 Species of conservation significance known or likely to occur within the Project Site

Scientific name	Common name	EPBC Act	NC Act	Likelihood of Occurrence
<i>Denisonia maculata</i>	ornamental snake	V	V	High
<i>Geophaps scripta scripta</i>	squatter pigeon (southern)	V	V	High
<i>Phascolarctos cinereus</i>	koala	E	E	Moderate
<i>Tachyglossus aculeatus</i>	short-beaked echidna	-	SLC	High

EPBC Act status: E= endangered, V=vulnerable

NC Act status: E=endangered, V=vulnerable, SLC=special least concern.

4.3 Flora

4.3.1 Flora species

No conservation significant flora species listed under the EPBC Act or NC Act were recorded within the MLAA or Project Site. A total of 156 flora species were recorded within the Project Site and immediately adjacent, of which, a total of 22 species are considered non-native naturalised species (**Appendix G**), and four of these are restricted invasive species, including three WoNS (detailed in **Section 4.3.5**). Four NC Act listed SLC flora species were identified outside the MLAA but immediately adjacent. All species recorded are considered common and widespread within similar habitats throughout the Brigalow Belt Bioregion.

4.3.2 REs

Previous field-verification surveys (2021 - 2023) ground-truthed the State-mapped REs across the MLAA and immediate vicinity. Field verification sites within the Project Site and areas immediately adjacent (<10 m away and within contiguous vegetation communities) included two tertiary (T) surveys and seven quaternary (Q) surveys (Q1, Q32, Q33, Q36, Q61, Q62, Q63, T17 and T18).

The 2025 September survey included two additional quaternary surveys and nine BioCondition assessments to ground-truth the State-mapped vegetation within the Project Site. These assessments verified the non-remnant status of 308.1 ha of vegetation within the Project Site and 16.26 ha of remnant Of Concern RE 11.3.3 (**Figure 4-2**).

Areas in which this RE 11.3.3 were ground-truthed are located across State-mapped non-remnant vegetation. However, results from remnant status assessments within this vegetation type during the September 2025 survey identify that on-ground structural characteristics of this vegetation meet the cover and height requirements to be considered a remnant community (**Table 4-3**).

Large portions of the Project Site had been recently cleared prior to the September 2025 survey. This was evident through ripped and trampled vegetation, stockpiles of freshly cleared vegetation, as well as stockpiles of vegetation that was more dried out and likely older, and remnants of recent stockpile burning adjacent to the Project Site.



Non-remnant vegetation within the Project Site could be broadly grouped into three categories:

- Recently cleared *Acacia harpophylla* (Brigalow) regrowth (was likely to be approximately ten years old prior to clearing in 2025, based on review of aerial imagery) (**Plate 4 - Plate 5**);
- Historically cleared paddock (**Plate 4**); and
- Isolated small stands of Brigalow too small to accurately map (**Plate 5**).

Table 4-3 provides a summary description for RE 11.3.3. Results tables for each flora survey site from the 2025 survey and previous surveys within the Project Site and immediately adjacent area are presented in **Appendix E**. These tables include further consolidated descriptions, vegetative community structure, floristic results and photographs.





Plate 1 Non-remnant recently cleared Brigalow



Plate 2 2013 Aerial imagery of the Project Site showing vegetation (red polygons)



Plate 3 2015 Aerial imagery showing vegetation has been cleared (red polygons)





Plate 4 Non-remnant historically cleared paddock



Plate 5 Non-remnant isolated small stands of Brigalow



Table 4-3 Description of RE 11.3.3

Attribute		Description
Representative flora survey sites within the Project Site		BC9
Soil, landzone		Black cracking clay, alluvial (landzone 3)
Slope		level
Landform		Plain
Mapped RE		Non-remnant
Ground-truthed RE		RE 11.3.3
VM Act status		Of concern
Ground-truthed area (ha)		16.26
RE remnant status benchmarks		Canopy height benchmark: 17 m (70% of benchmark = 11.9 m) Canopy cover benchmark: 28% (50% of benchmark = 14% cover)
Canopy (T1) layer	Species	<i>Eucalyptus coolabah</i>
	Height, cover	14.8 m, 19.9% crown cover
Shrub layer	Species	<i>Acacia salicina</i> , <i>Harrisia martinii</i> .
	Height, cover	1 m, 0.5% crown cover
Ground layer		<i>Ammannia multiflora</i> , <i>Asteraceae</i> sp., <i>Bothriochloa pertusa</i> , <i>Calotis cuneata</i> , <i>Cyperaceae</i> sp., <i>Dichanthium sericeum</i> , <i>Eragrostis</i> sp., <i>Euchiton involuocratus</i> , <i>Euphorbia drummondii</i> , <i>Iseilema vaginiflorum</i> , <i>Leguminosae</i> sp., <i>Lindernia</i> sp., <i>Marseila</i> sp., <i>Neptunia gracilis</i> , <i>Panicum queenslandicum</i> , <i>Parthenium hysterophorus</i> , <i>Polymeria longifolia</i> , <i>Rhynchosia minima</i> , <i>Sonchus oleraceus</i> , <i>Stylosanthes scabra</i> .
		
North		East



Attribute	Description
	
South	West
*Introduced species.	

Table 4-4 Description of RE 11.5.3

Attribute		Description
Representative flora survey sites within the Project Site		T3 and BC1
Soil, landzone		Old loamy and sandy plains (landzone 5)
Slope		level
Landform		Plain
Mapped RE		Non-remnant
Ground-truthed RE		11.5.3
VM Act status		Least Concern
Ground-truthed area (ha)		11.76 ha
RE remnant status benchmarks		Canopy height benchmark: 16 m (70% of benchmark = 11.2 m) Canopy cover benchmark: 20% (50% of benchmark = 10% cover)
Canopy (T1) layer	Species	<i>Eucalyptus populnea</i> , <i>Corymbia tessellaris</i>
	Height, cover	13-15 m – sparse
Canopy (T2) layer	Species	<i>E. populnea</i> , <i>Acacia salicina</i> , <i>C. clarksoniana</i> , <i>Lysiphyllum carronii</i> , <i>C. tessellaris</i>
	Height, cover	2-7 m sparse to mid-dense
Shrub (S1) layer	Species	<i>Cassia brewsteri</i> , <i>Atalaya hemiglauca</i>
	Height, cover	2-3.5 m – very sparse to absent
Shrub (S2) layer	Species	<i>Carissa ovata</i>
	Height, cover	1.5 m – very spare to absent









Attribute	Description
Ground layer	<i>Cenchrus ciliaris</i> , <i>Grewia sp.</i> , <i>Achyranthes aspera</i> , <i>Harrisia martinii</i> , <i>Panicum sp.</i>
 North	 East
 South	 West
*Introduced species.	

Table 4-5 Description of RE 11.3.1

Attribute	Description
Representative flora survey sites within the Project Site	T13
Soil, landzone	Black cracking clay, alluvial (landzone 3)
Slope	level
Landform	Plain
Mapped RE	11.3.25
Ground-truthed RE	11.3.1
VM Act status	Endangered
Ground-truthed area (ha)	0.82 ha
RE remnant status benchmarks	Canopy height benchmark: 15 m (70% of benchmark = 10.5 m) Canopy cover benchmark: 35% (50% of benchmark = 17.5% cover)

Attribute		Description
Emergent	Species	<i>Eucalyptus orgadophila</i>
	Height, cover	12 m – 5%
Canopy (T1) layer	Species	<i>Acacia harpophylla</i> , <i>E. cambageana</i> , <i>E. orgadophila</i> , <i>A. salicina</i> , <i>Lysiphylum carronii</i> , <i>Terminalia oblongata</i>
	Height, cover	6-9 m – 20%
Canopy (T2) layer	Species	<i>Acacia harpophylla</i>
	Height, cover	5 – 50%
Shrub (S1) layer	Species	<i>A. harpophylla</i> , <i>Cassia brewsteri</i> , <i>Atalaya hemiglauca</i>
	Height, cover	2–3.5 m, 10%
Shrub (S2) layer	Species	<i>Carissa ovata</i> , <i>Citrus glauca</i>
	Height, cover	1-1.5 m, sparse
Ground layer		<i>Harrisia martinii</i> , <i>Paspalidium caespitosum</i> , <i>Sporobolus caroli</i> , <i>Cenchrus ciliaris</i> , <i>Leptochloa digitata</i> , <i>Parthenium hysterophorus</i>
 <p>North</p>		 <p>East</p>
 <p>South</p>		 <p>West</p>
*Introduced species.		

4.3.3 TEC

The PMST database search returned four TECs as potentially occurring within the MLAA:

- Brigalow (*Acacia harpophylla* dominant and co-dominant);
- Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin;
- Poplar Box Grassy Woodland on Alluvial Plains; and
- Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions.

Nine vegetation assessments were previously conducted in the MLAA and Project Site and an additional twelve were conducted in the September 2025 survey. Surveys confirmed non-remnant vegetation and remnant RE 11.5.3 and 11.3.1 within the MLAA and remnant RE 11.3.3 within the Project Site.

Furthermore, clearing has occurred regularly within the last 15 years in the Project Site (**Plate 3**) and the Project Site was extensively cleared prior to the 2025 September surveys. In accordance with Brigalow (*Acacia harpophylla* dominant and co-dominant) conservation advice (DCCEEW, 2001), areas of regrowth that have been cleared in the previous 15 years are unlikely to be considered to meet the key diagnostic criteria for the EPBC Act listed Brigalow TEC. Furthermore, extensive areas of exotic perennial grasses (e.g., buffle grass, or Indian bluegrass) are present across the Project Site and likely comprises in excess of 50% of the vegetation cover at the ground layer, meaning any Brigalow patch present is also unlikely to meet the TEC condition thresholds on this basis.

Previous studies confirmed the presence of two TECs within and adjacent to the MLAA (survey site H9 and H13, Brigalow (*A. harpophylla*) dominant and co-dominant and Poplar Box Grassy Woodland on Alluvial Plains (SLR, 2023). The Brigalow TEC occurs within the MLAA approximately 13 m to the south of the Project Site's haul road and the Poplar Box TEC occurs approximately 450 m to the southwest of the Project Site, outside of the MLAA. This distance would provide an appropriate buffer from the Project Site to the Poplar Box TEC, however not to the Brigalow TEC. There will be no direct impacts to the Brigalow TEC, and as long as suitable management is implemented (e.g., sediment control) the Project is unlikely to result in indirect impacts to either of these TECs.

4.3.4 ESAs

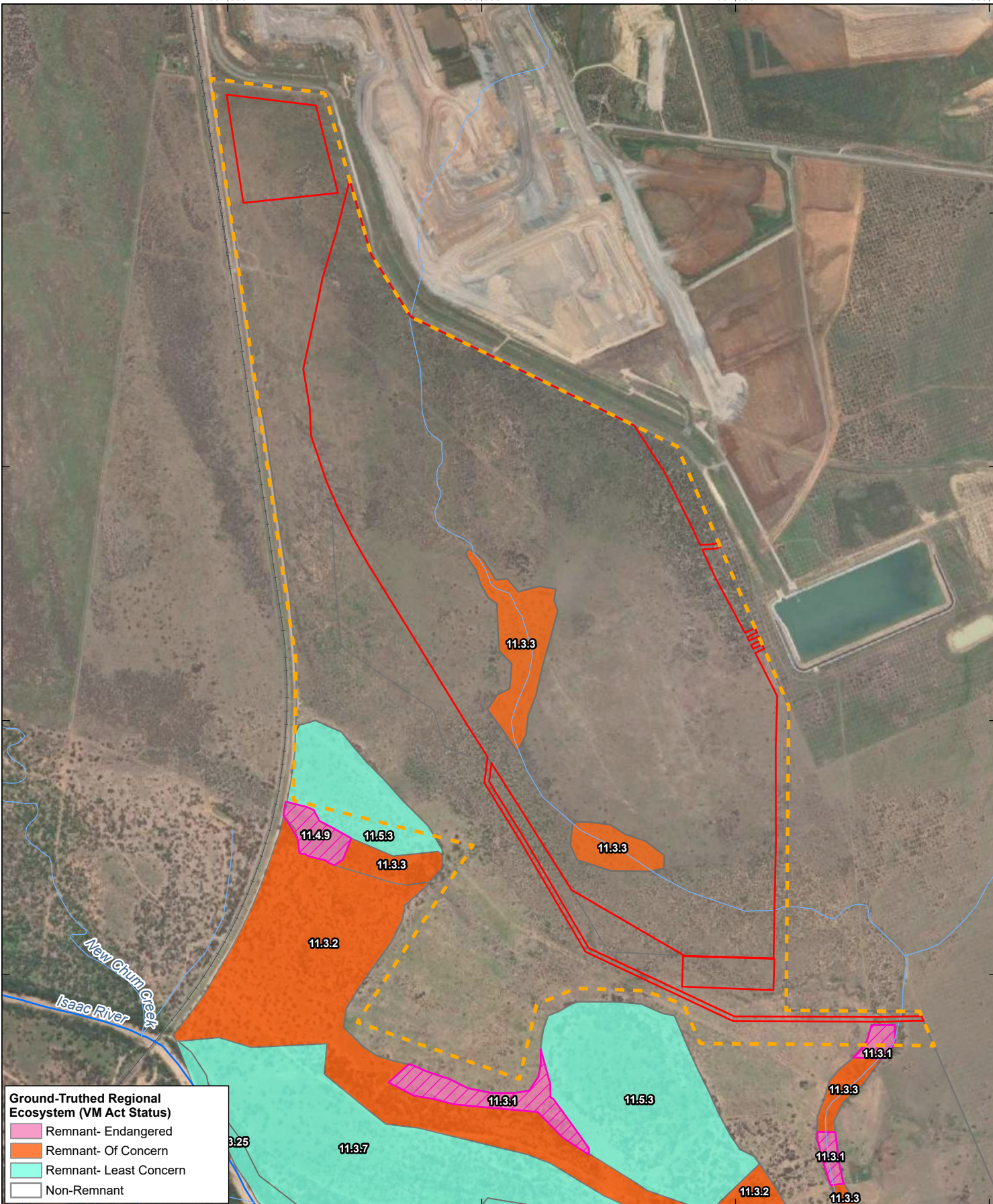
The previous field assessments (SLR, 2023) identified one endangered RE within the MLAA approximately 13 m southeast of the Project Site (RE 11.3.1) and one endangered RE approximately 500 m southwest of the Project Site (RE 11.4.9). Both REs are classified as Category B ESAs (**Figure 4-2**). As per the Standard Conditions for mining lease activities (ESR/2016/2241 version 2.00, (DEHP, 2016)), a 1 km buffer should be applied to the ground-truthed REs 11.3.1 (approximately 45 ha of ESA buffer for all patches of RE 11.3.1 and 11.4.9 (56.4 ha of RE 11.4.9 buffer) for protection). However, the site-specific EA application will be submitted for the new MLAA, therefore standard conditions and associated buffers are not applicable to the Project. Management measures to protect the patch of RE 11.3.1 immediately adjacent to the haul road (southern portion of Project Site) are discussed in **Section 6.0**.

4.3.5 Weeds

A total of 22 non-native flora species were identified within or adjacent to the MLAA (refer to **Appendix F**). The majority of these species are considered environmental weeds or flora introduced for the purpose of pasture improvement.

However, four of these species are listed as Category 3 restricted invasive flora under the *Biosecurity Act 2014*. Three of these species are also listed as WoNS:

- lantana (*Lantana camara*), Category 3 restricted, WoNS;
- parthenium (*Parthenium hysterophorus*), Category 3 restricted, WoNS;
- harrisia cactus, (*Harrisia martinii*), Category 3 restricted; and
- velvety tree pear (*Opuntia tomentosa*), Category 3 restricted, WoNS.



Ground-Truthed Regional Ecosystem (VM Act Status)

- Remnant- Endangered
- Remnant- Of Concern
- Remnant- Least Concern
- Non-Remnant

0 250 500 m

Coordinate System: GDA2020 MGA Zone 55

Scale: 1:20,000 at A4

Project Number: 620.042120.00001

Date Drawn: 27-May-2026

Drawn by: RB

LEGEND

- Railway
- Major Watercourse
- Minor Watercourse
- MLAA
- Project Site

Ground-Truthed Cat. B Environmentally Sensitive Area (Endangered Biodiversity Status)

**DAUNIA WEST INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025
GROUND-TRUTHED REGIONAL ECOSYSTEMS
AND ENVIRONMENTALLY SENSITIVE AREAS**



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 4-2

4.4 BioCondition assessment

The MLAA is comprised of non-remnant vegetation and remnant RE 11.3.3. BioCondition assessments were conducted at nine sites during the 2025 September survey, including one site within remnant RE 11.3.3 and eight sites within non-remnant vegetation. Remnant REs 11.3.1 and 11.5.3 were previously surveyed (SLR, 2023).

Data collected at each BioCondition assessment site are provided in **Appendix H** and a summary of key BioCondition assessment results are provided in **Table 4-6**. As most of the site was non-remnant, pre-clear RE mapping was used for benchmarks.

Table 4-6 BioCondition results

RE used for Benchmark	VM Act class	Biodiversity status	REDD Short description	BioCondition sites			Location
				2021	2023	2025	
11.4.9 (pre-clear)	Endangered	Endangered	<i>A. harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains.			BC1, BC2	Within MLAA
11.3.1 (remnant)	Endangered	Endangered	<i>A. harpophylla</i> and/or <i>C. cristata</i> open forest on alluvial plains.	H9			Within MLAA
11.9.4 (pre-clear)	Of concern	Endangered	Semi-evergreen vine thicket or <i>A. harpophylla</i> with a semi-evergreen vine thicket understorey on fine-grained sedimentary rocks.			BC3, BC4	Within MLAA
11.3.3 (remnant)	Of concern	Of concern	<i>E. coolabah</i> woodland on alluvial plains.			BC9	Within Project Site
11.5.3 (remnant)	Least concern	No concern at present	<i>E. populnea</i> +/- <i>E. melanophloia</i> +/- <i>C. clarksoniana</i> woodland on Cainozoic sand plains and/or remnant surfaces		BC3		Within MLAA
11.9.2 (pre-clear)	Least concern	No concern at present	<i>Eucalyptus melanophloia</i> +/- <i>E. orgadophila</i> woodland to open woodland on fine-grained sedimentary rocks.			BC5*, BC6*, BC7*, BC8*	Within MLAA

* RE 11.9.2 benchmarks were used for these sites which had a mosaic pre-clear RE of 11.9.2/11.9.5.

4.5 Fauna

4.5.1 Habitat features

Habitat types within the MLAA and Project Site fall into six broad categories:

- Non-remnant cleared areas with very sparse shrub cover;
- Isolated small stands of Brigalow (too small to be mapped);
- Sparse *Eucalyptus coolabah* woodland (RE 11.3.3) fringing an ephemeral watercourse;
- Open forest to open woodland of Poplar Box (RE 11.5.3) on crests of low slopes on red-brown sandy loam;
- Low open forest to woodland of Brigalow on ephemeral drainage channels; and
- Ephemeral cracking clay soil watercourse (**Plate 6**).

Within each habitat type, habitat values and features providing suitable shelter, nesting and food resources were recorded. A description of each habitat type identified within the MLAA is provided in **Table 4-7** to **Table 4-9** and includes a summary of the available habitat features for both common and conservation significant fauna and representative photographs of the habitat types. Very sparse *Eucalyptus coolabah* woodland along the ephemeral watercourse that runs through the Project Site (RE 11.3.3) contained the most substantial fauna habitat across the Project Site, including hollows, cracking clay soils (**Plate 6**), leaf litter, ephemeral watercourse (which would maintain small shallow pools for short periods after rainfall), and Brigalow Belt locally important koala trees (*E. coolabah*) and ancillary habitat trees (*Acacia salicina*) (Youngentob et al., 2021). This habitat recorded the highest faunal diversity within the Project Site during 2025 September surveys.

No permanent standing water occurs within the Project Site. The Isaac River is located approximately 1.5 km south of the Project Site. It is the largest watercourse in the local area and retains water in some isolated pools into the dry season. The Isaac River along with adjacent RE 11.3.25, provides a valuable resource to multiple faunal groups that occupy vegetation in the land adjacent (500 m to the south) to the Project Site. This vegetation contains larger tree species with increased amounts of hollows, woody debris, seasonally inundated areas and semi-permanent pools, all of which provide foraging and sheltering opportunities. These established habitats adjacent to the Project Site supported flowering trees providing foraging opportunities for arboreal mammals and nectivorous birds.

Previous surveys (SLR, 2023) recorded the highest diversity of fauna in heavily wooded areas in land to the south of the Project Site, where the presence of woody debris, moderate groundcover and leaf litter was recorded providing micro habitats for small mammal, reptile and amphibians. Within these areas, REs 11.3.1, 11.3.3 and 11.4.9 contained additional habitat values in the form of cracking clay soils.

Table 4-7 Non-remnant cleared areas with very sparse shrub cover

Attribute		Description
Vegetation status		Non-remnant
Average canopy height (m)		Absent
Dominant species group		Shrub (sparse cover)
Soil texture and colour		Black clay loam with limited small cracks
Erosion		Absent
Fire extent		Absent
Clearing extent		Widespread, major clearing
Feral presence		Not observed
Human waste severity		Absent to localised
Hollows	Large (>10 cm)	Absent
	Small (<10 cm)	Absent
Large logs	Large (>30 cm)	Mostly absent except stockpiles of older, dried cleared vegetation.
	Small (<30 cm)	Mostly absent except stockpiles of recently cleared vegetation
Rocks	Large	Absent
	Small	Absent to 10% cover in patches
Termite mounds	Arboreal	Absent
	Ground	Absent
Weeds	Canopy	Absent
	Mid-storey	Rare (<i>Harrisia martinii</i>)
	Ground	Abundant (<i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Parthenium hysterophorus</i>)
Exfoliating bark		Absent
Cracking soils		Uncommon
Leaf litter abundance		Mid-dense (30-70%)
Rocky habitat		Absent with some patches containing scattered cobbles/gravel
Wetland		Absent
Koala habitat	Locally important koala trees*	Absent
	Ancillary habitat trees*	Absent
Potential threatened species habitat		Generally no areas of water retention, some small soil cracks (<5 cm deep), some open patches suitable for squatter pigeon (southern) foraging and patchy areas of cobbles or gravel.

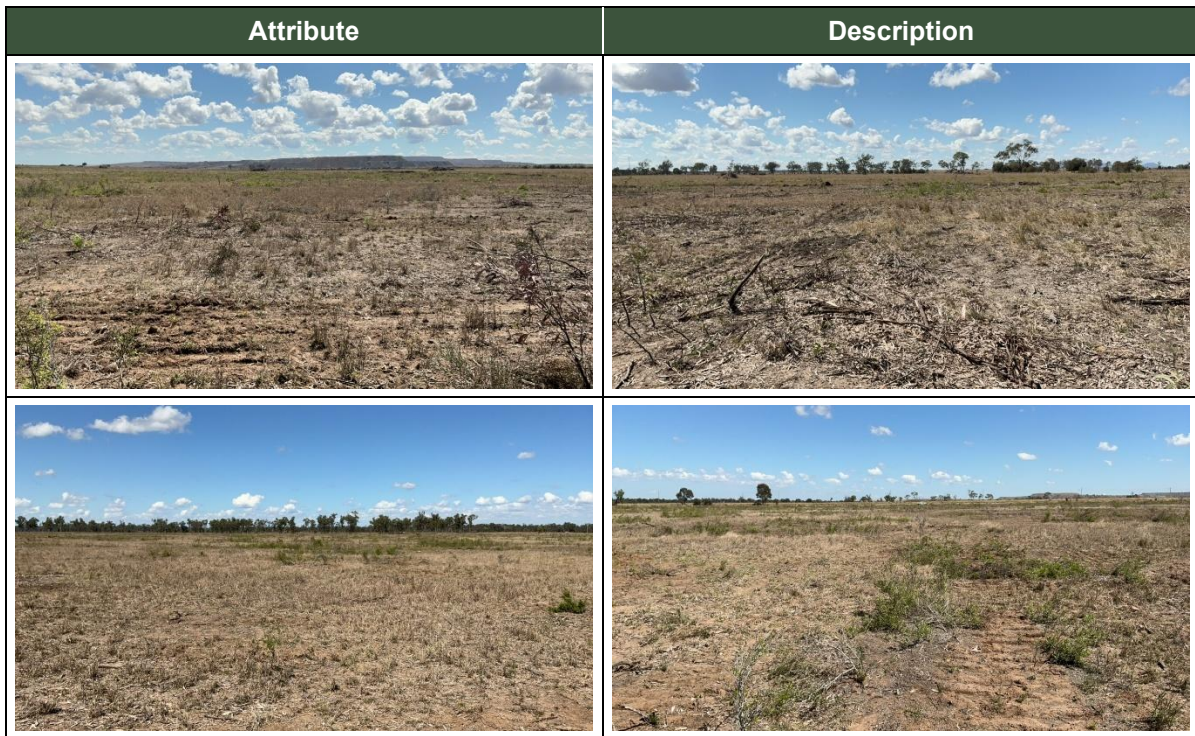


Table 4-8 Isolated small stands of Brigalow

Attribute		Description
Vegetation status		Non-remnant
Average canopy height (m)		8
Dominant species group		<i>Acacia harpophylla</i> (Brigalow)
Soil texture and colour		Sandy clay loam
Erosion		Absent
Fire extent		Absent
Clearing extent		Widespread, major clearing. Only very small (20 m x 20 m) isolated stands remain.
Feral presence		Not observed
Human waste severity		Absent
Hollows	Large (>10 cm)	Absent
	Small (<10 cm)	Absent
Large logs	Large (>30 cm)	Absent
	Small (<30 cm)	1-5
Rocks	Large	Absent
	Small	Absent
Termite mounds	Arboreal	Absent
	Ground	Absent
Weeds	Canopy	Absent





Attribute		Description
	Mid-storey	Absent
	Ground	Occasional non-native pasture grasses including <i>Bothriochloa pertusa</i>
Exfoliating bark		Uncommon
Cracking soils		Absent
Leaf litter abundance		Mid-dense (30-70%)
Rocky habitat		Absent
Wetland		Absent
Koala habitat	Locally important koala trees*	<i>Eucalyptus orgadophila</i> (mountain coolibah)
	Ancillary habitat trees*	<i>Acacia harpophylla</i> (Brigalow)
Potential threatened species habitat		Stands are isolated due to extensive clearing. May offer some refugia to common bird species but unlikely to provide suitable habitat for conservation significant species.
		
		

Table 4-9 Sparse *Eucalyptus coolabah* woodland (RE 11.3.3) fringing an ephemeral watercourse / ephemeral cracking clay watercourse

Attribute	Description
Vegetation status	Remnant RE 11.3.3 (Of Concern)
Average canopy height (m)	14-15
Dominant species group	Very sparse <i>Eucalyptus coolabah</i> (19.9% crown cover)
Soil texture and colour	Black cracking clay with minor cracks and small depressions where water may pool (Plate 6).

Attribute		Description
Erosion		Absent
Fire extent		Absent
Clearing extent		Widespread clearing surrounding vegetation and evidence of vegetation clearing including selective thinning within remnant patch
Feral presence		Fox (<i>Vulpes vulpes</i>) scat and cane toad (<i>Rhinella marina</i>) recorded within this habitat type
Human waste severity		Absent
Hollows	Large (>10 cm)	6 to 10
	Small (<10 cm)	>10
Large logs	Large (>30 cm)	Absent
	Small (<30 cm)	6 to 10
Rocks	Large	Absent
	Small	Absent
Termite mounds	Arboreal	Absent
	Ground	Absent
Weeds	Canopy	Absent
	Mid-storey	Rare (<i>Harrisia martinii</i>)
	Ground	Dominant/abundant (<i>Bothriochloa pertusa</i> , <i>Parthenium hysterophorus</i>)
Exfoliating bark		Absent
Cracking soils		Uncommon
Leaf litter abundance		Mid-dense (30-70%)
Rocky habitat		Absent
Wetland		Vegetation fringes intermitted watercourse
Koala habitat	Locally important koala trees*	<i>Eucalyptus coolabah</i> (coolabah)
	Ancillary habitat trees*	<i>Acacia salicina</i>
Potential threatened species habitat		<p>Few bare areas for squatter pigeon (southern) foraging habitat. Seasonal drinking supply for squatter pigeon (southern) associated with the watercourse.</p> <p>Seasonal ornamental snake foraging habitat particularly associated with the watercourse, frogs and cane toads recorded within this habitat type.</p> <p><i>Eucalyptus coolabah</i> may provide breeding and foraging koala habitat. It is spatially fragmented from nearby koala habitat by large, cleared areas.</p>





Attribute	Description
	
	



Plate 6 Black cracking clay soils in watercourse adjacent to site BC9

4.5.2 Fauna species

A full list of fauna species identified during previous field assessments and the 2025 September survey is included in **Appendix G**. No conservation significant fauna species were recorded within the Project Site. However, some species were detected adjacent (within 1-2 km) to the MLAA, these include koala, greater glider (central and southern) (*Petauroides volans*), and squatter pigeon (southern). Few habitat features for conservation significant species occur in the Project Site, the following sections provide a brief discussion of the species observed for each taxonomic group.

Native birds

The 2025 September survey recorded 63 bird species within and adjacent to the MLAA. Previous field surveys recorded additional species within the MLAA and surrounding 1 to 2 km, bringing the total to 82 bird species.

One conservation significant species, squatter pigeon (southern) (**Plate 7**), has been recorded outside the MLAA on multiple occasions during field surveys. **Figure 4-5** provides locations of squatter pigeon (southern) recorded during surveys. The squatter pigeons were recorded in non-remnant vegetation, within and adjacent to remnant RE 11.3.1, adjacent to the rail corridor, cattle dams, cattle yards, and along the roadside on various occasions between 2021 and 2025.

The majority of the MLAA is within 1.7 km of various permanent water sources, including a large pond associated with the existing mine. Areas within 300 m of woodland or scattered trees within the MLAA, particularly on sandy, gravelly or loamy soil, provide foraging habitat for squatter pigeon (southern). Some of these areas within the MLAA are located within 1 km of a permanent water source and thus provide both breeding and foraging habitat. Areas within 300 m of scattered trees or woodland on clay plains within the MLAA provide dispersal habitat for the squatter pigeon (southern). As there is habitat suitable for the species, this was assessed further through habitat quality assessment (see **Section 4.5.3** for more detail) and assessment of significant impacts completed against Commonwealth and State guidelines.

All other bird species observed within the MLAA and immediately adjacent are not of conservation significance and are generally common in similar habitats throughout the region (refer **Appendix G**).

Native mammals

The 2025 September survey recorded four native mammal species within the MLAA with a total of 21 mammal species recorded across all surveys within the MLAA and immediately adjacent during field assessments. Two conservation significant mammal species were recorded outside of the Project Site, koala (*Phascolarctos cinereus*), and greater glider (central and southern) (*Petauroides volans*), both listed as endangered under the NC Act and EPBC Act (**Figure 4-4**). The 2025 September survey detected koala scratches (**Plate 8**) on a stand of trees approximately 460 m south west of the Project Site within a patch of vegetation that is spatially separated from eucalypt woodland within the Project Site by approximately 350 m of cleared paddock. The 2025 September survey also incidentally recorded three greater gliders (**Plate 9**) located in riparian vegetation along the Isaac River outside of the MLAA (**Figure 4-4**).

The MLAA does not contain suitable habitat to support foraging or breeding for greater glider as they require denning trees with hollows greater than 50 cm (Eyre et al 2022b), attributes which are not found within the MLAA. The highly fragmented remaining eucalypt woodland within the MLAA is also unlikely to be suitable for dispersal habitat due to the large, cleared areas between suitable refuge vegetation. Furthermore, the vegetation within the site does not connect two larger patches of habitat together, thus supporting it is unlikely to be used as dispersal habitat.

The remnant RE 11.3.3, 11.5.3 and 11.3.1 open woodland patches within the MLAA provide breeding and foraging habitat for koala. These REs contain important ancillary habitat elements and locally important koala trees that may be essential for koala survival (Youngentob et al. 2021). A small stretch of isolated trees connecting two patches of RE 11.3.3 provides dispersal habitat for koala within the Project Site, as isolated trees can act as stepping stones between larger habitat patches (Youngentob et al. 2021). This habitat is fragmented from adjacent habitat by approximately 350 m of cleared paddock. As there is habitat suitable for the species, this was assessed further through habitat quality assessment (see **Section 4.5.3** for more detail) and assessment of significant impacts completed against Commonwealth and State guidelines (**Section 7.0**).

Evidence of short-beaked echidna was also observed adjacent to, but not within the MLAA (in RE 11.3.2), in the form of excavated termite mounds, a known habitat feature used by this species (**Figure 4-4**). Whilst no individuals were recorded within the MLAA or Project Site, the Project Site is also likely to support foraging habitat for the species as they occur in almost all terrestrial habitats (Nicol and Andersen, 2007). An assessment on significant residual impacts was completed for short-beaked echidna (**Section 7.2.6**).

Native reptiles

The 2025 September survey recorded eight reptile species within the MLAA with a total of 16 reptile species recorded across all surveys within the MLAA and immediately adjacent during field assessments. None of these are conservation significant species, and all are generally common within similar habitats throughout the region.

Some habitat features for ornamental snake were recorded in the MLAA (see **Section 4.5.3** for more detail), namely areas of alluvial soils that contained some cracking features. As there is habitat suitable for the species, this was assessed further through habitat quality assessment and assessments of significant impacts completed against Commonwealth and State guidelines.

Native amphibians

The 2025 September survey recorded two native amphibian species within the MLAA with a total of four native reptile species recorded across all surveys within the MLAA and immediately adjacent. None of these are conservation significance species, and all are generally common in similar habitats throughout the region. Marginal features for amphibians, such as the ephemeral watercourse and cracking clays occur within the MLAA. The watercourse and low-lying areas within the Project Site may seasonally maintain water during and shortly after rainfall.

Introduced fauna

Seven introduced fauna species were detected across all surveys within the MLAA and immediately adjacent. Three of these species are restricted invasive fauna under the *Biosecurity Act 2014*. The introduced species detected included:

- cane toad (*Rhinella marina*);
- common myna (*Acridotheres tristis*);
- European cattle (*Bos taurus*);
- European brown hare (*Lepus europaeus*);
- dingo¹ (*Canis lupus dingo*) restricted;
- feral pig (*Sus scrofa*) restricted; and
- red fox (*Vulpes vulpes*), (**Plate 10**), restricted.

¹ Dingoes are a protected native species under the NC Act within a protected area. However, this species is a restricted invasive fauna species under the *Biosecurity Act 2014* outside of protected areas



**Plate 7 Squatter pigeon (southern)
recorded outside of Project Site**



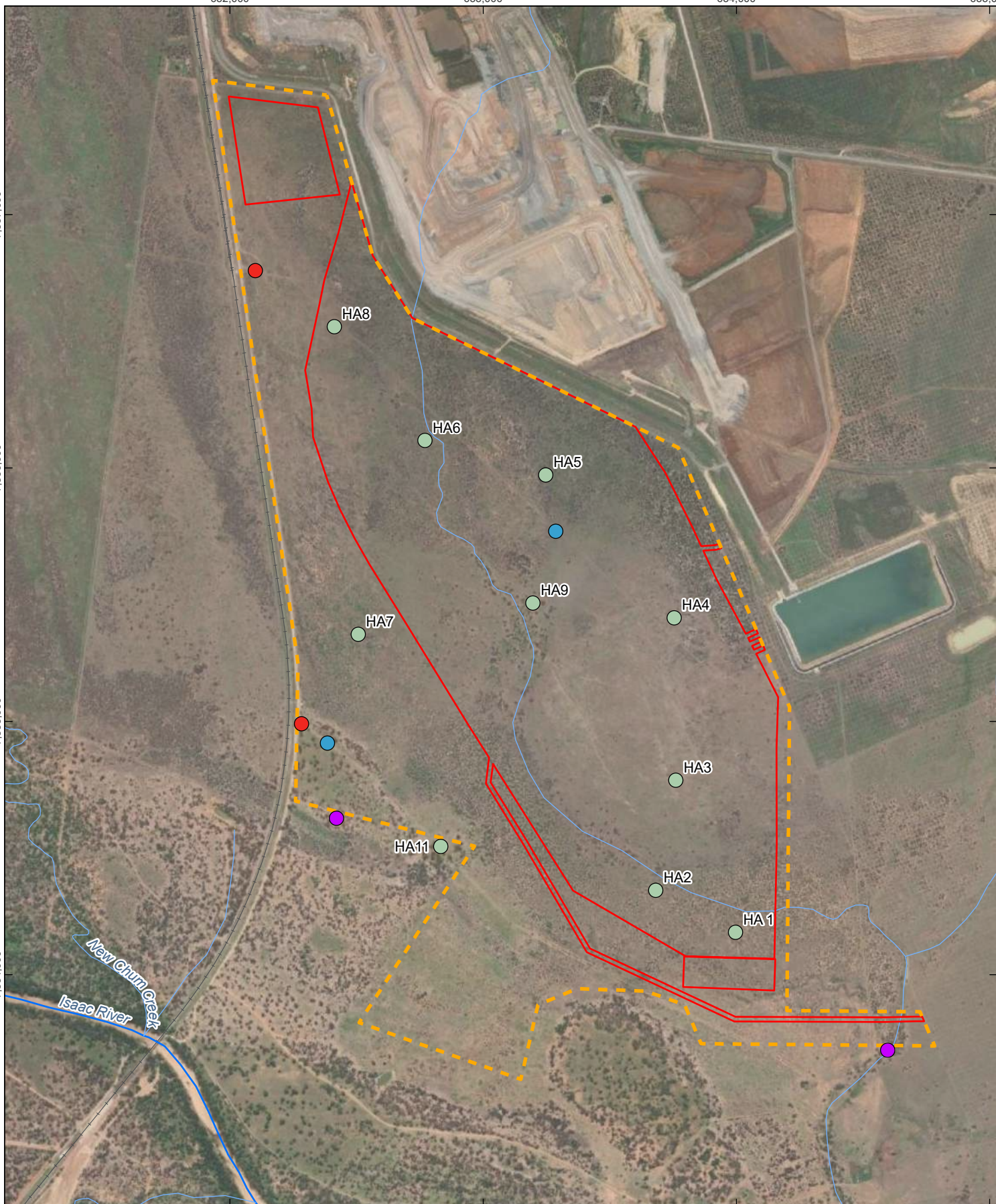
**Plate 8 Potential koala scratches observed
outside of Project Site**




**Plate 9 Greater glider recorded outside of
Project Site**












**Plate 10 Fox scat recorded within Project
Site**



 0 250 500 m
 Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:20,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 27-May-2026
 Drawn by: RB

LEGEND

-  Railway
-  Major Watercourse
-  Minor Watercourse
-  MLLA
-  Project Site

 Fauna Survey Site (2021)
Fauna Survey Site (2025)
 Bird Survey
 Habitat Assessment
 Spotlighting

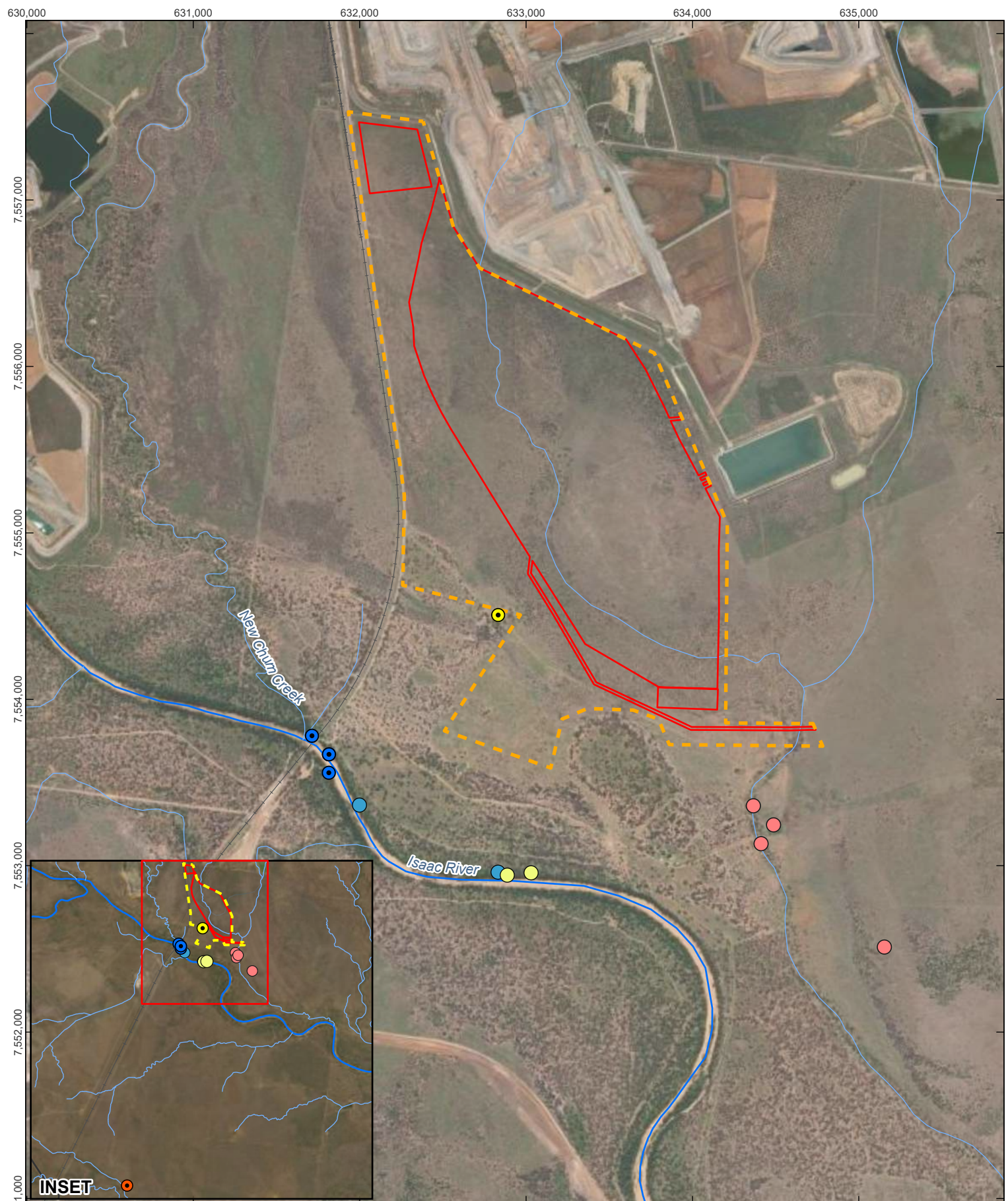
**DAUNIA WEST INFRASTRUCTURE PROJECT
 TERRESTRIAL FLORA AND FAUNA
 TECHNICAL REPORT 2025**

FAUNA SURVEY SITES



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FIGURE 4-4



630,000 631,000 632,000 633,000 634,000 635,000

7,557,000
7,556,000
7,555,000
7,554,000
7,553,000
7,552,000
7,551,000

INSET

Coordinate System: GDA2020 MGA Zone 55
Scale: 1:30,000 at A4
Project Number: 620.042120.00001
Date Drawn: 27-May-2026
Drawn by: RB

LEGEND

- +— Railway
- Major Watercourse
- Minor Watercourse
- - - MLLA
- ▭ Project Site

Fauna Record (2025)

- Greater Glider
- Koala Scratches
- Squatter Pigeon

Previous Fauna Record (2021 and 2023)

- Greater Glider
- Koala Scratches/Scat
- Squatter Pigeon

**DAUNIA WEST
INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025**

**CONSERVATION SIGNIFICANT
FAUNA RECORDS**



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FIGURE 4-5

4.5.3 Areas of biodiversity significance

The Project Site is mapped as containing areas of state and local biodiversity significance on the Biodiversity Plan Assessment mapping for the Brigalow Belt Region.

Areas of state significance are mapped within the southern portion of the Project Site. These areas are recognised for their state significance due to the presence of remnant vegetation that forms part of a bioregional corridor and provides habitat for conservation-significant species. One area of local significance was also identified, which contains important wildlife refugia.

4.5.4 Habitat quality assessment results

Squatter pigeon (southern)

Squatter pigeon (southern) habitat was determined by a combination of habitat suitability and distance from water, as this species relies on regular access to a water source (TSSC, 2015). Habitat attributes were informed by the Conservation Advice (TSSC, 2015), Squatter Pigeon (southern) workshop outcomes summary (DEHP, DERM and Queensland Parks and Wildlife Service, 2011) and published literature. The workshop outcomes summary identified significant knowledge gaps with regard to squatter pigeon's habitat requirements (DEHP, DERM and Queensland Parks and Wildlife Service, 2011). Lloyd et al. (2025) conducted a records-based assessment of the foraging and nesting habitat associations of the southern squatter pigeon (southern) across its range in Queensland and has been used in this assessment to supplement the Conservation Advice and knowledge gaps identified by the panel of experts.

Lloyd et al. (2025) identified the following attributes for squatter pigeon (southern) habitat:

- Strong preference for alluvial areas (landzone 3) but will also occur in a range of other land zones, however they are less likely to use clay plains (landzone 4).
- Generally occupies areas with gentle slopes (<5.8% slope).
- Primarily associated with eucalypt woodlands and open woodlands with a grassy ground layer, but can occur in tussock grasslands within 300 m of scattered trees or woodland and communities dominated by *Acacia*, *Callitris* and *Melaleuca* tree species.
- Suitable habitat within 1.7 km of a perennial water source is important for foraging.
- Suitable habitat within 1 km of a perennial water source is important for breeding.
- Areas within 300 m of woodland or scattered trees on clay plains (landzone 4) may be used as dispersal habitat when connecting patches of suitable habitat.

There have been no confirmed records of squatter pigeon (southern) within the Project Site. The nearest record during previous surveys was recorded near a cattle dam approximately 1 km southeast of the MLAA (Latitude: - 22 ° 7'3.93"S Longitude: 148°17'8.25"E). The 2025 September survey recorded six squatter pigeons (southern) foraging adjacent to a gravel track and cattle yards, approximately 12 km from the Project Site. Within the Study area 26 records were returned from the desktop assessment (ALA) and approximately 22 were recorded during field surveys adjacent to the MLAA.

For the purposes of this assessment, squatter pigeon (southern) suitable breeding habitat is described as eucalypt woodlands or scattered trees within a 300 m buffer on any landzone excluding landzone 4 that are within 1 km of a perennial water source. Suitable foraging habitat is described as eucalypt woodlands or scattered trees within a 300 m buffer on any

landzone excluding landzone 4 that are within 1.7 km of a perennial water source. Squatter pigeon (southern) dispersal habitat includes eucalypt woodland or scattered trees within a 300 m buffer occurring on landzone 4.

The MLAA contains 326.96 ha of suitable squatter pigeon (southern) habitat including 141.44 ha of breeding habitat, 51.72 ha of foraging habitat and 133.79 ha of dispersal habitat. The Project Site contains 189.68 ha of suitable squatter pigeon (southern) habitat comprised of 88.47 ha of suitable breeding habitat, 47.77 ha of suitable foraging habitat and 53.44 ha of dispersal habitat.

Squatter pigeon (southern) habitat is depicted in **Figure 4-6**. The average of the data collected at nine habitat quality assessment site for the squatter pigeon (southern) is provided in **Appendix I. Table 4-10** provides a summary of habitat assessment scores for this species within the Project Site.

Ornamental snake

Ornamental snake habitat is defined as Brigalow-dominated and Coolabah-dominated vegetation communities on appropriate cracking clay soils or with sufficient quantities of shelter. Other important habitat features include:

- evidence of seasonal inundation with the potential to support frog communities as a source of food; and
- areas with deep soil cracks providing potential breeding and sheltering areas.

No ornamental snakes were recorded within the Project Site or MLAA, however, suitable habitat in the form of some cracking soils and areas of seasonal inundation is present within the Project Site and MLAA, in deeply alluvial soils along the watercourse (**Figure 4-7**).

The MLAA contains 113.13 ha of suitable ornamental snake habitat including 24.43 ha of breeding and foraging habitat and 88.7 ha of dispersal habitat. The extent of habitat within the Project Site is approximately 23.66 ha of breeding and foraging habitat and 41.11 ha of dispersal habitat. The average of the data collected at nine habitat quality assessment sites for the ornamental snake is provided in **Appendix I. Table 4-10** provides a summary of habitat assessment scores for this species within the Project Site.

Koala

The koala is predominantly associated with eucalypt forests containing locally important koala trees and ancillary tree species. Non-eucalypt trees, even when not favoured for food, may be used for shelter and thermoregulation. Both remnant and non-remnant vegetation can be high quality koala habitat, and koalas are just as likely to occur in “lower quality” regrowth habitats as they are in “higher quality” habitats (Youngentob et al. 2021). Tree species diversity is not a prerequisite to koala occupation which relies more on the nutritional quality of the trees present. Important koala habitat characteristics identified in recent studies (Gardiner et al. 2023, Melzer et al. 2018, Smith and Pile 2024, Youngentob et al. 2021) include:

- high diversity and abundance of food trees (including locally important koala trees);
- ground layer that allows individuals to move freely and safely between trees;
- proximity to watercourses (i.e. wetter, more fertile landscapes); and
- undisturbed primary forests (including little to no past logging).

No koalas were recorded within the Project Site, during the September 2025 survey. Within the MLAA several *Eucalyptus tereticornis* trees located in a patch of vegetation

approximately 460 m to the southwest of the Project Site showed evidence of potential koala scratch marks (**Figure 4-8**).

There are three koala habitat types mapped within the Project Site, these include:

- **Potential breeding and foraging habitat:** ground-truthed remnant vegetation containing locally important koala habitat trees.
- **Dispersal habitat:** non-remnant areas that do not provide potential breeding or foraging habitat, located adjacent to remnant vegetation containing scattered trees in sufficient densities to allow safe movement through the landscape.
- **Unsuitable habitat:** non-remnant areas containing limited to no suitable habitat trees.

Koala habitat quality was informed using data collected for RE verification (**Appendix E**). Within the MLAA, suitable habitat for this species is limited to four ground-truthed patches of REs 11.3.3, 11.5.3, 11.3.1 and an interconnecting strip of non-remnant vegetation between two patches of RE 11.3.3. Remnant vegetation provides suitable foraging and breeding habitat, while the non-remnant interconnecting strip of vegetation provides dispersal opportunities between the two patches of RE 11.3.3.

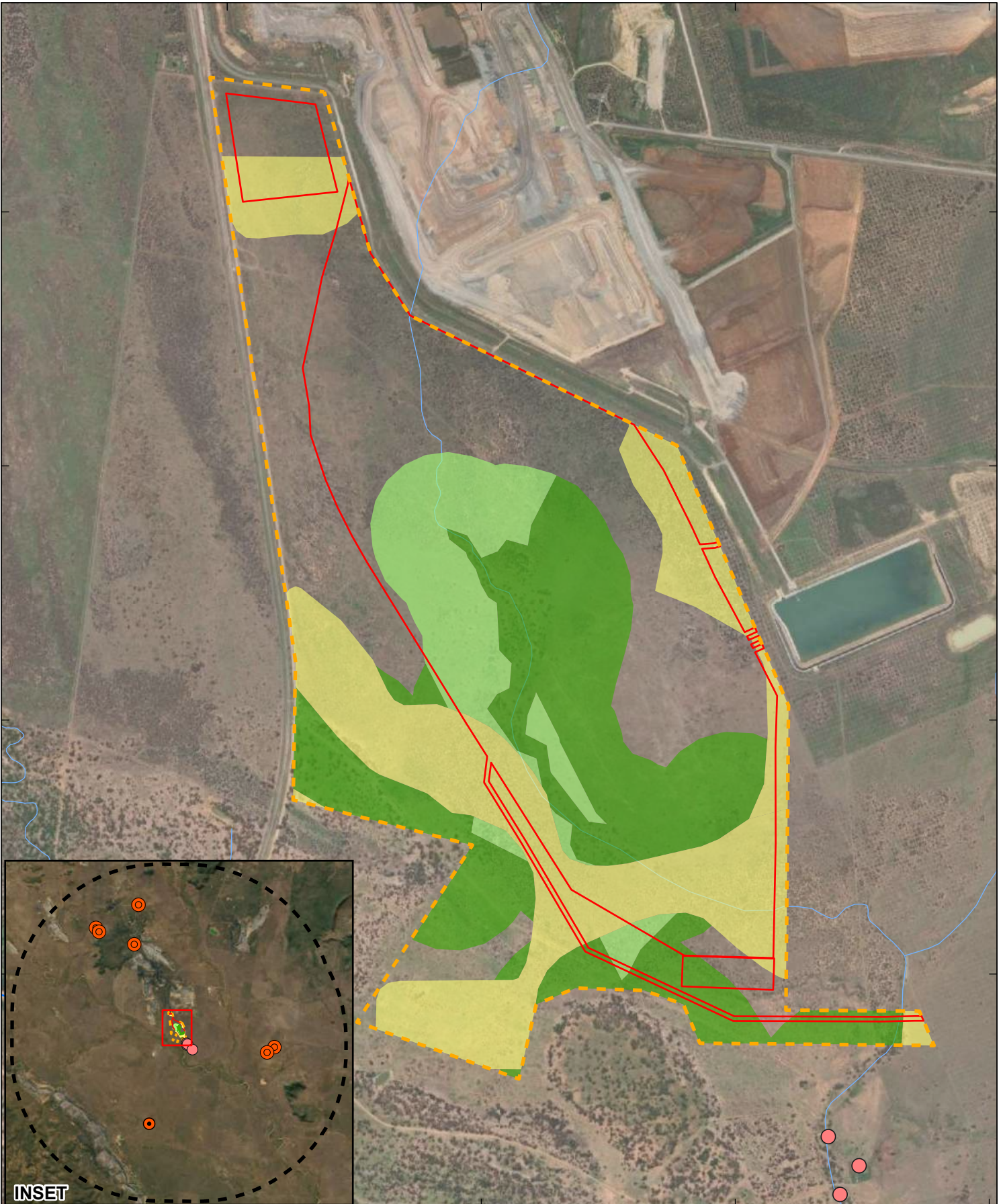
Within the Project Site habitat is limited to two patches of RE 11.3.3 and an interconnecting strip of non remnant vegetation between the patches. Suitable habitat for this species within the Project Site is separated from adjacent areas of suitable habitat approximately 400 m to the south of the Project Site. Isolation has resulted from historical mechanical clearing of regenerating vegetation, which has created extensive open areas largely lacking tree and shrub cover. Recent vegetation management had been undertaken by the landowner just prior to the September 2025 survey further reinforces the ongoing isolation and fragmentation of suitable habitat within the Project Site.

The MLAA contains 33.84 ha of suitable koala habitat including 28.84 ha of potential breeding and foraging habitat and 4.99 ha of dispersal habitat. The Project Site contains 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat (**Figure 4-8**).

Table 4-10 Average habitat quality attribute scores for habitat for ornamental snake and squatter pigeon (southern) within the Project Site

Species	Attribute	Site											
		RE 11.5.3	RE 11.3.1	Non-remnant									RE 11.3.3
		BC3	H9	BC1	BC2	BC3	BC4	BC5	BC6	BC7	BC8	BC9	
squatter pigeon (southern)	Average score for food and habitat required for foraging	18.3	18.3	1.67	1.67	1.67	3.33	3.33	10	3.33	1.67	12	
	Average score for quality and availability of habitat for shelter and breeding	12.5	15	3.33	8.33	1.67	0	1.67	10	3.33	1.67	5	
	Average score for habitat required for mobility	15	15	5	8.75	0	1.25	3.75	13	3.75	2.50	9	
	Absence of threats – average lowest score	3	3	5	5	5	6	5	5	5	5	5	
	Habitat condition score	4.88	5.13	3.33								2.58	
ornamental snake	Average score for food and habitat required for foraging	-	20	16.67	16.67	8.33	8.33	13.33	13.33	11.67	11.67	10	
	Average score for quality and availability of habitat for shelter and breeding	-	12.5	10	10	2.5	2.5	7.5	7.5	5	0	3.75	
	Average score for habitat required for mobility	-	12.5	18.33	18.33	0	1.67	16.67	15	8.33	3.33	10	
	Absence of threats – average lowest score	-	4	5	5	0	0	3	3	4	2	2	
		Habitat condition score	-	4.9	1.81								3.04





INSET

0 250 500 m

Coordinate System: GDA2020 MGA Zone 55

Scale: 1:20,000 at A4

Project Number: 620.042120.00001

Date Drawn: 27-May-2026

Drawn by: RB

LEGEND

- Major Watercourse
- Minor Watercourse
- MLLA
- Project Site
- Study Area

Squalter Pigeon Record

- 2025 Survey Record
- Previous Survey Record (2021 and 2023)
- ALA Record

Squalter Pigeon Habitat

- Breeding
- Foraging
- Dispersal

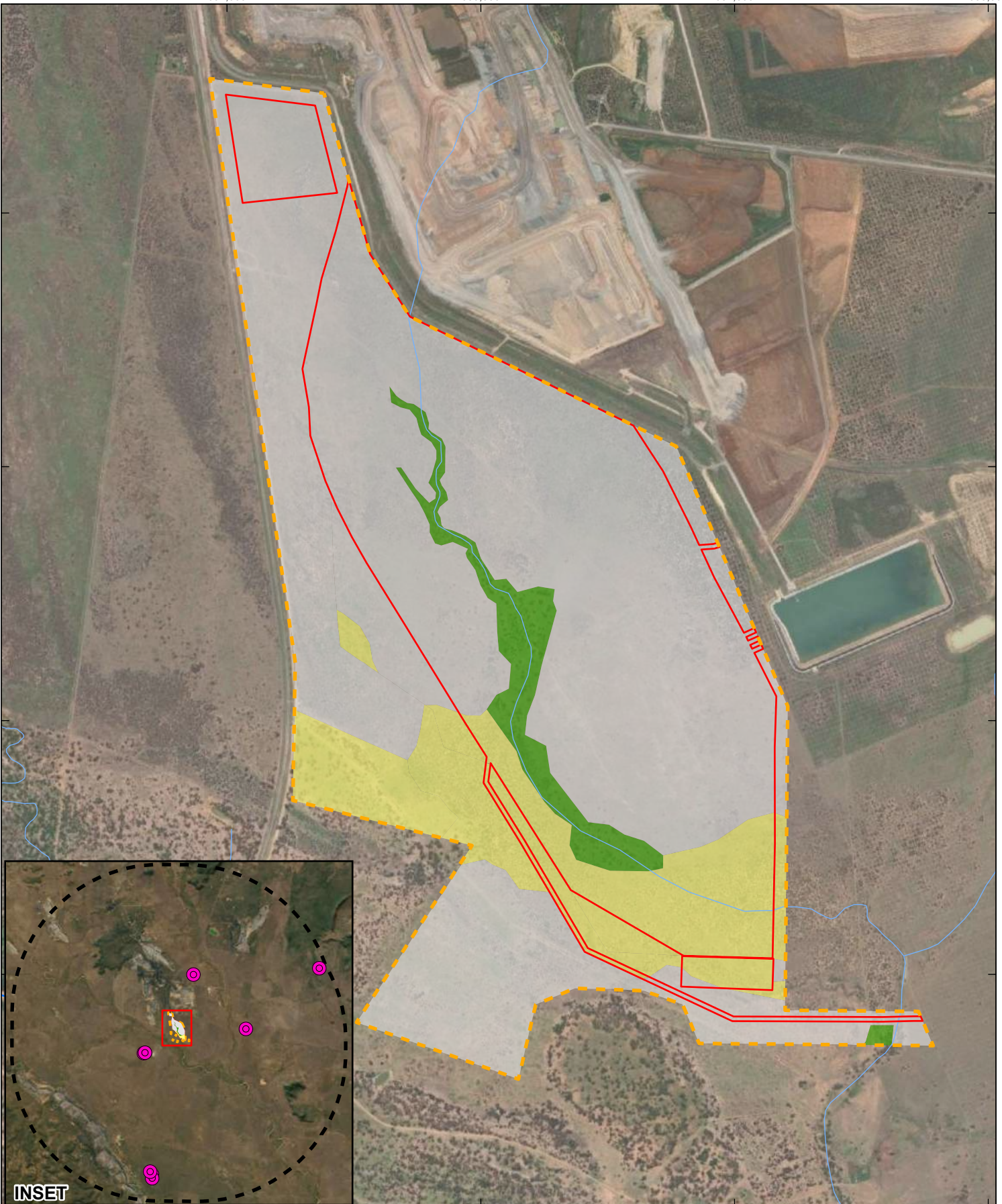
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SQUALTER PIGEON HABITAT



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 4-6



INSET

0 250 500 m

Coordinate System: GDA2020 MGA Zone 55

Scale: 1:20,000 at A4

Project Number: 620.042120.00001

Date Drawn: 27-May-2026

Drawn by: RB

- LEGEND**
- Major Watercourse
 - Minor Watercourse
 - MLLA
 - Project Site
 - Study Area

- Ornamental Snake Record**
- ALA Record
- Ornamental Snake Habitat**
- Breeding and Foraging
 - Dispersal
 - Unsuitable

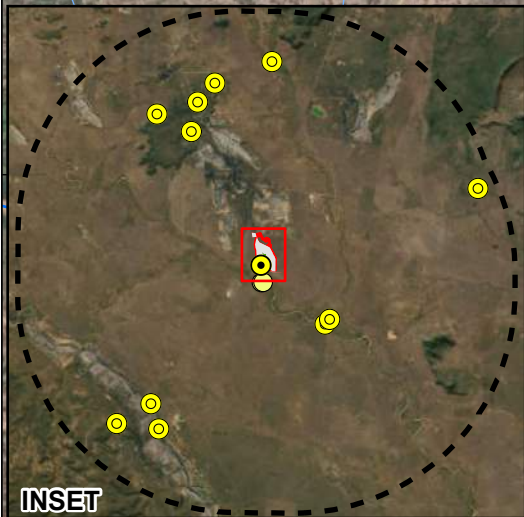
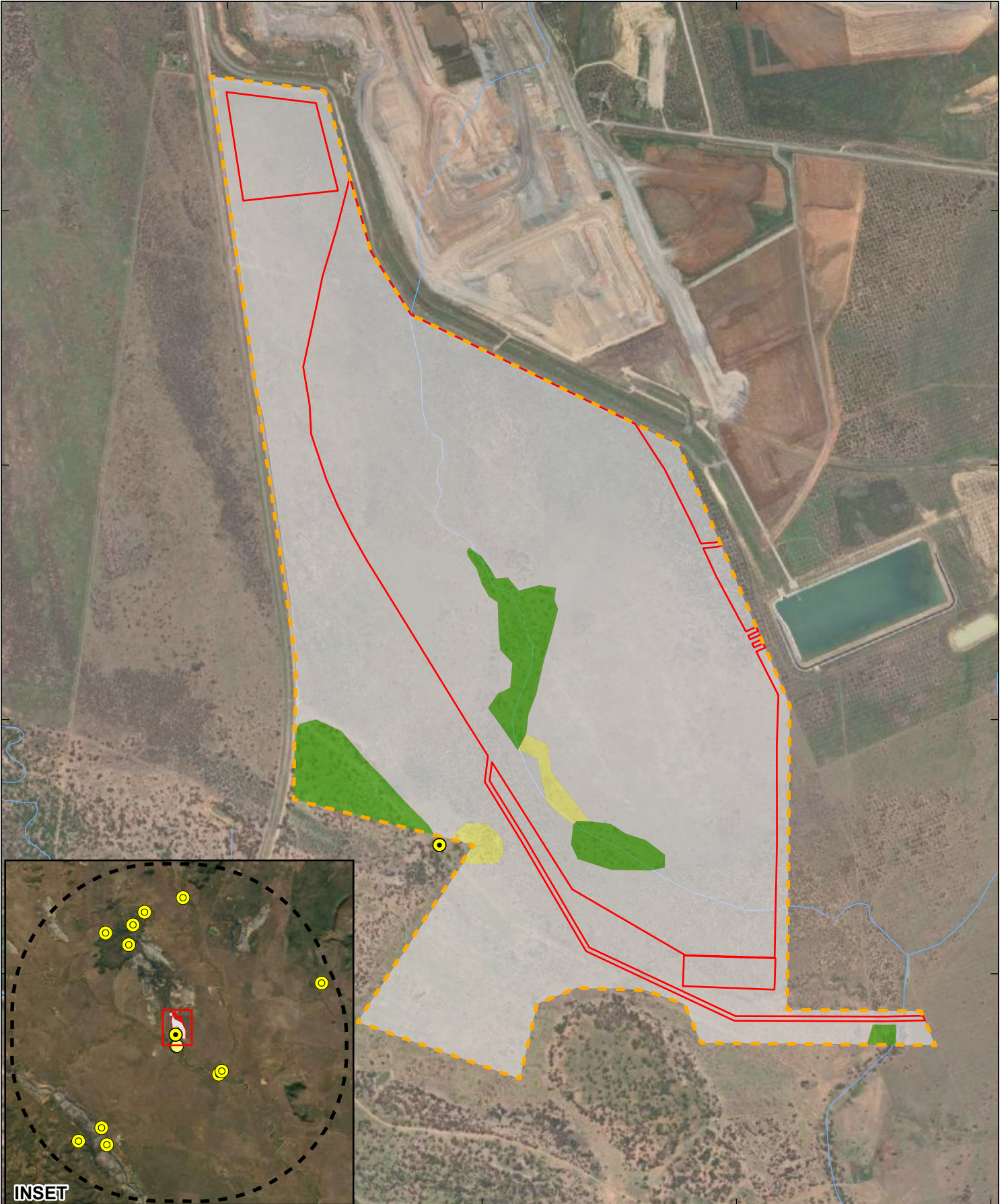
**DAUNIA WEST
INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025**

ORNAMENTAL SNAKE HABITAT



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 4-7



INSET

0 250 500 m

Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:20,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 27-May-2026
 Drawn by: RB

LEGEND

- Major Watercourse
- Minor Watercourse
- Project Site
- MLLA
- Study Area

Koala Record

- 2025 Survey Record
- Previous Survey Record (2021 and 2023)
- ALA Record

Koala Habitat

- Breeding and foraging
- Dispersal
- Unsuitable

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KOALA HABITAT



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FIGURE 4-8

5.0 Potential Impacts

Potential direct impacts in the absence of appropriate mitigation measures include:

- removal of up to 16.26 ha of remnant RE 11.3.3;
- loss of breeding, foraging and dispersal habitat for squatter pigeon (southern), ornamental snake, koala and short-beaked echidna, and
- unintentional fauna mortality or injury resulting from vegetation clearing and other construction works.

Potential indirect impacts in the absence of appropriate mitigation measures include:

- increased fauna mortality or injury via vehicle strike (vehicle movement is likely to increase, leading to an increased risk of animal collisions and increased mortality per collision);
- changes to land-based hydrology may impact the presence or persistence of frog species;
- facilitating pest animal movement into new areas;
- introduction and spread of disease and pathogens;
- increased noise, light, vibration and dust;
- edge effects and disturbance to adjacent habitats;
- sedimentation of adjacent habitats (including potential TECs); and
- introduction of new weed species or spread of existing weeds limiting fauna movement.



6.0 Mitigation and Management Measures

Measures to mitigate potential impacts to ecological values include:

- Clearing carried out in a sequential manner that allows fauna to escape to natural areas away from construction works. In particular, clearing from the northern, and eastern fringes of the Project Site, before moving south. This will support the natural self-relocation of fauna to the retained, remnant vegetation communities south of the Project Site.
- Demarcate clearing areas before works commence to prevent unnecessary clearing of vegetation and minimise accidental damage.
- Engage a suitably qualified person (e.g., ecologist, fauna spotter-catcher) to undertake pre-clearance surveys in areas where habitat removal is required to identify new fauna habitat values and potential breeding sites. The final pre-clearance survey should be undertaken by a suitably qualified person no later than 48 hrs prior to clearing.
- Salvage of large woody debris (e.g., logs) within clearing areas and placed in adjacent vegetation, so they can be used for habitat.
- Reduce unnecessary noise and disturbance (e.g., turning off equipment/plant when not in use, use of acoustic barriers around equipment, use of equipment with lower sound power levels where feasible).
- Where possible works should be undertaken outside of the squatter pigeon (southern) breeding season (November-March).
- If a breeding place for a protected animal (other than koala) is likely to be disturbed by construction activities, a Species Management Program (SMP) is required to be prepared and approved by DETSI prior to commencement of clearing. If active breeding places for least-concern species are found during pre-clearance surveys and will be disturbed, the Project will require a low-risk of impacts SMP. A high risk of impacts SMP is required to be implemented if active breeding places of conservation significant species (including least concern species that are colonial breeders) are found during pre-clearance surveys and will be disturbed. The SMP would aim to provide an avoidance/prevention framework detailing a hierarchical range of measures to firstly avoid impacts, then mitigate unavoidable impacts. Note the September 2025 surveys did not find any breeding places for conservation significant species. A precautionary high risk SMP for conservation significant species is recommended based on the suitable breeding habitat identified within the Project Site for squatter pigeon (southern), ornamental snake and short-beaked echidna. Koala are not subject to an SMP as there is no defined breeding place for the species.
- Follow the approved WHC QLD Procedure Weed and Feral Animal Management Plan (WHC 2022) which outlines treatment methods and regimes for significant weed species. Treat significant weed species prior to, during and post construction at designated intervals (treatment intervals to be determined by proposed activities, and size and invasiveness of weed infestations) with waterway friendly herbicides and in accordance with relevant site-specific management plans.
- Specific mitigation measures to reduce impacts to mapped ESAs immediately adjacent to the Project Site include:
 - Washdown of all machinery entering site will be undertaken to prevent additional weeds from impacting the ESA.



- Disturbance areas are to be clearly demarcated ahead of clearing to ensure no unauthorised clearing is undertaken.
- Rehabilitation will be undertaken in accordance with the Progressive Rehabilitation and Closure Plan (PRCP).
- Design and implement Erosion Sediment Control (ESC) measures for the Project will be implemented in accordance with DNM ESC Plan (WHC-DNM-PLN-Erosion and Sediment Control), which has been developed in accordance with condition F33 of DNMs EA. Examples of ESC outlined in DNM ESC Plan are as follows:
 - Minimise the area of disturbance, where possible, and schedule the disturbance such that it is not exposed for longer than is necessary. DNM pit protection models should be used to plan drainage away from the excavation.
 - Where the surface is to be disturbed, topsoil should be stripped and stockpiled in line with the WHC-QLD-PRO-Topsoil Management. Placing any stockpile material in a channel or flow path should be avoided. Consideration should also be given for revegetating or rip the materials surface to promote surface cover or infiltration, respectively thus reducing surface runoff and erosion.
 - Clean water is to be diverted around the disturbed and/or sensitive areas where possible.
 - Exposed surfaces should then be protected with surface cover as soon as practical after works to assist in reducing surface erosion.
 - Rehabilitation should be undertaken to provide a stable and vegetated landform.
 - Surface treatment must consider the type of material/rock suitable for the required slope and velocity to ensure the selected material is fit for purpose.
 - Where disturbance has occurred within a waterway, the area should be revegetated as soon as practical. Consideration should be given to the use of a soil binder, coir mesh or rock/topsoil matrix, depending on the significance of the waterway, to stabilise the surface during vegetation establishment.
 - Stabilise the surface of slopes using appropriate slope protection measures.
 - Implementation of erosion protection measures such as revegetation, excavated rock traps, rock checks and sediment fencing/bunds.
 - A risk rating guide's the selection of sediment control requirements, based on the disturbance catchment size, soil category, duration of disturbance and average catchment slope.
- Site inductions or toolbox meetings should include information about sensitive aspects of the environment in which personnel are working, including the risk of injury or death to squatter pigeons or ornamental snakes from machinery.
- Due to the ground dwelling nature of the squatter pigeon (southern), all vehicles should remain on existing access tracks and roads wherever possible.
- Speed limits should be implemented where appropriate to reduce the risk of fauna strike.
- While it is unlikely that dust will significantly impact plant function, advisable dust suppression techniques include:
 - Application of water on trafficable surfaces;
 - Limiting activities in high wind conditions; and



- Application of water/binding agent to construction sites during construction.



7.0 Significant Impact Assessments

This section outlines the impact assessments for MNES and MSES considered to have a high likelihood of occurrence within the Project Site, squatter pigeon (southern), ornamental snake and short-beaked echidna. Although only a moderate likelihood of occurrence within the Project Site, based on the presence of breeding and foraging and dispersal habitat, a precautionary impact assessment is also completed for koala. An impact assessment has been undertaken for the Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC as the Project Site is approximately 13 m from the ground-truthed boundary. This section also outlines the management and mitigation measures for each matter of environmental significance. The total Project Site considered for these impact assessments is approximately 304.75 ha within the MLAA, which is a total 500.32 ha.

Matters of environmental significance considered as moderate or higher in their likelihood of occurrence to the Project Site have been summarised in **Table 7-1**, and detailed in the sub-sections below.

Table 7-1 MNES and MSES subject to impact assessment

Scientific name	Common name	MNES EPBC Act	MSES NC Act VM Act	Basis for assessment	Nature of impact
N/A	Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC	E	-	Known to occur adjacent to Project Site	Indirect effects
N/A	regulated vegetation		Vegetation management category	Known to occur within Project Site	Cumulative direct effects: 16.26 ha Indirect effects
<i>Denisonia maculata</i>	ornamental snake	V	V	High likelihood of occurrence	Direct effects: 64.77 ha Indirect effects
<i>Geophaps scripta scripta</i>	squatter pigeon (southern)	V	V	High likelihood of occurrence	Direct effects: 189.68 ha Indirect effects
<i>Phascolarctos cinereus</i>	koala	E	E	Moderate likelihood of occurrence	Direct effects: 18.96 ha Indirect effects
<i>Tachyglossus aculeatus</i>	short-beaked echidna	-	SLC	High likelihood of occurrence	Direct effects: 304.75 ha Indirect effects



7.1 MNES

7.1.1 Squatter pigeon (southern)

7.1.1.1 Conservation status

The southern subspecies of the squatter pigeon is listed as vulnerable under the EPBC Act.

7.1.1.2 Distribution and habitat requirements

The southern subspecies occurs in Queensland and northern New South Wales. In the north, it hybridises with the northern subspecies (*Geophaps scripta peninsulae*) from the Burdekin-Lynd divide in southern Cape York Peninsula to the Charters Towers area; it occurs near-coastally from Townsville to Lake Wivenhoe west of Brisbane and inland to Charleville, Barcaldine and Hughenden (**Figure 7-1**).

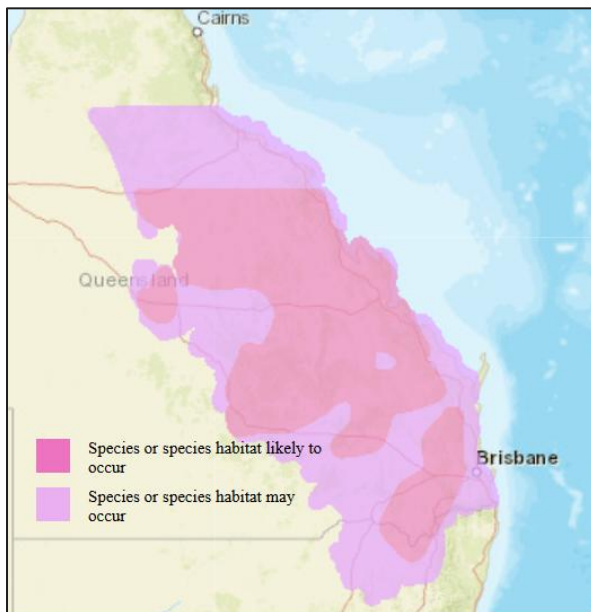


Figure 7-1 Current distribution map for squatter pigeon (southern) (DCCEEW 2025b)



Suitable habitats for the southern subspecies include (Lloyd et al., 2025):

- eucalypt woodlands and open woodlands with a grassy ground layer;
- tussock grasslands within 300 m of scattered trees; and
- woodland and communities dominated by *Acacia*, *Callitris* and *Melaleuca* tree species.

Proximity to water is an important habitat defining factor for the squatter pigeon (southern). DCCEEW (2025b) states that suitable habitats are within 3 km of a permanent or seasonal water source such as a watercourse, wetland, livestock dam or livestock watering trough. Lloyd et al. (2025) further identifies important foraging habitat as suitable habitat within 1.7 km of a perennial water source and important breeding habitat as suitable habitat within 1 km of a perennial water source.

The species is ground-dwelling and has specific habitat requirements relating to vegetative structure and composition. Sparse, patchy ground cover, allowing freedom of movement while foraging on the ground, is preferred. This tends to consist of native perennial tussock grasses to approximately 33% cover (TSSC, 2015b), but squatter pigeon (southern) have been recorded in areas with average ground vegetation ranging from 20% to 60% and occasionally areas with higher average ground cover (Lloyd et al., 2025). Habitat includes vegetation with or without low shrubs and native forbs (the seeds of some non-native forbs, such as *Stylosanthes* spp., are also eaten) that is interspersed with bare, dusty ground, leaf litter and coarse woody debris. These habitats appear to provide the balance of openness to facilitate foraging, complexity to provide cover, and vantage points from which to view potential threats.

Squatter pigeon (southern) prefer well-draining gravelly, sandy or loamy soils on low to gently rising undulating plains and low lateritic escarpments (TSSC, 2015b). Although they have a strong preference for alluvial areas (landzone 3), they occur in a range of other landzones but are less likely to use clay planes (landzone 4). They generally occupy areas with gentle slopes (<5.8% slope or <3.3°) (Lloyd et al., 2025), often occur in burnt areas and, like many granivorous birds, are often encountered on tracks and roadsides (TSSC, 2015b).

7.1.1.3 Habitat critical to survival

Habitat critical to the survival of the species has not yet been defined.

7.1.1.4 Important populations

The southern boundary of the known distribution of the squatter pigeon (southern) is contracting northwards. Therefore, all of the relatively small, isolated and sparsely distributed sub-populations occurring south of the Carnarvon Ranges in Central Queensland are considered to be important sub-populations of the subspecies (DEHP, DERM and Queensland Parks and Wildlife Service, 2011). This includes, but is not limited to (DEHP, DERM and Queensland Parks and Wildlife Service, 2011):

- 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 NSW.

For the purpose of this assessment, the population which may utilise the Project Site is not considered an important population as the Moranbah region occurs well north of the above definitions.



7.1.1.5 Foraging and diet

It is estimated that approximately 95% of the squatter pigeon's (southern) diet consists of seeds (Chrome 1976). The subspecies mainly forages on seeds which have fallen to the ground from low vegetation, such as grasses, herbs and shrubs (Chrome 1976; Chrome and Shields 1992). Chrome (1976) found that the subspecies sometimes eats fallen seeds from *Acacia* species.

The subspecies is also commonly seen foraging in and around stockyards, where they also pick seeds and ticks from the droppings of livestock and drink from stock troughs (Chrome 1976; Chrome and Shields 1992; EPA 2006). Loyd et al. (2025) identified suitable habitat within 1.7 km of a perennial water source as important for foraging.

7.1.1.6 Reproduction

The squatter pigeon (southern) can breed throughout most of the year if conditions are good, however, optimal conditions for breeding success are likely to be regulated by the abundance of food resources. The subspecies' peak breeding period is not fixed, but is likely to coincide with the dry season (April to October), when their primary source of food, grass seed, is most abundant (EPA 2006; Frith 1982; DEHP, DERM and Queensland Parks and Wildlife Service, 2011). Loyd et al. (2025) identified suitable habitat within 1 km of a perennial water source as important for nesting.

It usually breeds in solitary pairs (Porter 2006 pers. comm.). Pairs may produce two broods of young per season (EPA 2006).

The nest is a depression scraped into the ground beneath a tussock of grass, bush, fallen tree or log (Frith 1982), and sparsely lined with grass (North 1913-14). The female usually lays two creamy-white eggs (EPA 2006) that are incubated for a period of about 17 days (EPA 2006). The chicks remain in the nest for approximately two to three weeks (EPA 2006). The chicks are capable of only short flights when they depart the nest. After they leave the nest, the young remain dependent on their parents for about four weeks (EPA 2006).

7.1.1.7 Identified threats

The squatter pigeon (southern) is very rare in the south of its range (southern Queensland and New South Wales) and is affected by multiple pressures further north. Habitat clearing and fragmentation, including for agriculture, and grazing pressures, especially cattle grazing in the north and sheep grazing in the south, are the primary drivers of the subspecies' decline to date. These are ongoing pressures, though cattle grazing is considered less impactful than sheep grazing as some pasture improvement species are eaten by squatter pigeons and cattle grazing does not always complete removal of the ground vegetation. Other current threats include grazing by feral mammals, predation by feral predators, transformation of habitats by weeds, changes in fire regimes, and illegal shooting (TSSC, 2015b).

7.1.1.8 Occurrence within Project Site

No confirmed records of squatter pigeon (southern) have been identified within the Project Site or MLLA. The nearest squatter pigeon (southern) individual was observed during previous surveys near a cattle dam approximately 1 km southeast of the Project Site (Latitude: 22° 7'3.93"S Longitude: 148°17'8.25"E). The 2025 survey recorded six squatter pigeons (southern) foraging adjacent to a gravel track and cattle yards, approximately 12 km from the Project Site. Within the Study Area, the desktop assessment (ALA) returned 26 records, with approximately 22 observed during field surveys adjacent to the Project Site.



7.1.1.9 Suitability of habitat and habitat mapping

There are four squatter pigeon (southern) habitat types mapped within the Project Site (Figure 7-2), these include:

- **Breeding and foraging habitat:** grassy eucalypt woodlands and open forests, or scattered trees within 300 m of woodlands and open forest, within 1 km of a permanent water source
- **Foraging habitat:** grassy eucalypt woodlands and open forests, or scattered trees within 300 m of woodlands and open forest, > 1 km and <1.7 km from a permanent water source.
- **Dispersal habitat:** grassy eucalypt woodlands and open forests, or scattered trees within 300 m of woodlands and open forest, with sparse, patchy native grasses on clay plains (landzone 4).
- **Unsuitable habitat:** grassland >300 m from woodlands, open forests or scattered trees, or impervious surfaces (e.g. mine pit).

The Project Site contains squatter pigeon (southern) habitat along the two patches of remnant RE 11.3.3, adjacent non-remnant areas containing scattered trees and a 300 m buffer around these areas. The breeding and foraging habitat within the Project Site is predominantly on the western side of the ephemeral watercourse and associated with the large pond to the west of the Project Site. Small patches of breeding and foraging habitat within proximity to trees and permanent water are also located in the south and the south east of the Project Site. Adjacent to the breeding and foraging habitat is foraging habitat, this area contains reduced ground cover on suitable soils and a variety of grass species. Foraging habitat is located within 300 m of woodland or scattered trees and up to 1.7 km from a permanent water source. Breeding and foraging habitat and foraging habitat is connected by dispersal habitat containing sparse, patchy grasses within 300 m of woodland or scattered trees on clay plains (landzone 4). The remainder of the Project Site contains unsuitable habitat.

The Project Site contains 88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat, 53.44 ha of dispersal habitat and 115.07 ha of unsuitable habitat for the squatter pigeon (southern).

7.1.1.10 Project related impacts

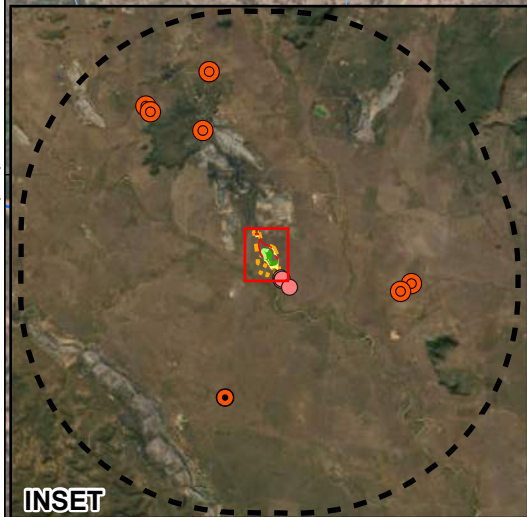
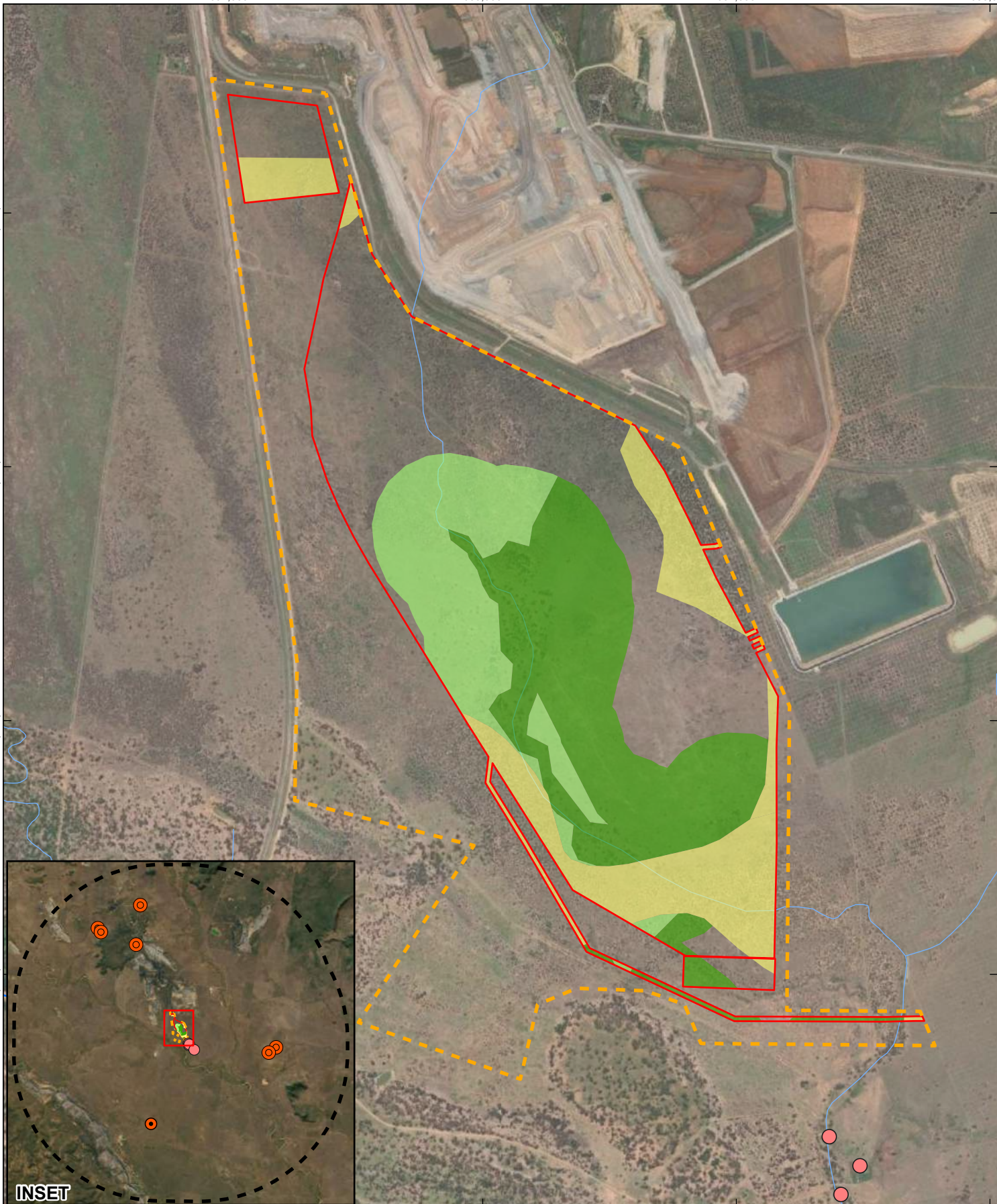
The Project seeks to construct and operate an out-of-pit dump. The primary impact pathway during the construction phase will be vegetation clearing, increased risk of predation and vehicle strike. It is anticipated that 88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat and 53.44 ha of dispersal habitat will be removed. Indirect impacts that may occur during the construction phase include noise pollution, light pollution and dust deposition on nearby habitats and vegetation communities.

7.1.1.11 Relevant Commonwealth guidelines and policy statements

Documents relevant to assessment of this species are as follows:

- Conservation Advice *Geophaps scripta scripta* squatter pigeon (southern) (DoE 2015). In effect under the EPBC Act from 27th October 2015
- Threat Abatement and Recovery as per Species Profile and Threats Database (DCCEEW 2025).





INSET

0 250 500 m

Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:20,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 27-May-2026
 Drawn by: RB

LEGEND

- Major Watercourse
- Minor Watercourse
- - - MLLA
- ▭ Project Site
- - - Study Area

Squatter Pigeon Record

- 2025 Survey Record
- Previous Survey Record (2021 and 2023)
- ALA Record

Squatter Pigeon Habitat

- Breeding
- Foraging
- Dispersal

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SQUATTER PIGEON HABITAT WITHIN PROJECT SITE



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FIGURE 7-2

7.1.1.12 Assessment of significance

The criteria outlined for species listed as vulnerable in the MNES significant impact guidelines 1.1 (DEWHA 2021) were used to assess the proposed activity's impact on the squatter pigeon (southern) (**Table 7-2**). In summary, the population of squatter pigeon (southern) in the Moranbah region is not considered to be an important population and although the proposed Project will result in a loss of breeding and foraging habitat for the squatter pigeon, the activity is unlikely to significantly impact an important population or impact connectivity within the region. Provided the recommended mitigation measures are successfully implemented, the proposed Project is considered unlikely to have a significant impact on squatter pigeon (southern) subspecies.

Table 7-2 EPBC Act significant impact assessment for the vulnerable squatter pigeon (southern)

Significant impact criteria	Assessment of the Project Site
Lead to a long-term decrease in the size of an important population of a species	<p>Unlikely.</p> <p>As detailed in Section 7.1.1.4 any individuals which may utilise the Project Site do not meet the criteria of an important population.</p> <p>There are currently 42 known records of the species within the 20 km of the Project Site. No individuals have been recorded in the Project Site, with the closest record being 1 km to the southeast. The proposed Project will not impact areas (directly or indirectly) where the species have been recorded, or areas where there is a mosaic of breeding, foraging and dispersal habitat.</p> <p>The population size of the squatter pigeon (southern) was estimated at >40,000 breeding birds in 2000 (DCCEEW 2025). The estimated number within the Study area (42 birds) accounts for 0.1% of the total estimated population size. With the retention of suitable habitat adjacent to the Project Site, and where the species have been recorded, it is considered likely that the individuals recorded within Study area will persist during the construction and operational phases of the project.</p> <p>The 22 individuals recorded adjacent to the Project Site, and additional 26 records within the Study area, do not constitute an important population and therefore, the Project is unlikely to lead to a long-term decrease in the size of an important population.</p>
Reduce the area of occupancy of an important population	<p>Unlikely.</p> <p>As detailed in Section 7.1.1.4 any individuals which may utilise the Project Site do not meet the criteria of an important population.</p> <p>The national area of occupancy of the subspecies was estimated in 2000 to be 10,000 km², or 1,000,000 ha (DCCEEW 2025). The Project proposes to remove 189.68 ha of suitable critical habitat (88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat and 53.44 ha of dispersal habitat). This will result in a 0.01% decrease in the species national area of occupancy. The Project Site is also well within the natural distribution for the subspecies, as such there are not additional pressures from being on the edge of the subspecies known range.</p>



Significant impact criteria	Assessment of the Project Site
	<p>On a landscape scale, the adjacent habitat is known to support the species, with 22 records during field survey adjacent to the Project Site, and 26 known records within the Study area. Whilst the Project will clear 189.68 ha of suitable habitat, significant areas of land will be retained adjacent to the impact area which will continue to provide a higher-quality mosaic habitat comprising foraging, breeding and dispersal, for squatter pigeon (southern).</p> <p>As the decrease in area of occupancy on a national scale is only 0.01% and the population within the Project Site (and Study area) do not constitute an important population, the Project is unlikely to reduce the area of occupancy of an important population.</p>
<p>Fragment an existing important population into two or more populations</p>	<p>Unlikely.</p> <p>As detailed in Section 7.1.1.4 any individuals which may utilise the Project Site do not meet the criteria of an important population.</p> <p>Whilst the proposed Project will result in the loss of 189.68 ha of suitable critical habitat (88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat and 53.44 ha of dispersal habitat), ongoing clearing and land development have already led to degradation of habitat with the Project Site as shown by the absence of canopy across most of the Project Site and stockpiles of dead mature trees.</p> <p>The historical impacts adjacent to the Project Site (active mine operations) has created a landscape which requires the species to fly across. Even with the changing landscape, the species persists in the wider region, which suggests the species is adaptable to flying between habitat types.</p> <p>Adjacent to the Project Site existing remnant vegetation, some of which are MNES TECs, will be retained, and will continue to provide the local population of squatter pigeon (southern) ongoing breeding, foraging and dispersal habitat. The species is naturally highly mobile and responds to food abundance and climatic conditions, thereby, individuals during construction and operation would be considered able to fly over the Project Site to reach appropriate habitat.</p> <p>As the population within the Study area do not constitute an important population, and the proposed Project will not increase the fragmentation, which is present in the broader landscape, the Project is unlikely to fragment an existing important population into two or more populations.</p>
<p>Adversely affect habitat critical to the survival of a species</p>	<p>Likely.</p> <p>Habitat critical to the survival of the species has not yet been defined.</p> <p>Whilst the term is referenced in the SPRAT Database, there is no definition of what is considered habitat critical to the survival of the species. For this assessment critical habitat is considered to be areas which have become heavily fragmented, and which support foraging or breeding for the subspecies. As such, the removal of these smaller fragmented habitats will lead to an</p>



Significant impact criteria	Assessment of the Project Site
	<p>increased pressure on existing resources, and the retention of these small, fragmented parcels are critical to the species persistence within the landscape.</p> <p>Whilst the Project Site does provide some suitable habitat for breeding and foraging, on a landscape scale, the Project Site is surrounded by extensive areas of suitable habitat which will not be impacted by the Project, resulting in only a small loss of suitable habitat for the species. Although up to 189.68 ha of suitable critical habitat (88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat and 53.44 ha of dispersal habitat) will be impacted, it is considered sufficient habitat will remain in the broader region to support local population minimising adverse impacts to the overall availability of critical habitat for this species.</p>
<p>Disrupt the breeding cycle of an important population</p>	<p>Unlikely.</p> <p>As detailed in Section 7.1.1.4 any individuals which may utilise the Project Site do not meet the criteria of an important population.</p> <p>Surveys completed across the site, occurred between April and October, although site conditions (availability of seeding grasses) were variable between these seasons. No evidence of breeding individuals were observed within or adjacent to the Project Site during field surveys. Additional pre-clearance surveys will be undertaken prior to the removal of vegetation to assess for the presence of potentially breeding squatter pigeon (southern). Particular focus will be provided seasonally in the 88.47 ha of habitat within the Project Site considered suitable for breeding. Given the number of records within the Study area (26) compared to the lack of records within the Project Site, the risk of breeding birds being present is considered low, as it is likely the species appears to favour areas away from the Project Site, such as the habitat along the Issac River.</p> <p>Given the population doesn't meet the definition of an important population, and the lack of records within the Project Site, the Project is unlikely disrupt the breeding cycle of an important population.</p>
<p>Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</p>	<p>Unlikely.</p> <p>Whilst the Project will result in the loss of 88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat and 53.44 ha of dispersal habitat suitable for the squatter pigeon (southern) the Project will occur in areas which have been subject to historical clearing and soil disturbance for grazing activities and therefore, has been subjected to long-term degradation and modification from the establishment of exotic perennial grasses.</p> <p>Given the highly modified habitat, which is currently present, the Project will not modify, destroy, remove or isolate, or decrease the quality of remaining habitat. Whilst there may be a small percentage of loss in the area of suitable habitat available for the species, the retention of existing remnant vegetation approximately 500 m south of the Project Site will continue to</p>



Significant impact criteria	Assessment of the Project Site
	<p>provide extensive areas of higher quality suitable habitat and ensure the species is unlikely to decline.</p> <p>The implementation of mitigation measures (refer to Section 6.0), including weed management and weed hygiene protocols, along with dust and sediment control, will assist in reducing any potential introduction or spread of exotic species or sedimentation of retained habitat within the Project Site.</p>
<p>Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</p>	<p>Unlikely.</p> <p>The proposed Project is unlikely to increase the abundance of invasive species (i.e., feral dogs, cats and foxes) above their current levels or result in the introduction of new invasive species. The Project Site is also extensively cultivated with exotic perennial grasses which are used as cattle fodder and 19 species of weeds were recorded, Four of these weed species (<i>Lantana camera</i>, <i>Parthenium hysterophorus</i>, <i>Harrisia martinii</i> and <i>Opuntia tomentosa</i>) are listed as Category 3 restricted invasive flora under the <i>Biosecurity Act 2014</i>. <i>Lantana camera</i>, <i>Parthenium hysterophorus</i>, and <i>Opuntia tomentosa</i> are also listed as WoNS. Exotic and non-native weed species can quickly outcompete native grasslands, which can lead to a reduction in foraging availability for the species. Therefore, the implementation of mitigation measures (refer to Section 6.0), including weed management and weed hygiene protocols, will assist in reducing any potential introduction or spread of exotic species in retained habitat within the Project Site.</p>
<p>Introduce disease that may cause the species to decline</p>	<p>Unlikely.</p> <p>The proposed Project is unlikely to introduce a disease that may cause the species to decline, given there are no known diseases that impact this species.</p>
<p>Interfere substantially with the recovery of the species</p>	<p>Unlikely.</p> <p>The SPRAT database for the squatter pigeon (southern) identifies a number of Actions and priorities for recovery for the species (DCCEEW 2025):</p> <ul style="list-style-type: none"> • the protection of habitat critical to the survival of the subspecies throughout its range; • the restoration of habitat which is potentially critical to the survival of the subspecies, especially in northern NSW and southern Queensland where there is a greater threat of a further contraction in the subspecies' range; • the alleviation of mortality caused by predators, particularly cats and foxes, and • the development of a greater understanding of the subspecies' ecology and use of modified landscapes for foraging, breeding and dispersal. <p>The land proposed for the Project is regularly subject to clearing and soil disturbance and is not in an area identified for conservation of the species. The project would therefore not</p>



Significant impact criteria	Assessment of the Project Site
	interfere with any of the defined strategies and therefore, is unlikely to interfere with the recovery of this species.
Overall impact assessment	Unlikely. The proposed Project is unlikely to have a significant impact on squatter pigeon (southern).

7.1.1.13 Squatter pigeon (southern) specific mitigation measures

Mitigation measures for the squatter pigeon (southern), in addition to mitigation and management measures identified in **Section 6.0**, should include at a minimum:

- minimising works and clearing areas within potential habitat; and
- preparation and implementation of a high risk of impacts SMP if breeding places are found during pre-clearance surveys.

7.1.2 Ornamental snake

7.1.2.1 Conservation status

The ornamental snake is listed as vulnerable under the EPBC Act.

7.1.2.2 Distribution and habitat requirements

The ornamental snake is known to occur within the Brigalow Belt North and parts of the Brigalow Belt South biogeographical regions. The core of the species' distribution occurs within the drainage system of the Fitzroy and Dawson Rivers (**Figure 7-3**). The preferred habitat of this species is within, or close to, habitat that is favoured by frogs, which are its preferred prey. The species is known to prefer woodlands and open forests associated with moist areas, particularly gilgai mounds and depressions, but also lake margins and wetlands (DCCEEW, 2025b). These areas include RE 11.3.3, 11.4.3, 11.4.6, 11.4.8, 11.4.9 and 11.5.16 (DAWE, 2014). The ornamental snake has been recorded primarily in areas adjoining water but also within woodlands and open woodlands of Coolabah, Poplar Box and Brigalow. Cracking clay soils and moderate amounts of course woody debris provide preferred shelter for this species.



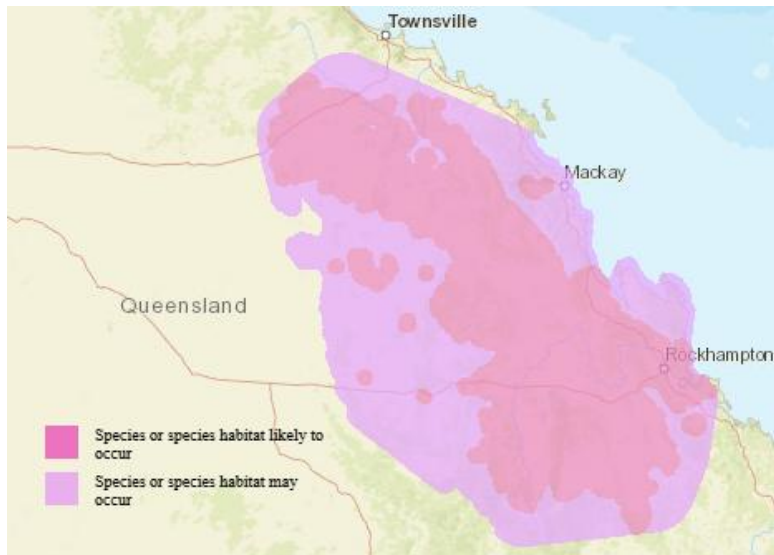


Figure 7-3 Current distribution map for ornamental snake (DCCEEW 2025)

7.1.2.3 Habitat critical to the survival

Habitat critical to the survival of the species has not yet been defined.

7.1.2.4 Important population

The occurrence of important habitat for this species is considered a surrogate for an 'important population' of the species (DCCEEW, 2025b). Specifically for ornamental snake known important habitat is determined to be gilgai depressions and mounds, along with habitat connectivity between gilgais and other suitable habitats. As there is State-mapped essential habitat for this species within the Study area (Queensland Government, 2025), which is considered to represent important habitat, it is considered this is sufficient basis for the Study area to comprise an important population of this species.

Suitable habitat for the ornamental snake is considered important if it is (DCCEEW, 2023):

- habitat where the species has been identified during a survey, or a habitat type where the species is identified during a survey, but which was previously thought not to support the species;
- near the limit of the species' known range; or
- large patches of contiguous, suitable habitat and viable landscape corridors (necessary for the purposes of breeding, dispersal or maintaining the genetic diversity of the species over successive generations).

The species has not been recorded during field assessments to date and the Project Site is well within the normal distribution for the species. The Project Site includes areas of potential breeding and foraging habitat and dispersal habitat, which provides valuable resources (some cracking soils, woody debris and some minor gilgai). The habitat within the Project Site forms part of a larger contiguous patch that connects with habitat along the Issac River and forms a viable landscape corridor for breeding and dispersal. Therefore, the suitable habitat within the Project Site is considered important and is to be used as a surrogate for an important population. If a population were to persist within the Study area, the presence of



essential habitat and suitable foraging and breeding habitat would result in the species meeting the definition of an important population.

7.1.2.5 Foraging and diet

The diet of this species consists predominantly of frogs (Cogger et al. 1993). The most commonly recorded frog species present where ornamental snakes occur (Agnew 2010 pers. comm.; Brigalow Belt Reptiles Workshop 2010; Veary 2010 pers. comm.) are:

- striped burrowing frog (*Cyclorana alboguttata*);
- short-footed frog (*Cyclorana breviceps*);
- wide-mouthed frog (*Cyclorana novaehollandiae*);
- water-holding frog (*Cyclorana platycephala*);
- spotted marsh frog (*Limnodynastes tasmaniensis*);
- green tree frog (*Litoria caerulea*) – recorded within the Project Site;
- floodplain frog (*Litoria inermis*);
- broad-palmed frog (*Litoria latopalmata*);
- desert tree frog (*Litoria rubella*); and
- ornate burrowing frog (*Opisthodon ornatus*).

Other frog species where ornamental snakes have been found are (Agnew 2010 pers. comm.; Shine 1983):

- knife-footed frog (*Cyclorana cultripes*);
- rough frog (*Cyclorana verrucosa*);
- dwarf eastern tree frog/green reed frog (*Litoria fallax*); and
- Roth's tree frog (*Litoria rothii*).

7.1.2.6 Reproduction

The ornamental snake is a viviparous species with a mean litter size of 6.8 (range of 3–11, n = 4). Minimum snout-vent length of sexually mature animals is 24.7 cm for females and 23 cm for males (Shine 1983).

7.1.2.7 Identified threats

The biggest threat for this species is habitat destruction and fragmentation from clearing and degradation from agriculture and development. Alterations of the landscape hydrology around the gilgais, invasive weeds and contact with cane toads are also factors contributing to the ornamental snake's decline. Additionally, feral pigs contribute to the decline of this species by consuming the ornamental snakes' prey species (frogs) and destroying wetland habitats that are used for shelter and foraging (DCCEE, 2025).

7.1.2.8 Occurrence within study area

WildNet searches identified 27 records (since 1980) of ornamental snake within the Study area (DETSI, 2025b). However, this species was not observed within the Project Site or MLLA during field surveys.



7.1.2.9 Suitability of habitat and habitat mapping

There are three ornamental snake habitat types mapped within the Project Site (**Figure 7-4**), these include:

- **Breeding and foraging habitat:** brigalow woodlands, open forests and non-remnant areas with deep cracking clay soils adjoining watercourses.
- **Dispersal habitat:** non-remnant areas on landzone 3 and 4 with cracking clay soils.
- **Unsuitable habitat:** areas that do not contain brigalow, have been disturbed/subject to extensive clearing, or are lacking clay soils.

Some cracking soils in alluvial soils representing breeding and foraging habitat (23.66 ha) were recorded along the watercourse that traverses the Project Site. The remainder of the Project Site was degraded and has been subject to extensive clearing, soil disturbance and is generally has less consistent in-soil cracks and consists of areas of 41.11 ha of dispersal habitat and 240 ha of unsuitable habitat for ornamental snake.

The Project Site contains 23.66 ha of breeding and foraging habitat, 41.11 ha of dispersal habitat and 240 ha of unsuitable habitat for the ornamental snake.

7.1.2.10 Project related impacts

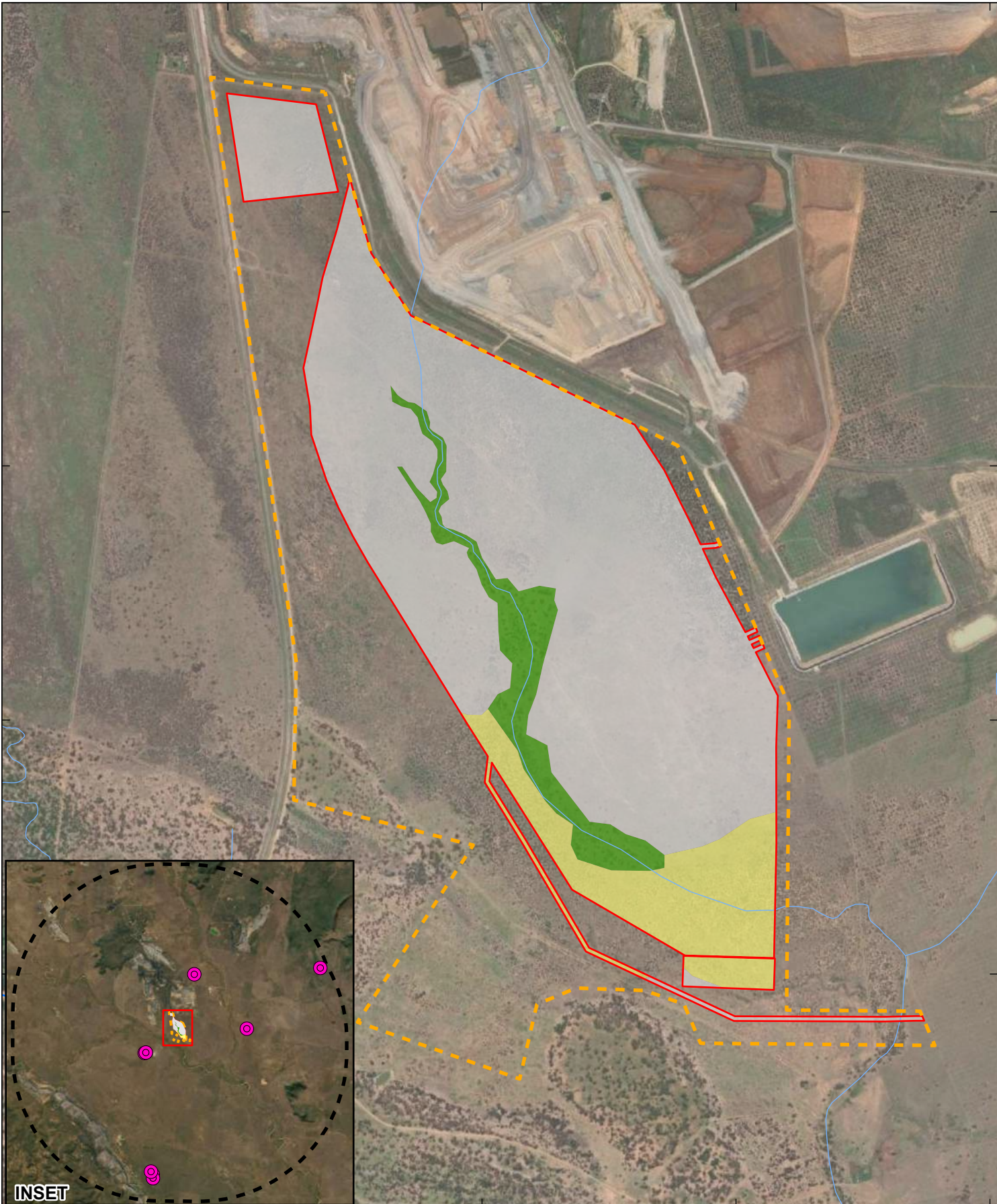
The Project seeks to construct and operate an out-of-pit dump, haul road and two dams. The primary impact pathway during the construction phase will be vegetation clearing and vehicle strike. The Project will clear 23.66 ha of ornamental snake breeding and foraging habitat, and 41.11 ha of dispersal habitat, primarily within the outer pit dump, haul road and southern dam location (refer **Figure 4-7**). Indirect impacts may arise during the construction phase, and may include noise pollution, vibration impacts and dust deposition on nearby habitats and vegetation communities. During the operational phase indirect impacts such as noise, vibration, light and dust pollution may occur. Changes to land-based hydrology may also indirectly impact the presence or persistence of frog species.

7.1.2.11 Relevant Commonwealth guidelines and policy statements

Documents relevant to assessment of this species are as follows:

- Conservation Advice *Denisonia maculata* (Ornamental Snake) (DoE 2015). In effect under the EPBC Act from 29th April 2014.
- Richardson, R. (2006). *Draft Queensland Brigalow Belt Reptile Recovery Plan 2008 - 2012*. Report to the Department of the Environment, Water, Heritage and the Arts, Canberra. Brisbane, Queensland: WWF-Australia.
- DCCEE 2023, Draft Referral guidelines for the nationally listed Brigalow Belt reptiles v1.1, Department of Climate Change, Energy, the Environment and Water, Canberra. CC BY 4.0.





INSET

0 250 500 m

Coordinate System: GDA2020 MGA Zone 55

Scale: 1:20,000 at A4

Project Number: 620.042120.00001

Date Drawn: 27-May-2026

Drawn by: RB

LEGEND

- Major Watercourse
- Minor Watercourse
- MLLA
- Project Site
- Study Area

Ornamental Snake Record

- ALA Record

Ornamental Snake Habitat

- Breeding and Foraging
- Dispersal
- Unsuitable

**DAUNIA WEST
INFRASTRUCTURE PROJECT
TERRESTRIAL FLORA AND FAUNA
TECHNICAL REPORT 2025**

**ORNAMENTAL SNAKE HABITAT
WITHIN PROJECT SITE**



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 7-4

7.1.2.12 Assessment of significance

The criteria for vulnerable species outlined in the MNES Significant Impact Guidelines 1.1 (DEWHA, 2021) were used to assess the proposed Project's impact on the ornamental snake (**Table 7-3**). In summary, the Project site potentially contains an important population and the proposed Project will result in a loss of important habitat for the ornamental snake. Clearing ≥ 2 ha of important ornamental snake habitat is listed as having a high risk of significant impact (DCCEEW 2023). The Project Site contains habitat that forms part of a larger contiguous patch of vegetation connecting to habitat along the Issac River. The project is unlikely to fragment an existing important population into two or more populations. Existing remnant vegetation to the south of the Project Site, which holds a higher number of key habitat values (woody debris, gilgai and permanent waterbodies), will not be impacted by the Project.

Applying the precautionary principal in the absence of records within the Project Site, and noting the presence of important habitat within the Project Site and records within the Study area, the Project is likely to reduce the area of occupancy of an important population and adversely affect habitat critical to the survival the species. This is likely to result in a significant impact on ornamental snake.

Table 7-3 EPBC Act significant impact assessment for ornamental snake

Significant impact criteria	Assessment of the Project Site
Lead to a long-term decrease in the size of an important population of a species	<p>Unlikely.</p> <p>As detailed in Section 7.1.2.4 any individuals which may utilise the Project Site would meet the criteria of an important population.</p> <p>No individuals have been recorded within the Project Site during field surveys. The most recent record within 10 km of the Project Site was in 2012. This species is highly cryptic and as a result extremely difficult to survey, with survey guidelines recommending lengthy periods of survey effort (DCCEEW 2023). Suitable yet modified habitat for breeding, foraging and dispersal is known to occur within the Project Site, with some cracking soil and woody debris that may provide suitable habitat for a local population of this species. However, the Project Site has historically been subject to continual clearing and soil disturbance degrading the quality of the available habitat within the Project Site for the species. Improved quality habitat for the species occurs to the south of the project site, along the Issac River.</p> <p>The proposed Project may impact individuals during clearing and result in mortality of individuals (if present). Provided management and mitigation measures such as the use of fauna spotter catchers during clearing activities, and sequential clearing of vegetation are implemented, the risk to individuals will be reduced. During construction operations, it is expected that any individuals present will self-relocate to remnant vegetation to the south of the Project Site and as such, it is considered unlikely that the Project will contribute to a long-term decrease in the size of an important population of this species.</p>



<p>Reduce the area of occupancy of an important population</p>	<p>Likely</p> <p>As detailed in Section 7.1.2.4 any individuals which may utilise the Project Site would meet the criteria of an important population.</p> <p>There is no publicly available information on the national area of occupancy of the species via Commonwealth and State regulators. For this assessment, the ALA online database tool of known records was used to develop an area of national occupancy of 54,400 ha. The Project proposes to remove 23.66 ha of breeding and foraging habitat and 41.11 ha of dispersal habitat for the species. This will result in a 0.13% decrease in the species national area of occupancy. The Project Site is well within the natural distribution for the species, and as such the species is not at the limits of its known range. There are significant areas of land to the south of the Project Site that will not be impacted by the Project and will continue to provide a suitable habitat comprising foraging, breeding and dispersal, for ornamental snake.</p> <p>However, clearing of ≥ 2 ha of important ornamental snake habitat is considered to pose a high risk of significant impact to an important population (DCCEEW 2023). The Project will likely reduce the area of occupancy of an important population by 0.13% at a national scale (although noting no individuals were recorded).</p>
<p>Fragment an existing important population into two or more populations</p>	<p>Unlikely.</p> <p>As detailed in Section 7.1.2.4 any individuals which may utilise use the Project Site would meet the criteria of an important population.</p> <p>Whilst the proposed Project will result in the loss of 23.66 ha of breeding and foraging habitat and 41.11 ha of dispersal habitat, ongoing clearing, grazing and land development has already led to fragmentation and degradation of habitat within the Project Site. Additionally, the Project Site is extensively covered in exotic perennial grasses, used as cattle fodder, with cattle further impacting the quality of the available soils and habitat.</p> <p>Adjacent to the Project Site, existing remnant vegetation contains higher quality habitat features such as increased amounts of woody debris, cracking soils and gilgai. Provided the management and mitigation measures are implemented, the Project will not directly, or indirectly, impact these habitats.</p> <p>The proposed Project will not increase the fragmentation of the available habitat, the Project is unlikely to fragment an existing important population into two or more populations.</p>
<p>Adversely affect habitat critical to the survival of a species</p>	<p>Likely.</p> <p>Habitat critical to the survival of the species has not yet been defined.</p> <p>As there is no definition on what is considered habitat critical to the survival of the species, for the purpose of this assessment it has been assumed that critical habitat is likely to be:</p>



	<ul style="list-style-type: none"> • areas located within the lowest part of the catchment; • a diversity of gilgai size and depth; • soils of high clay content and deep-cracking characteristics; • areas with an abundance of woody debris; • presence of an abundant population of burrowing frogs (<i>Cyclorana</i> species); • habitat patches that are typically greater than 10 ha in area and are within, or connected, to larger areas of remnant vegetation; and • habitat patches that are less than 1 km apart and connected by suitable dispersal habitat. <p>The Project Site is not located within the lowest part of the Issac River catchment. Field-verification surveys found the presence of cracking clay soils, however, limited gilgai were observed. The Project Site had low abundance of woody debris (when compared to remnant vegetation communities approximately 500 m south of the Project Site); likely due to the ongoing clearing/grazing operations within the site. However, field surveys confirmed the presence of foraging habitat and dispersal habitat, and recorded five species of amphibians, including green tree frog, which is listed as a preferred prey species for ornamental snake, within the Project Site. The foraging habitat is connected to the remnant vegetation to the south of the Project Site allowing for localised movement through the landscape.</p> <p>The Project will clear 23.66 ha of breeding and foraging habitat and 41.11 ha of dispersal habitat that is likely to be considered habitat critical to the survival of the species.</p>
<p>Disrupt the breeding cycle of an important population</p>	<p>Unlikely.</p> <p>As detailed in Section 7.1.2.4 any individuals which may utilise the Project Site would meet the criteria of an important population.</p> <p>The Project Site contains minor soils cracks and very limited amounts of woody debris that this species can use for shelter however, no permanent or semi-permanent water is available within the Project Site limiting the foraging availability for this species. Whilst there is suitable habitat within the Project Site, the lack of many key habitat attributes (as previously mentioned) will reduce the likelihood of species using the area, therefore it is anticipated that breeding habitat for this species is unlikely to occur in the Project Site.</p> <p>Pre-clearance surveys will be undertaken prior to the removal of vegetation and commencement of the Project. A fauna spotter catcher will be present when clearing any mapped ornamental snake habitat.</p> <p>With suitable mitigation measures in place, the Project is unlikely to disrupt the breeding cycle of an important population.</p>
<p>Modify, destroy, remove or isolate or decrease the availability or quality of habitat</p>	<p>Unlikely.</p> <p>Whilst the Project will result in the loss of 23.66 ha of breeding and foraging habitat, this clearing will occur in areas subject to</p>



<p>to the extent that the species is likely to decline</p>	<p>long-term, regular clearing for grazing activities and therefore has been subject to long-term degradation and modification (i.e., significant increase in exotic perennial grasses and soil compaction from grazing and clearing practices).</p> <p>Given the highly modified habitat, which is currently present, the Project will not modify, destroy, remove or isolate, or decrease the quality of habitat. Whilst there may be a small percentage of loss in foraging and breeding habitat available for the species, the retention of existing remnant vegetation within the wider locality and the implementation of construction and operational management measures (e.g., sediment and dust control), will continue to provide extensive areas of higher quality suitable habitat and is unlikely to modify, destroy, remove or isolate, or decrease the adjacent habitats to the extent the species is likely to decline.</p>
<p>Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</p>	<p>Unlikely.</p> <p>The Project Site is in a modified rural landscape, and invasive species that may be harmful to the ornamental snake exist in the broader region (i.e., cane toads and feral pigs). The Project is unlikely to result in the new introduction and establishment of any new invasive species that may predate on the ornamental snake in the habitat present within the Project Site.</p> <p>Monitoring and management of pests, including corrective actions, will be implemented in accordance with the WHC QLD Procedure Weed and Feral Animal Management plan (WHC 2022).</p> <p>The Project is unlikely to result in the increase of invasive species that are harmful to ornamental snake being established.</p>
<p>Introduce disease that may cause the species to decline</p>	<p>Unlikely.</p> <p>There are no diseases listed as a threat to the ornamental snake. Chytrid fungus has potential to impact amphibian species, the main prey item of the ornamental snake. A Weed and Feral Animal Management Plan (WHC 2022), with a section specifically addressing pathogens will be implemented for the Project to ensure the movement of vehicles onto the site will not result in the introduction or spread of Chytrid fungus.</p>
<p>Interfere substantially with the recovery of the species.</p>	<p>Unlikely.</p> <p>There is no adopted or made Recovery Plan for this species. Priority recovery actions identified by the DAWE (2014) include the identification of populations of high conservation priority, the use of conservation arrangements or management agreements on private land, inclusion in reserve tenure, minimisation of adverse impacts and controlling of introduced pests.</p> <p>The land proposed for the Project is regularly subject to clearing and soil disturbance and is not in an area identified for conservation of the species. The project therefore is unlikely to substantially interfere with the recovery of the species.</p>



Overall impact assessment	<p>Likely.</p> <p>No individuals have been recorded within the Project Site during field surveys. The most recent record within 10 km of the Project Site was in 2012. The species is highly cryptic, and detectability is low, therefore it is likely that the species may be present in the landscape. Although the species have no clear definition of habitat critical to their survival, the presence of some key values within the Project Site would likely align with attributes and may be considered as critical for the species, and its survival. As such, a precautionary approach has been adopted. The Project Site is adjoined on the southern extent by larger, contiguous, remnant vegetation communities which have an increased density of gilgai, woody debris and permanent waterbodies which could support amphibians. These areas of habitat will not be impacted by the Project.</p> <p>The Project will clear 23.66 ha of breeding and foraging habitat, and 41.11 ha of dispersal habitat for the species. If present, the species would continue to persist in the suitable foraging and breeding habitat within Study area and wider landscape. Despite this, the Project is likely to reduce the area of occupancy of an important population of ornamental snake and impact habitat critical to their survival and therefore the Project is likely to have a significant impact.</p>
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7.1.2.13 Ornamental snake specific mitigation measures

Mitigation measures for the ornamental snake, in addition to Mitigation and management measures identified in **Section 6.0**, should include at a minimum:

- designing the Project to only clear potential habitat that is critical for construction and operation and retaining non-critical areas;
- where possible works should be undertaken outside of the breeding season;
- where possible, any ponding should be drained at least one month prior to vegetation clearing, and be maintained as dry; and
- preparation and implementation of a high-risk of impacts SMP.

7.1.3 Koala

7.1.3.1 Conservation status

The koala is listed as endangered under the EPBC Act.

7.1.3.2 Distribution and habitat requirements

Within Queensland, this species occurs in patchy and often low-density, widespread and fragmented populations (**Figure 7-5**). It is estimated that ~79,264 individuals of this species occur across Queensland, ~15,179 of these within the Brigalow Belt (north) Bioregion at a density of ~0.0005 Koalas/ha across Queensland (DAWE 2022b). Home ranges of individuals of this species are highly variable (3 to 500 ha) and is dependent on life history stage, soil fertility, habitat and quality and nutritional requirements. Individuals of this species spend significant periods of time moving across the ground between food and shelter trees



(>400 different tree species). Preferred tree species differ depending on bioregion, habitat type and location across their range (DAWE 2022b).

Four spatially distinct, genetic koala management units have been identified nationally. One of these is the Queensland and New South Wales populations north of the Clarence River Valley, New South Wales (DAWE, 2022b).

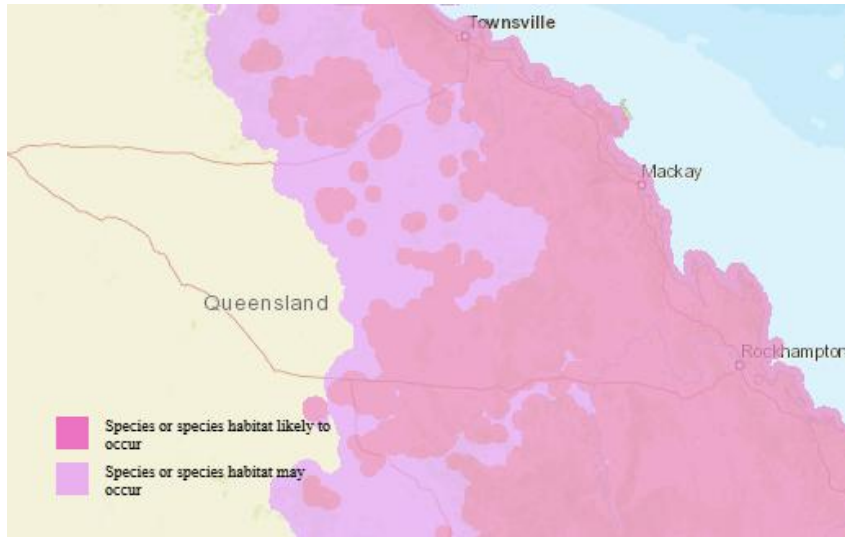


Figure 7-5 Current distribution map for koala (DCCEEW 2025)

7.1.3.3 Habitat critical to the survival

Habitat critical to the survival of this species is described in DAWE (2022b) as the areas that the species relies on to avoid or halt decline and promote the recovery of the species. Under the EPBC Act, the following factors and any other relevant factors may be considered when identifying habitat that is critical to the survival of the species:

- whether the habitat is used during periods of stress (e.g., flood, drought or fire);
- whether the habitat is used to meet essential life cycle requirements e.g., foraging, breeding, or social behaviour patterns);
- 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; or
- any other way in which habitat may be critical to the survival of a listed threatened species or a listed threatened ecological community.

The regional differences in koala habitat and nutritional requirements, and the varying importance of non-remnant habitat features (e.g. roadside vegetation, paddock trees) depending on landscape context means that habitat critical to the survival of the species will be location-dependent (DAWE, 2022c). This can include forests, woodlands, road-side or rail vegetation, paddock trees and safe intervening ground matrix for travelling between trees



and habitat patches. Nonetheless, the national recovery plan for the species advises that the following should be avoided to avoid impacts to koala:

- clearing of habitat used by koalas for feeding and resting
- reducing connectivity between patches of habitat used by koalas for feeding, resting, commuting and dispersing (either by clearing of vegetation or by the erection of barriers to passage)
- clearing of habitat used by koalas during extreme events (heat waves, drought, and fire)
- avoiding activities that will expose koalas to additional threats (e.g. dogs, cars) in places where koalas must use the ground to move between resting and feeding trees.

7.1.3.4 Foraging and diet

Koala are a nocturnal, tree-dwelling, obligate folivore (leaf eater) with a highly specialised diet. The diet of this species is defined by the availability and palatability of a limited variety of *Eucalyptus*, *Corymbia* and *Angophora* species. Across Australia, this species has a wide distribution across the eastern and southern States.

7.1.3.5 Reproduction

Koala reproduction is heavily influenced by seasonality, and the breeding season differs between northern and southern populations. This species is a marsupial, bearing pouch-young (joeys) (DAWE, 2022b). Generally, in Queensland, the breeding season occurs between spring and summer to early autumn.

7.1.3.6 Identified threats

DAWE (2022b) describes climate sensitive populations of this species, which equate to important populations of this species. This includes koalas at the western edge of their range that are being impacted by shifts in rainfall patterns and increasing frequency of drought and heat stress, resulting directly from climate change. The western edge populations are characterised by low population density and a high level of isolation from other populations. Therefore, they are increasingly vulnerable to environmental change and habitat loss. The western-edge populations were identified as potentially containing adaptive genes to environmental stressors indicating they have high conservation value.

Numerous severe threats impacting this species are described in DAWE (2022b). These are:

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

7.1.3.7 Occurrence within the Project Site

During the September 2025 survey, several *Eucalyptus tereticornis* trees located in a patch of vegetation approximately 460 m to the southwest of the Project Site showed evidence of



koala scratch marks. No evidence of this species has been recorded within the Project Site. Previous surveys recorded koala scratches and scat approximately 1.3 km south of the Project Site along the Issac River.

7.1.3.8 Suitability of habitat and habitat mapping

There are three koala habitat types mapped within the Project Site (**Figure 7-6**), these include:

- **Potential breeding and foraging habitat:** ground-truthed remnant vegetation containing locally important koala habitat trees.
- **Dispersal habitat:** non-remnant areas that do not provide potential breeding or foraging habitat, located adjacent to remnant vegetation containing scattered trees in sufficient densities to allow safe movement through the landscape.
- **Unsuitable habitat:** non-remnant areas containing limited to no suitable habitat trees.

Within the Project Site, suitable habitat for this species is limited to two ground-truthed patches of RE 11.3.3 and an interconnecting strip of non-remnant vegetation. RE 11.3.3 provides suitable foraging and breeding habitat, while the non-remnant interconnecting strip of vegetation provides dispersal opportunities between the two patches of RE 11.3.3.

Suitable habitat for this species is separated from adjacent areas of suitable habitat to the south of the Project Site by approximately 400 m. Isolation has resulted from historical mechanical clearing of regenerating vegetation, which has created extensive open areas largely lacking tree and shrub cover. Evidence of recent mechanical vegetation management observed during the September 2025 survey further supports the ongoing isolation and fragmentation of suitable habitat within the Project Site. There are no mapped ecological values for this species within 1 km to the north, east or west of the Project Site, meaning that potentially suitable habitat is confined to the outer margin of known habitat to the south, generally associated with, or located near, the Isaac River.

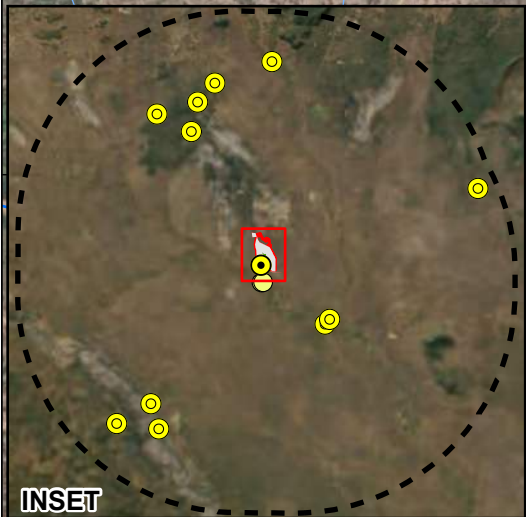
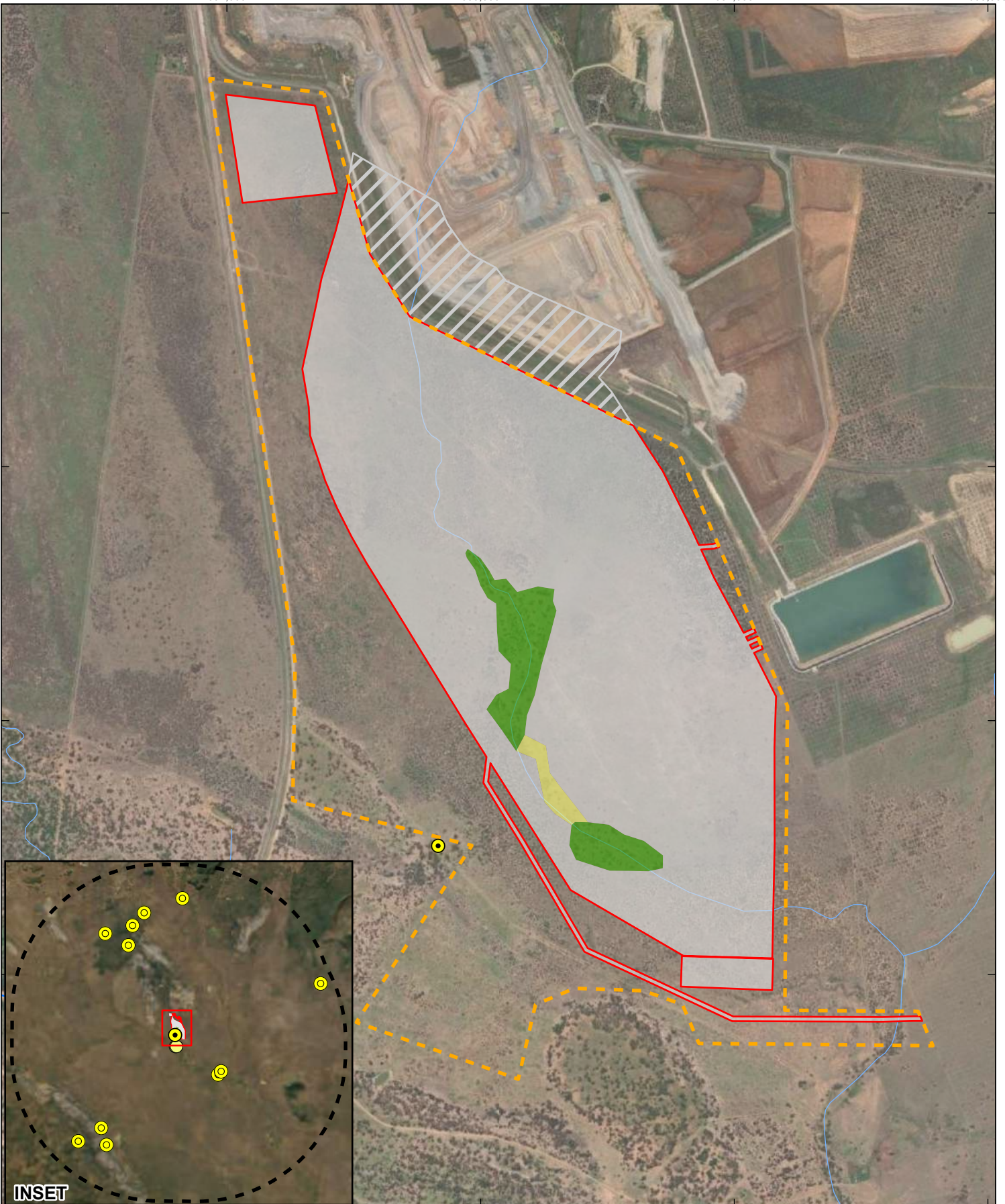
Evidence of dingoes or wild dogs were detected within the Project Site during the September 2025 survey, indicating that a predation threat already exists. Recent clearing of large vegetation areas has reduced available shelter, limiting opportunities for this species to avoid predators. As large areas of vegetation have recently been cleared within the Project Site there are limited shelter opportunities for this species to escape predation. Consequently, individuals moving across open ground between isolated patches of potentially suitable habitat are vulnerable to predation and may become further disconnected from known habitat areas to the south.

The Project Site is isolated from larger patches of known habitat for this species and does not provide a clear connectivity corridor to surrounding habitats. Additionally, this species has not been recorded within the Project Site. The Project Site contains 16.26 ha of potential breeding and foraging habitat, 2.70 ha of dispersal habitat and 285.5 ha of unsuitable habitat for koala (refer **Figure 4-8**).


7.1.3.9 Project related impacts







The Project seeks to construct and operate an out-of-pit dump, haul road and two dams within the MLAA. The primary impact pathway during the construction phase will be vegetation clearing, increased risk of predation and vehicle strike. It is anticipated that 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat will be removed. Indirect impacts that may occur during the construction phase include noise pollution, vibration impacts and dust deposition on nearby habitats and vegetation communities.










INSET

 0 250 500 m
 Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:20,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 19-May-2026
 Drawn by: RB

- LEGEND**
-  Major Watercourse
 -  Minor Watercourse
 -  Project Site
 -  MLLA
 -  Excluded Area
 -  Study Area

- Koala Record**
-  2025 Survey Record
 -  Previous Survey Record (2021 and 2023)
- Koala Habitat**
-  Breeding and foraging
 -  Dispersal
 -  Unsuitable

**DAUNIA WEST
 INFRASTRUCTURE PROJECT
 TERRESTRIAL FLORA AND FAUNA
 TECHNICAL REPORT 2025**

**KOALA HABITAT
 WITHIN PROJECT SITE**



DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 7-6

7.1.3.10 Relevant Commonwealth guidelines and policy statements

Documents relevant to assessment of this species are as follows:

- DAWE (2022b). Conservation Advice for *Phascolarctos cinereus* (Koala) combined population of Queensland, New South Wales and the Australian Capital Territory. Canberra:
- DAWE (2022c) National Recovery Plan for the Koala (*Phascolarctos cinereus*) (Combined populations of Queensland New South Wales and the Australian Capital Territory). Canberra: DAWE. 8 April 2022,
- DCCEEW (2024) Threat abatement plan for predation by feral cats. Canberra: Commonwealth of Australia,
- Youngentob et al. (2021) A review of koala habitat assessment criteria and methods. Report prepared for the Department of Agriculture, Water and the Environment. Canberra.

7.1.3.11 Assessment of significance

The criteria for endangered species outlined in the MNES significant impact guidelines 1.1 (DEWHA 2021) were used to assess the proposed Project's impact on the koala (**Table 7-4**). In summary, while the proposed Project will result in a net loss of suitable koala habitat, it is unlikely to have a significantly impact on the local population or disrupt regional habitat connectivity. Existing habitat to the south of the Project Site will remain intact and will not be directly impacted by development of the Project Site. Therefore, the proposed Project is unlikely to have a significant impact on the koala.

Table 7-4 EPBC Act significant impact assessment for the endangered koala

Significant impact criteria	Assessment of the Project Site
Lead to a long-term decrease in the size of a population of a species	<p>Unlikely.</p> <p>No koalas were observed within the Project Site. The closest evidence of koala, scratch marks, were observed on <i>Eucalyptus tereticornis</i> trees located in a patch of vegetation approximately 460 m to the southwest of the Project Site, but still within the MLAA.</p> <p>The Project will clear 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat.</p> <p>Based on an average estimated abundance/density of ~0.0005 koalas/ha in QLD ~0.009 koalas will be impacted based on the removal of 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat for this species. This is ~0.00006% of the estimated population of this species within the Brigalow Belt (north) Bioregion (15,179 individuals (DAWE, 2022b)).</p> <p>Measures to minimise injury/mortality will include pre-clear surveys, sequential clearing and use of fauna spotter catchers to identify and allow koalas to self-relocate during construction and traffic management to minimise collisions.</p> <p>The Project is unlikely to permanently increase levels of introduced predators. However, predator control may be</p>



	<p>implemented if signs of koala predation or increased predator numbers are observed during construction.</p> <p>Provided these measures are successfully implemented, the Project is unlikely to lead to a long-term decrease in the size of a population.</p>
Reduce the area of occupancy of the species	<p>Unlikely.</p> <p>The Project will clear 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat. The nearest suitable habitat is located approximately 400 m to the south of the Project Site.</p> <p>The Project Site has historically been cleared resulting in large, open and isolated areas lacking in tree and shrub cover.</p> <p>Within the Study area, preliminary estimates of koala habitat suggest that the species occupies 52,221.20 ha (mapped remnant and high value regrowth vegetation). Within the Study area, the Project will reduce the area of occupancy by 0.04% and is therefore unlikely to significantly reduce the area of occupancy for the koala as a species.</p>
Fragment an existing population into two or more populations	<p>Unlikely.</p> <p>Potential breeding and foraging habitat and dispersal habitat for koala within the Project Site has previously been isolated from habitat to the south of the Project Site by approximately 400 m. Isolation has resulted from a history of mechanical vegetation management, with evidence of the most recent clearing occurring immediately prior to the September 2025 survey. No suitable habitat for koala occurs to the north, east, or west of the Project Site.</p> <p>Given the already fragmented nature of the Project Site and the small amount of potential suitable breeding and foraging habitat to be cleared, it is unlikely that the Project will fragment an existing population into two or more populations.</p>
Adversely affect habitat critical to the survival of a species	<p>Likely.</p> <p>The current koala guidelines do not specify areas of critical koala habitat. The Project will clear 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat. Habitat critical to the survival of the koala is considered to occur within foraging and breeding habitat. The dispersal habitat within the site connects two relatively small, isolated patches of remnant vegetation and does not form a corridor to a larger contiguous patch of vegetation. The dispersal habitat therefore does not form an important corridor for maintaining genetic diversity or to meet other essential life cycle requirements and is not considered habitat critical to the survival of the species (DAWE 2022b).</p> <p>The management and mitigation measures will reduce the direct and indirect impacts on habitat, however, the Project is likely to adversely affect critical koala habitat (foraging and breeding).</p>
Disrupt the breeding cycle of a population	<p>Unlikely.</p> <p>As this species is a pouch-bearing marsupial that will feed, rest and breed throughout a large home range area, clearing of the</p>



	<p>Project Site is unlikely to disrupt the breeding cycle of this species. Additionally, clearing works will be undertaken outside of breeding season where possible.</p>
<p>Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</p>	<p>Unlikely.</p> <p>The Project will clear 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat. The Project Site contains habitat critical to the survival of koalas (foraging and breeding) however, this habitat has been previously disconnected from existing, known habitat for this species. No suitable habitat or dispersal habitat for the koala occurs to the north, east, or west of the Project Site. Reduction in areas of koala habitat containing food tree species may reduce the availability of food resources for koalas and may lead to trees being unsustainably over-browsed or koalas leaving the area in search of new and higher quality food resources. These impacts, while possible on a local level, will not occur on a scale that will likely cause the species to decline.</p> <p>Measures to minimise impacts to habitat quality will include weed and pest animal management, erosion and sediment control and dust suppression.</p> <p>The Project will lead to clearing of koala habitat however, given the already isolated nature of the site the Project is unlikely to modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that this species is likely to decline.</p>
<p>Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</p>	<p>Unlikely.</p> <p>Koalas are threatened by dogs (domestic and wild) when traversing between habitat patches. During 2025 surveys, evidence of dingoes were observed indicating a predation threat already exists. The Project is unlikely to result in dogs becoming more prevalent The Project does not propose to introduce domestic dogs to habitat for this species. Therefore, development of the Project will not result in an invasive species that is harmful to the species becoming established in the species habitat.</p>
<p>Introduce disease that may cause the species to decline</p>	<p>Unlikely.</p> <p>KoRV and Chlamydia are diseases that are known to be a severe threat to koala. Disease can be a major contributor to population decline and reduces population viability. Chlamydia causes infertility, blindness and death. The prevalence of disease has been found to increase following extreme stress from hot weather, drought habitat loss and fragmentation.</p> <p>The Project will clear 16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat that could increase stress levels in the short term but is unlikely to cause a long term increase in stress-induced disease. Additionally, the Project has limited capacity to introduce disease as koala translocations are not proposed. Stress will be reduced by sequential clearing and staged clearing of trees to allow koalas to self-relocate without human intervention.</p> <p>Therefore, development of the Project Site is unlikely to contribute to habitat loss or fragmentation to the extent that it will</p>



	result in extreme stress or introduce disease that may cause the species to decline.
Interfere with the recovery of the species	<p>Unlikely.</p> <p>DAWE (2022c) describes the national recovery plan key objectives for this species as:</p> <ul style="list-style-type: none"> • 1A: 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, and • 1B: The area of occupancy and estimated size of populations that are suspected and predicted to be stable are maintained or increased. <p>On-ground strategies to achieve these objectives are to strategically restore listed koala habitat and actively manage listed koala metapopulations.</p> <p>The Project will clear 16.26 ha of suitable potential breeding and foraging habitat and 2.70 ha of dispersal habitat leading to a reduction in available habitat. Provided recommended management and mitigation measures are implemented, the Project is unlikely to interfere with the recovery of the species at a regional or national level.</p>
Overall impact assessment	<p>Unlikely.</p> <p>No koalas were observed within the Project Site. 16.26 ha of potential breeding and foraging habitat that is considered habitat critical to the survival of the species will be cleared. Provided recommended management and mitigation measures are implemented, the Project is unlikely to have a significant impact on koala.</p>

7.1.3.12 Koala specific mitigation measures

Mitigation measures for the koala should include at a minimum:

- minimising works and clearing areas within potential habitat;
- a preclear survey is to be carried out prior to works commencing;
- construction works to be undertaken with a fauna spotter catcher present;
- where possible works should be undertaken outside of the breeding season; and
- clearly delineate the Project Site and associated infrastructure to ensure habitat outside of these areas is not impacted and clearing limits are not exceeded.

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

7.1.4.1 Conservation status

Brigalow (*Acacia harpophylla* dominant and co-dominant) is listed as endangered under the EPBC Act.



7.1.4.2 Distribution and habitat requirements

Brigalow (*Acacia harpophylla* dominant and co-dominant) is restricted to the inland and coastal plains and low slopes of central and eastern Australia, occurring primarily across central and southern Queensland and extending into northern New South Wales. Historically it occupied an extensive band (the Brigalow Belt) across these regions, but has been reduced to roughly 10% of its original extent by broadscale clearing for agriculture and grazing (DEWHA, 2008).

Brigalow vegetation typically forms open forests or woodlands (canopy commonly ~9–25 m tall) where *Acacia harpophylla* is one of the most abundant trees and often occurs either as the dominant canopy species or co-dominant with certain eucalypts, Casuarina species and other Acacias (DEWHA, 2008). It is strongly associated with heavy, often cracking or self-mulching clay soils (black and brown vertosols) on alluvial plains, low slopes and basins in semi-arid to sub-humid climates; these soil and topographic affinities explain its patchy, but once broad, distribution across the Brigalow Belt regional ecosystems (DEWHA, 2008).

7.1.4.3 Identified threats

DEWHA (2008) describes threats as factors that may further reduce its extent or cause a decline in condition. Numerous threats to this TEC have been identified and include clearing, fire, weeds, feral animals and inappropriate grazing (DEWHA, 2008).

7.1.4.4 Occurrence within the Study area and Project Site

The PMST identified Brigalow (*Acacia harpophylla* dominant and co-dominant) as potentially occurring within the Study area. Previous studies confirmed the presence of this TEC within the MLAA but not within the Project Site (**Figure 7-7**). The Brigalow TEC occurs within the MLAA approximately 13 m to the south of the Project Site's haul road. A 100 m buffer zone to reduce indirect impacts is recommended for this TEC. No other corresponding remnant or regrowth REs were present across the entire Project Site.

7.1.4.5 Project related impacts

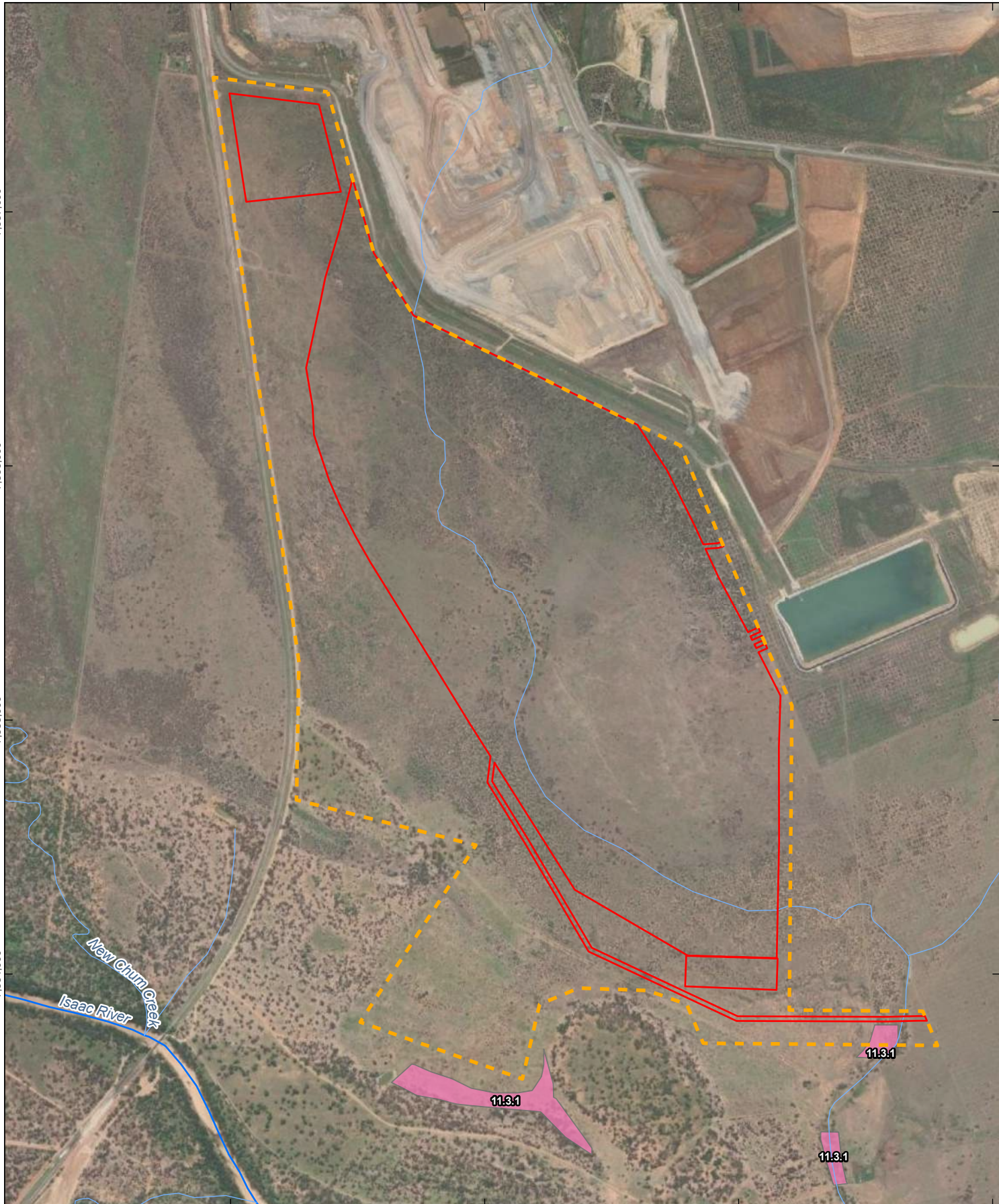
The Project seeks to construct and operate an out-of-pit dump, haul road and two dams within the MLAA. There will be no direct impacts to the Brigalow TEC, and as long as suitable management is implemented (e.g., sediment control) the Project is unlikely to result in indirect impacts to this TEC.


7.1.4.6 Relevant Commonwealth guidelines and policy statements

Documents relevant to assessment of this TEC area as follows:






- DEWHA (2008). Approved Conservation Advice for Brigalow (*Acacia harpophylla* dominant and co-dominant) ecological community. Canberra







 0 250 500 m
 Coordinate System: GDA2020 MGA Zone 55
 Scale: 1:20,000 at A4
 Project Number: 620.042120.00001
 Date Drawn: 27-May-2026
 Drawn by: RB

LEGEND

-  Major Watercourse
-  Minor Watercourse
-  MLAA
-  Project Site
-  Study Area

Ground-Truthed Regional Ecosystem (VM Act Status)

-  Remnant- Endangered

DAUNIA WEST INFRASTRUCTURE PROJECT TERRESTRIAL FLORA AND FAUNA TECHNICAL REPORT 2025

BRIGALOW (A. HARPOPHYLLA) DOMINANT AND CO-DOMINANT TEC



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FIGURE 7-7

7.1.4.7 Assessment of significance

The criteria for endangered TECs outlined in the MNES significant impact guidelines 1.1 (DEWHA 2021) were used to assess the proposed Project's impact on the Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC (**Table 7-5**).

Table 7-5 EPBC Act significant impact assessment for the endangered Brigalow (*Acacia harpophylla* dominant and co-dominant)

Significant impact criteria	Assessment of the project site
Reduce the extent of an ecological community	Unlikely. Current designs will not result in the removal of any vegetation associated with the TEC. Some disturbance of soil will occur within the TEC buffer area, however strict management measures during construction including implementation of no-go zones, along with erosion and sediment control, and rehabilitation of non-permanent disturbance areas will ensure indirect impacts to the potential TEC would be minimised and the works would not result in a reduction of the extent of the potential TEC.
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	Unlikely. No vegetation clearing will occur outside the Project Site and as such, clearing will not remove any of the TEC and therefore will not fragment the TEC any further by creating two distinct patches of vegetation.
Adversely affect habitat critical to the survival of an ecological community	Unlikely. The buffer of the TEC occurs within the Project Site. These works have a limited spatial extent and no vegetation clearing will occur outside the Project Site. Therefore, the Project will not adversely affect habitat critical to the survival of this 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	Unlikely. The Project will be completed in accordance with a project specific sediment and erosion control, and strict weed management controls to ensure all impacts to the TEC are minimised. No waterways or drainage lines adjacent will be altered as a result of the Project works. It is unlikely the Project will interact with the groundwater and as such the Project is considered to not have an impact on groundwater systems. It is unlikely the project will interact with the groundwater and as such the Project is considered to not have an impact on groundwater systems. If the appropriate water quality and sedimentation controls are in place the Project is unlikely to modify or destroy the abiotic factors necessary for the TEC's survival.
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	Unlikely. The TEC does not occur within the Project Site and there will be no direct impact to the TEC. The TEC buffer area may be impacted, however through the implementation of management and mitigation controls the Project is unlikely to cause a substantial change in the species composition of the patch of TEC within the MLAA.



Significant impact criteria	Assessment of the project site
<p>Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:</p> <ul style="list-style-type: none"> Assisting invasive species, that are harmful to the listed ecological community, to become established 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 	<p>Unlikely.</p> <p>The Project will be completed in accordance with a project specific sediment and erosion control plan and strict weed management controls to ensure all impacts to the TEC are minimised. Regular monitoring of the sensitive areas (such as the TEC) and of the Project Site by environmental staff during the life of the project will be completed. Additionally, the proposed works have a limited spatial extent and no vegetation clearing will occur outside the Project Site.</p> <p>Assuming appropriate controls are implemented the Project is unlikely to cause a substantial reduction in the quality or integrity of the TEC.</p>
<p>Interfere with the recovery of an ecological community</p>	<p>Unlikely.</p> <p>There is no recovery plan for this TEC, however, the conservation advice identifies the following as key recovery actions for the TEC:</p> <ul style="list-style-type: none"> Protect community and conserve remaining patches Manage actions to minimise impacts Apply buffer zones (100 m for this TEC) Prevent the introduction and spread of exotic species Restore and manage the TEC Manage threats - weeds, pests and disease, activities causing degradation, trampling, browsing and grazing, and fire regimes Undertake restoration of the TEC. <p>No permanent infrastructure will be placed in the buffer zone. Management measures and regular monitoring of the ongoing works by environmental staff will be undertaken. Additionally, the proposed works have a limited spatial extent and no vegetation clearing will occur outside the Project Site. The Project is therefore considered unlikely to interfere with the recovery of the TEC.</p>
<p>Overall impact assessment</p>	<p>Unlikely.</p> <p>No vegetation clearing will occur outside the Project Site. Provided recommended management and mitigation measures are implemented, the Project is unlikely to have a significant impact on the Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC.</p>

7.1.4.8 Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC specific mitigation measures

Mitigation measures for the Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC should include at a minimum:

- designing the Project to only clear potential habitat that is critical for construction and operation and retaining non-critical areas;



- preparation and implementation of a project specific erosion and sediment control plan;
- the boundary of areas to be cleared should be clearly marked, to ensure the disturbance footprint is minimised;
- excavation within the 100 m TEC buffer should be limited to shallow earthworks (<3 m), within 50 m from the boundary of the remnant vegetation.
- excavation and vehicle movements may produce increased levels of dust, which can have a cumulative impact on plant function. Advisable dust suppression techniques include:
 - application of water on trafficable surfaces
 - limiting activities in high wind conditions, and
 - application of water/ binding agent to construction sites during construction.

7.2 MSES

7.2.1 Regulated vegetation

One VM Act 'of concern' RE was ground-truthed within the Project Site (**Figure 4-2**) during the September 2025 survey; RE 11.3.3, which has a 'sparse' structural category (Queensland Herbarium, 2024). Areas in which this RE has been ground-truthed to occur are located across State-mapped non-remnant vegetation. However, results from remnant status assessments within this vegetation type during the 2025 September survey identify that on-ground structural characteristics of this vegetation meet the cover and height requirements to be considered a remnant community (**Appendix E**). As RE 11.3.3 has a VM Act 'of concern' status and on-ground occurrences of this community intersect a VM Act watercourse impacts to this community have the potential to result in an impact to the following MSES regulated vegetation classes:

- 'Endangered' and 'of concern' REs;
- Regulated vegetation within the defined distance of a watercourse;
- VM Act wetland; and
- Regulated vegetation 100 m from a wetland.

7.2.1.1 'Endangered' and 'of concern' REs

Significant residual impacts to this prescribed environmental matter are determined by the following criteria:

- Clearing for other than linear infrastructure within a sparse structural category RE is greater than 2 ha.

A total of 16.26 ha of RE 11.3.3 is proposed to be cleared by the Project. The provision of offsets under the Queensland Environmental Offsets Policy may be required due to this MSES being significantly impacted by proposed development of the Project Site.

7.2.1.2 Regulated vegetation within the defined distance of a watercourse

There is one VM Act first order watercourse that intersects the Project Site (Queensland Government, 2025) (**Figure 3-1**). The defined distance (or extent to which the remnant vegetation associated with the watercourse is considered a prescribed environmental



matter) is determined by the bioregional context and the stream order of the watercourse or drainage feature.

The ground-truthed extent of RE 11.3.3 that is located within the defined distance from the defining banks of this first order VM Act watercourse is a MSES. The Project Site is located within a non-coastal bioregion and the relevant defining distances for REs associated with a watercourse is shown in **Table 7-6**.

Significant residual impacts to this prescribed environmental matter are determined by the following criteria:

- Clearing occurs within 5 m of the defining bank of the feature, **AND**
- The following area thresholds are exceeded:
 - Clearing for linear infrastructure within a sparse structural category RE is greater than 20 m wide; or
 - Clearing for other than linear infrastructure within a sparse structural category RE is greater than 2 ha.

Development of the Project Site proposes to impact vegetation within 5 m of the defining bank of the VM Act watercourse. A total of 5.94 ha of RE 11.3.3 within the defining distance of a VM Act watercourse for non-linear infrastructure is proposed to be cleared by development of the Project Site. The provision of offsets under the Queensland Environmental Offsets Policy may be required due to this MSES being significantly impacted by proposed development of the Project Site.

Table 7-6 Defined distance for REs associated with a watercourse (non-coastal bioregions) as shown in the Queensland Environmental Offsets Policy (v1.17)

Stream order	Defined distance (m)
1 or 2	25
2 or 4	50

7.2.1.3 VM Act wetland

There is one VM Act wetland that intersects with the Project Site (Queensland Government, 2025). Significant residual impacts to this prescribed environmental matter are determined in accordance with the following criteria:

- Clearing occurs within 50 m of the defining bank of the feature, and
- The following area thresholds are exceeded:
 - Clearing for linear infrastructure within a sparse structural category RE is greater than 20 m wide; or
 - Clearing for other than linear infrastructure within a sparse structural category RE is greater than 2 ha.

A total of 0.01 ha of mapped wetland is proposed to be cleared by the Project. Significant impacts to the wetland are unlikely, as the area of impact is limited and proposed mitigation measures are expected to effectively manage and reduce potential adverse effects.



7.2.1.4 Regulated vegetation within 100 m of a VM Act Wetland

State vegetation mapping indicates the potential presence of regulated vegetation within 100 m of a Vegetation Management Wetland within the Project Site. However, detailed ground-truthed vegetation mapping has been undertaken across the Project Site and used to inform this assessment. The field-verified mapping has been submitted to the Queensland Herbarium for a formal mapping amendment.

The validated field-based mapping differs from the current State mapping and does not identify regulated vegetation within 100 m of a Vegetation Management Wetland within the Project Site. This assessment therefore relies on the verified ground-truthed data, which provides a more accurate representation of on-ground conditions. On this basis impacts associated with regulated vegetation in proximity to mapped wetlands are not present within the Project Site. Accordingly, regulated vegetation within 100 m of a Vegetation Management Wetland will not be significantly impacted by the Project.

7.2.2 Landscape fragmentation and connectivity

The Landscape Fragmentation and Connectivity (LFC) tool was applied to assess potential changes in habitat connectivity and landscape configuration associated with the Project. The analysis compared pre- and post-development conditions to quantify any changes in fragmentation metrics.

The tool operates by classifying vegetation into habitat patches and non-habitat areas based on mapped REs or vegetation communities. It then calculates a range of landscape metrics that describe fragmentation and connectivity, which may include patch size distribution, edge effects, inter-patch distances, and overall connectivity indices. These metrics are derived for both the existing (pre-development) scenario and the proposed (post-development) scenario, allowing a direct comparison of landscape structure before and after the Project Site is applied.

For this assessment, the LFC tool was run using the Project Site overlaid against the existing vegetation mapping to determine whether any habitat patches would be removed, reduced, or functionally disconnected. The outputs were then compared to quantify the percentage change in fragmentation and connectivity values.

Results from the LFC tool indicate a 0% change in landscape fragmentation and connectivity values as a result of the proposed works. This outcome demonstrates that the Project will not alter the existing spatial arrangement, patch size, or connectivity of vegetation within the assessed area.

Accordingly, the Project is not expected to result in any measurable or meaningful impact to landscape connectivity or fragmentation, and the effect is therefore considered not significant.



7.2.3 Squatter pigeon

Habitat for the squatter pigeon (southern) within the Project Site is mapped in **Figure 7-2**. The Project Site contains 88.47 ha of breeding and foraging habitat, 47.77 ha of foraging habitat, and 53.44 ha of dispersal habitat for the squatter pigeon (southern).

A formal significant residual impact assessment (DEHP, 2014b) for squatter pigeon (southern) in accordance with NC Act assessment guidelines is presented in **Table 7-7**.

Table 7-7 Squatter pigeon significant residual impact assessment

Significant residual impact criteria	Assessment of the Project Site
Result in a long-term decrease in the size of a local population	Unlikely – refer to “Lead to a long-term decrease in the size of an important population of a species” in Table 7-2 .
Reduce the extent of occurrence of the species	Unlikely – refer to “Reduce the area of occupancy of an important population” in Table 7-2 .
Fragment an existing population	Unlikely - refer to “Fragment an existing important population into two or more populations” in Table 7-2 .
Result in genetically distinct populations forming as a result of habitat isolation	
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat	Unlikely – refer to “Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat” in Table 7-2 .
Introduce disease that may cause the population to decline	Unlikely – refer to “Introduce disease that may cause the species to decline” in Table 7-2 .
Interfere with the recovery of the species	Unlikely – refer to “Interfere substantially with the recovery of the species” in Table 7-2 .
Cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	<p>Unlikely.</p> <p>Suitable squatter pigeon (southern) habitat within 1 km of a perennial water source is important for breeding (Lloyd et al., 2025). Permanent water sources (i.e., farm dams) do not occur within the Project Site but they do occur within 1 km of some of the suitable southern squatter pigeon habitat within the Project Site. The Project will clear 88.47 ha of breeding and foraging habitat.</p> <p>Suitable squatter pigeon (southern) habitat within 1.7 km of a perennial water source is important for foraging (Lloyd et al., 2025). The Project will clear 47.77 ha of foraging habitat (additional to the 88.47 ha of breeding and foraging habitat).</p> <p>No breeding places were observed during field surveys, however reinspection will be required prior to clearing to reduce any potential disturbance to the species during foraging or nesting.</p> <p>Whilst the Project Site does provide some suitable habitat for breeding and foraging, on a landscape scale, the Project Site is surrounded by extensive areas of habitat which will not be impacted by the Project, resulting in only a small loss of habitat for the species. Although up to 88.47 ha of breeding and foraging and</p>



Significant residual impact criteria	Assessment of the Project Site
	<p>47.77 ha of foraging habitat will be impacted, sufficient habitat will remain in the broader region to support ecologically significant locations for the species.</p> <p>The Project is unlikely to cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species.</p>
Overall impact assessment	<p>Unlikely.</p> <p>The Project will clear 88.47 ha of squatter pigeon (southern) breeding and foraging habitat, 47.77 ha of foraging habitat and 53.44 ha of dispersal habitat and is unlikely to have a significant impact on squatter pigeon, assuming all practical mitigation measures outlined in Section 7.1.1.13 are implemented.</p>



7.2.4 Ornamental snake

Habitat for the ornamental snake within the Project Site is mapped in **Figure 7-4**. The Project will clear 23.66 ha of ornamental snake breeding and foraging habitat, and 41.11 ha of dispersal habitat, primarily within the outer pit dump, haul road and southern dam location.

A formal significant residual impact assessment (DEHP, 2014b) for ornamental snake in accordance with NC Act assessment guidelines is presented in **Table 7-8**.

Table 7-8 Ornamental snake significant residual impact assessment

Significant residual impact criteria	Assessment of the Project Site
Result in a long-term decrease in the size of a local population	Unlikely – refer to “Lead to a long-term decrease in the size of an important population of a species” in Table 7-3 .
Reduce the extent of occurrence of the species	Likely – refer to “Reduce the area of occupancy of an important population” in Table 7-3 .
Fragment an existing population	Unlikely – refer to “Fragment an existing important population into two or more populations” in Table 7-3 .
Result in genetically distinct populations forming as a result of habitat isolation	
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat	Unlikely – refer to “Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat” in Table 7-3 .
Introduce disease that may cause the population to decline	Unlikely – refer to “Introduce disease that may cause the species to decline” in Table 7-3 .
Interfere with the recovery of the species	Unlikely – refer to “Interfere substantially with the recovery of the species” in Table 7-3 .
Cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	<p>Likely.</p> <p>Ecologically significant locations for ornamental snake are likely to include:</p> <ul style="list-style-type: none"> • areas located within the lowest part of the catchment • a diversity of gilgai size and depth • soils of high clay content and deep-cracking characteristics • areas of an abundance of woody debris • presence of an abundant population of burrowing frogs (<i>Cyclorana</i> species) • habitat patches that are typically greater than 10 ha in area and are within, or connected to larger areas of remnant vegetation. • habitat patches that are less than 1 km apart and connected by suitable dispersal habitat. <p>The Project Site is in a modified rural landscape, and invasive species that may be harmful to the ornamental snake, including cane toads exist within the Project Site and in the broader region. The Project Site is not located within the lowest part of the Issac River catchment. There was low abundance of woody debris</p>



Significant residual impact criteria	Assessment of the Project Site
	<p>(when compared to remnant vegetation communities approximately 500 m south of the Project Site), likely due to ongoing clearing/grazing operations within the area. Surveys detected cracking clay soils, but limited gilgai, and five species of amphibians, including green tree frog (a preferred prey species) within the Project Site.</p> <p>Implementation of construction and operational management measures (e.g., sediment and dust control), will ensure the remnant vegetation approximately 500 m south of the Project Site will continue to provide extensive areas of higher quality suitable habitat for ornamental snake. However, the Project will clear 23.66 ha of breeding and foraging habitat which would be considered ecologically significant locations.</p> <p>Pre-clearance surveys will be undertaken prior to the removal of vegetation and commencement of the proposed Project. A fauna spotter/catcher will be present when clearing any mapped ornamental snake habitat.</p> <p>The Project is likely to cause disruption to ecologically significant locations (23.66 ha of breeding and foraging habitat) of the ornamental snake.</p>
Overall impact assessment	<p>Likely.</p> <p>The proposed Project is likely to reduce the extent of occurrence of ornamental snake and cause disruption to ecologically significant locations including 23.66 ha of breeding and foraging habitat. Assuming all practical mitigation measures outlined in Section 7.1.2.13 are implemented, the project is likely to have a significant residual impact on ornamental snake.</p>



7.2.5 Koala

Habitat for the koala within the Project Site is mapped in **Figure 7-6**. The Project Site contains 16.26 ha of potential breeding and foraging habitat, and 2.70 ha of dispersal habitat for koala.

The koala is listed as endangered under both the NC and EPBC Acts. A formal significant residual impact assessment (DEHP, 2014b) for the koala in accordance with the NC Act assessment guidelines is presented in **Table 7-9**.

Table 7-9 Koala significant residual impact assessment

Significant residual impact criteria	Assessment of the Project Site
Result in a long-term decrease in the size of a local population	Unlikely – refer to “Lead to a long-term decrease in the size of an important population of a species” in Table 7-4 .
Reduce the extent of occurrence of the species	Unlikely – refer to “Reduce the area of occupancy of an important population” in Table 7-4 .
Fragment an existing population	Unlikely – refer to “Fragment an existing important population into two or more populations” in Table 7-4 .
Result in genetically distinct populations forming as a result of habitat isolation	
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat	Unlikely – refer to “Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species’ habitat” in Table 7-4 .
Introduce disease that may cause the population to decline	Unlikely – refer to “Introduce disease that may cause the species to decline” in Table 7-4 .
Interfere with the recovery of the species	Unlikely – refer to “Interfere substantially with the recovery of the species” in Table 7-4 .
Cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	<p>Unlikely.</p> <p>Suitable habitat for this species within the Project Site is limited to two patches of ground-truthed remnant RE 11.3.3 and an interconnecting strip of non-remnant vegetation. The remnant vegetation forms potential breeding and foraging habitat for this species and the interconnecting strip of non-remnant vegetation forms dispersal habitat.</p> <p>Koala habitat within the Project Site is isolated from surrounding areas of suitable habitat to the south of the Project Site by a distance of approximately 400 m. Habitat isolation occurs due to a history of mechanical clearing of regenerating vegetation within the Project Site, creating expansive bare areas, largely void of tree and shrub cover. Evidence of recent mechanical clearing was observed during the September 2025 survey, supporting the isolation and disconnection of potentially suitable habitat for this species within the Project Site.</p> <p>No suitable habitat for this species occurs to the north, east, or west of the Project Site for this species to disperse into.</p> <p>Additionally, development of the Project Site does not propose to</p>



Significant residual impact criteria	Assessment of the Project Site
	<p>directly impact upon existing, known habitat for this species to the south of the Project site.</p> <p>The Project will result in the loss of 18.96 ha of koala habitat (16.26 ha of potential breeding and foraging habitat and 2.70 ha of dispersal habitat). The Project Site has been subject to long-term, regular clearing for grazing activities and as such, subject to long-term degradation, modification and isolation from known koala habitat areas.</p> <p>Implementation of construction and operational management measures (e.g. sediment and dust control) will ensure existing remnant vegetation to the south of the Project Site will not be impacted by the Project and will continue to provide extensive area of higher quality habitat.</p> <p>Pre-clearance surveys will be undertaken prior to the removal of vegetation and commencement of the proposed Project. A fauna spotter/catcher will be present when clearing any mapped koala habitat.</p> <p>Due to the fragmentation from existing habitat and the highly degraded site-context, and assuming implementation of all mitigation measures outlined in Section 7.1.3.12, the Project will not cause disruption to ecologically significant locations of the koala.</p>
Overall impact assessment	<p>Unlikely.</p> <p>No koalas were observed within the Project Site, although 16.26 ha of suitable breeding and foraging habitat will be cleared. Provided recommended management and mitigation measures are implemented, the Project is unlikely to have a significant residual impact on koala.</p>



7.2.6 Short-beaked echidna

The short-beaked echidna is listed as SLC under the NC Act. The 2025 September survey did not detect evidence of this species, but previous surveys observed excavated termite mounds outside but immediately adjacent to the Project Site (RE 11.3.2) in an area likely used as foraging habitat. Previous surveys also recorded a deceased individual outside the Project Site within RE 11.3.7 Evidence from the carcass indicates that it was likely predated upon by a wild dog or dingo (SLR, 2023). The September 2025 surveys did not detect termite mounds within the Project Site.

This well-known species occurs throughout Australia in almost all terrestrial habitats except intensively managed farmland (Nicol and Andersen, 2007). This species has a sparse distribution in some parts of its wide range, especially the arid regions, but overall, it is considered ubiquitous and common. This species does not have any particular habitat requirements but prefers to have access to vegetative cover and access to refuges (Nicol and Andersen, 2007). Ants, termites and beetle larvae make up the majority of the echidna diet. Large ant and termite nests may be breached with the broad front claws, while other invertebrates and ants in small colonies may be extracted by the echidna probing the soil with its beak, leaving distinctive 'nose-pokes' (Nicol and Andersen, 2007). The home range of females is approximately 10 to 80 ha, with males being much larger and overlap with several other males and females. However, the home range of individuals is strongly dependent on the availability of shelters, such as thick bushes, grass tussocks and hollow logs. Throughout Australia, the breeding season for this species occurs at approximately the same time; June to September. After pregnancy, the female constructs a short, unlined burrow to mature over a 4 to 5 month period (Nicol and Andersen, 2007).

The Project Site contains 304.75 ha of suitable breeding and foraging habitat for short-beaked echidna.



A formal significant residual impact assessment (DEHP, 2014b) for the short-beaked echidna in accordance with NC Act assessment guidelines is presented in **Table 7-10**.

Table 7-10 Short-beaked echidna significant residual impact assessment

Significant residual impact criteria	Assessment of the Project Site
Result in a long-term decrease in the size of a local population	<p>Unlikely.</p> <p>WildNet has 15 records within the Project Site and immediate vicinity. Echidnas utilise a wide range of habitats, including remnant forest, woodlands, shrublands and grasslands, as well as grazing lands and other disturbed habitats. The proposed Project will remove 304.75 ha of suitable habitat from the Project Site. However, given the large amount of preferred habitat available within the vegetation surrounding the Project Site, sufficient habitat is likely to remain to support the existing population of short-beaked echidna.</p>
Reduce the extent of occurrence of the species	<p>Unlikely.</p> <p>As echidnas can utilise a wide range of remnant and non-remnant vegetation communities, the proposed level of clearing for the Project is unlikely to reduce the extent of occurrence of this species.</p>
Fragment an existing population	<p>Unlikely.</p> <p>The proposed Project will remove 304.75 ha of suitable habitat from the Project Site. The proposed clearing is immediately adjacent to the active DNM, therefore the Project will not increase fragmentation of the surrounding landscape. Given the large amount of preferred habitat within the Study area, sufficient habitat is likely to remain to support the existing population of short-beaked echidnas.</p>
Result in genetically distinct populations forming as a result of habitat isolation	<p>Unlikely.</p> <p>Short-beaked echidna are widespread and the project will not result in limiting movement of the species within a broader regional landscape, as such it is unlikely result in habitat isolation or cause the formation of genetically distinct populations.</p>
Cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	<p>Unlikely.</p> <p>Proposed clearing may result in the loss of a small area of feeding habitat and removal of some ecologically significant resting sites (e.g., logs, protective understorey vegetation).</p> <p>Fallen timber or large logs will be retained and placed in adjacent habitat either within or adjacent to the Project Site prior to vegetation clearing. While some habitat may be removed during clearing works, the Project is unlikely to cause disruption to breeding sites that would impact significantly on local populations. No breeding places were observed during field surveys, however reinspection will be required prior to clearing and if any breeding locations detected, a high risk of impacts SMP is required to be developed and implemented prior to clearing.</p>



Significant residual impact criteria	Assessment of the Project Site
Overall impact assessment	<p>Unlikely.</p> <p>The proposed Project is unlikely to have a significant impact on short-beaked echidna, assuming all practical mitigation measures are implemented.</p>

7.2.6.1 Short-beaked echidna specific mitigation measures

Mitigation measures for the short-beaked echidna should include at a minimum:

- A high risk of impacts SMP will be required for this species to outline the management and mitigation measures to protect breeding places during construction.
- A pre-clear survey is to be carried out two weeks prior to and again within 24 hours prior to clearing works commencing.
- A fauna spotter catcher present during clearing and preliminary earthworks.
- Although trenches are not expected, should they be required during the Project temporary fencing should also be placed around open trenches to prevent fauna from falling in and minimise the time trenches are left open where trenches. Where trenches are left open for long periods of time escape ramps and/or ropes should be installed and spaced no more than 10-15 m apart.
- Where possible works should be undertaken outside of the breeding season (June – September) in areas identified during the pre-clearing survey to potentially contain burrows.
- Reduce vibrations caused by works, where known burrows exist as vibrations may cause damage to adjacent burrows.
- Reduce unnecessary noise and disturbance (e.g., turning off equipment/plant when not in use, use of acoustic barriers around equipment, use of equipment with lower sound power levels where feasible).



8.0 Conclusions and Recommendations

Based on the results of the ecological assessment and previous local studies, the following conclusions and associated recommendations can be made regarding the Project Site:

- A site-specific EA application will be submitted for the new MLAA, therefore standard conditions and associated buffers are not applicable.
- A SMP 'high risk of impacts' will be prepared for impacts to the breeding places of conservation significant species (squatter pigeon (southern), ornamental snake and short-beaked echidna).
- No conservation significant flora or fauna species listed under the EPBC Act or NC Act were recorded within the Project Site.
- The Project is not likely to have a significant residual impact on connectivity.
- A significant impact assessment under the EPBC Act for the squatter pigeon (southern) and koala concluded that although works will result in a loss of breeding, foraging and dispersal habitat for these species, the Project is unlikely to lead to significant impacts to these species.
- A significant impact assessment under the EPBC Act for ornamental snake, applying the precautionary principle, concluded that the loss of potential breeding and foraging habitat and dispersal habitat from the Project is likely to lead to significant impacts on ornamental snake.
- A significant residual impact assessment under the NC Act identified that development of the Project Site will result in the following significant residual impacts to MSES regulated vegetation:
 - 16.26 ha of impact to 'endangered' or 'of concern' REs via impacts to ground-truthed areas of RE 11.3.3, which is an 'of concern' RE; and
 - 5.94 ha of impact to prescribed REs (RE 11.3.3) located within the defined distance from the defining banks of a watercourse identified on the vegetation management watercourse map, as defined under the VM Act.
- A significant residual impact assessment under the NC Act for the squatter pigeon (southern), ornamental snake, koala and short-beaked echidna concluded that, although works will result in a loss of suitable habitat for these four species, the Project is unlikely to significantly impact these species, provided mitigation measures are implemented. The Project is likely to significantly impact ornamental snake despite implementation of all mitigation measures.
- Pre-clearance surveys will be completed prior to clearing works to detect fauna or fauna habitat present in the clearing area. During clearing a suitably qualified fauna spotter catcher will be present onsite to ensure protection of all fauna.

SLR recommend given the presence of suitable habitat considered potentially critical to the survival of the species for squatter pigeon (southern), ornamental snake, koala and Brigalow TEC, the outcomes of the self-assessment significant impact assessments should be discussed and confirmed with DCCEEW.



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Appendix A PMST database

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026





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: 29-May-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:	4
Listed Threatened Species:	30
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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	43
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[[Resource Information](#)]

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

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

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

Listed Threatened Species

[[Resource Information](#)]

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

Number is the current name ID.

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	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 may occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
PLANT			
Denhamia megacarpa Large-fruited Denhamia [91342]	Endangered	Species or species habitat may occur within area	In buffer area only
Dichanthium queenslandicum King Blue-grass [5481]	Endangered	Species or species habitat known to occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Polianthion minutiflorum [82772]	Vulnerable	Species or species habitat may occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Denisonia maculata Ornamental Snake [1193]	Vulnerable	Species or species habitat known to occur within area	In feature area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area	In feature area
Elseya albagula Southern Snapping Turtle, White-throated Snapping Turtle [81648]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In feature area
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In feature area
Rheodytes leukops Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver [1761]	Endangered	Species or species habitat likely to occur within area	In feature area

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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Migratory Marine Birds

Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
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Migratory Terrestrial Species

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

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
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Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
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Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
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Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area

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

Extra Information

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Barada Barna Road upgrade	2024/09791		Assessment	In buffer area only
Isaac Downs coal mine project, near Moranbah, Qld	2019/8413		Post-Approval	In buffer area only
Isaac River Coal Mine Project	2021/8980		Post-Approval	In buffer area only
Moorvale South Extension Project	2024/09960		Referral Decision	In buffer area only
Moranbah South Project 2013 Seismic Exploration Program, Qld	2013/6814		Completed	In buffer area only
Olive Downs Project	2005/2377		Post-Approval	In feature area
Olive Downs Project Mine Site and Access Road	2017/7867		Post-Approval	In buffer area only
Peak Downs Mine Continuation Project	2022/09350		Assessment	In buffer area only
Peak Downs Mine Power Line Realignment Project	2024/09983		Assessment	In buffer area only
Winchester South Project Electricity Transmission Line, near Moranbah, Qld	2019/8458		Approval	In feature area
Winchester South Project Mine Site and Access Road, near Moranbah, Qld	2019/8460		Approval	In buffer area only
Winchester South Project Water Pipeline, near Moranbah, Qld	2019/8459		Approval	In feature area

Controlled action

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
7 North Dam Extension Project - Peak Downs Mine	2012/6260	Controlled Action	Completed	In buffer area only
Alpha Coal Project - Mine and Rail Development	2008/4648	Controlled Action	Post-Approval	In buffer area only
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In feature area
Caval Ridge Open Cut Coal Mine Project	2008/4417	Controlled Action	Post-Approval	In buffer area only
Codrilla Open Cut Coal Mining and Processing Operation with Associated Infrastructure	2009/4892	Controlled Action	Post-Approval	In buffer area only
Construct and Operate the Connors River Dam and Pipelines	2008/4429	Controlled Action	Post-Approval	In buffer area only
Develop an Open Cut Coal Mine at Daunia	2008/4418	Controlled Action	Post-Approval	In feature area
Eagle Downs Coal Mine Central Queensland	2008/3945	Controlled Action	Post-Approval	In buffer area only
Extension to the existing Isaac Plains Mine, near Moranbah, Qld	2016/7827	Controlled Action	Post-Approval	In buffer area only
Goonyella Riverside Mine to South Walker Creek Mine Dragline Move	2016/7788	Controlled Action	Completed	In buffer area only
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only
Millenium Open Cut Coal Mine Expansion Project, QLD	2009/4821	Controlled Action	Post-Approval	In buffer area only
Moranbah South Project Coal Mine, QLD	2012/6337	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Electricity Transmission Line	2017/7869	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Rail Spur	2017/7870	Controlled Action	Post-Approval	In buffer area only
Olive Downs Project Water Pipeline	2017/7868	Controlled Action	Post-Approval	In buffer area only
Open Cut Coal Mining	2004/1770	Controlled Action	Post-Approval	In feature area
Relocation of approximately 16km of Dysart Road and associated service infrastructure	2013/6868	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
The Grosvenor Coal Mine Project	2007/3785	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Broadlea North Coal Project open cut mine and associated infrastructure	2005/2179	Not Controlled Action	Completed	In buffer area only
Broadlea to Mollawa and Mollawa to Wotonga Rail Duplication	2006/3046	Not Controlled Action	Completed	In buffer area only
Carborough Downs mine extension	2006/3085	Not Controlled Action	Completed	In buffer area only
construction and operation of Carborough Downs Mine	2005/2064	Not Controlled Action	Completed	In buffer area only
Coppabella-Ingleson Railway Duplication	2008/4103	Not Controlled Action	Completed	In buffer area only
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Integrated Isaac Plains Project	2006/3043	Not Controlled Action	Completed	In buffer area only
Open cut coal mine 7km NE of Moranbah (Isaac Plains)	2005/2070	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Moranbah South Feasibility Seismic Survey	2010/5497	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Expansion of open cut coal mine and diversion of creeks in existing mine operati	2006/2845	Referral Decision	Completed	In buffer area only

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

Where data 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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Appendix B WildNet database

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026



12869	Plantae	Equisetopsida	Nyctaginaceae	Boerhavia dominii	C	FALSE	FALSE	NTQ	FALSE	2	0	2
16837	Plantae	Equisetopsida	Oleaceae	Jasminum didymum subsp. lineare	C	FALSE	FALSE	NTQ	FALSE	1	0	1
13420	Plantae	Equisetopsida	Onagraceae	Ludwigia octovalvis	C	FALSE	FALSE	NTQ	FALSE	3	0	3
9598	Plantae	Equisetopsida	Oxalidaceae	Oxalis radicata	C	FALSE	FALSE	NTQ	FALSE	3	0	3
16530	Plantae	Equisetopsida	Passifloraceae	Passiflora foetida	C	FALSE	FALSE	NAQ	FALSE	1	1	1
17808	Plantae	Equisetopsida	Phyllanthaceae	Bryonia oblongifolia	C	FALSE	FALSE	NTQ	FALSE	1	1	1
17126	Plantae	Equisetopsida	Phyllanthaceae	Flueggea leucopyrus	C	FALSE	FALSE	NTQ	FALSE	1	1	1
16474	Plantae	Equisetopsida	Phyllanthaceae	Phyllanthus	C	FALSE	FALSE	NTQ	FALSE	2	2	2
9602	Plantae	Equisetopsida	Phyllanthaceae	Phyllanthus maderaspatensis	C	FALSE	FALSE	NTQ	FALSE	3	0	3
16473	Plantae	Equisetopsida	Phyllanthaceae	Phyllanthus virgatus	C	FALSE	FALSE	NTQ	FALSE	10	0	10
16505	Plantae	Equisetopsida	Picrodendraceae	Petalostigma pubescens	C	FALSE	FALSE	NTQ	FALSE	3	0	3
15670	Plantae	Equisetopsida	Poaceae	Alloteropsis semialata	C	FALSE	FALSE	NTQ	FALSE	1	0	1
15675	Plantae	Equisetopsida	Poaceae	Ancistrachne uncinulata	C	FALSE	FALSE	NTQ	FALSE	2	2	2
14811	Plantae	Equisetopsida	Poaceae	Aristida	C	FALSE	FALSE	NTQ	FALSE	2	0	2
19380	Plantae	Equisetopsida	Poaceae	Aristida benthamii	C	FALSE	FALSE	NTQ	FALSE	2	0	2
15652	Plantae	Equisetopsida	Poaceae	Aristida holathera var. holathera	C	FALSE	FALSE	NTQ	FALSE	1	1	1
11517	Plantae	Equisetopsida	Poaceae	Aristida jerichoensis var. subspinulifera	C	FALSE	FALSE	NTQ	FALSE	2	2	2
11518	Plantae	Equisetopsida	Poaceae	Aristida latifolia	C	FALSE	FALSE	NTQ	FALSE	30	2	30
15656	Plantae	Equisetopsida	Poaceae	Aristida leptopoda	C	FALSE	FALSE	NTQ	FALSE	12	0	12
8934	Plantae	Equisetopsida	Poaceae	Aristida personata	C	FALSE	FALSE	NTQ	FALSE	4	0	4
11123	Plantae	Equisetopsida	Poaceae	Aristida queenslandica var. queenslandica	C	FALSE	FALSE	NTQ	FALSE	1	1	1
15635	Plantae	Equisetopsida	Poaceae	Astreblya elymoides	C	FALSE	FALSE	NTQ	FALSE	3	0	3
15636	Plantae	Equisetopsida	Poaceae	Astreblya lappacea	C	FALSE	FALSE	NTQ	FALSE	7	0	7
15607	Plantae	Equisetopsida	Poaceae	Astreblya squarrosa	C	FALSE	FALSE	NTQ	FALSE	25	0	25
15604	Plantae	Equisetopsida	Poaceae	Bothriochloa bladhii subsp. bladhii	C	FALSE	FALSE	NTQ	FALSE	1	1	1
10316	Plantae	Equisetopsida	Poaceae	Bothriochloa decipiens var. decipiens	C	FALSE	FALSE	NTQ	FALSE	1	1	1
9929	Plantae	Equisetopsida	Poaceae	Bothriochloa erianthoides	C	FALSE	FALSE	NTQ	FALSE	2	0	2
15605	Plantae	Equisetopsida	Poaceae	Bothriochloa ewartiana	C	FALSE	FALSE	NTQ	FALSE	29	0	29
15606	Plantae	Equisetopsida	Poaceae	Bothriochloa pertusa	C	FALSE	FALSE	NAQ	FALSE	7	2	7
15593	Plantae	Equisetopsida	Poaceae	Brachyachne convergens	C	FALSE	FALSE	NTQ	FALSE	32	0	32
15571	Plantae	Equisetopsida	Poaceae	Calyptochloa gracillima	C	FALSE	FALSE	NTQ	FALSE	1	1	1
34710	Plantae	Equisetopsida	Poaceae	Calyptochloa gracillima subsp. gracillima	C	FALSE	FALSE	NTQ	FALSE	1	1	1
15540	Plantae	Equisetopsida	Poaceae	Cenchrus ciliaris	C	FALSE	FALSE	NAQ	FALSE	40	0	40
15550	Plantae	Equisetopsida	Poaceae	Chloris divaricata var. divaricata	C	FALSE	FALSE	NTQ	FALSE	1	1	1
15552	Plantae	Equisetopsida	Poaceae	Chloris inflata	C	FALSE	FALSE	NAQ	FALSE	5	0	5
14753	Plantae	Equisetopsida	Poaceae	Chloris truncata	C	FALSE	FALSE	NTQ	FALSE	4	0	4
15527	Plantae	Equisetopsida	Poaceae	Chloris virgata	C	FALSE	FALSE	NAQ	FALSE	9	0	9
15531	Plantae	Equisetopsida	Poaceae	Chrysopogon fallax	C	FALSE	FALSE	NTQ	FALSE	3	2	3
15483	Plantae	Equisetopsida	Poaceae	Cymbopogon bombycinus	C	FALSE	FALSE	NTQ	FALSE	1	0	1
15490	Plantae	Equisetopsida	Poaceae	Dactyloctenium radulans	C	FALSE	FALSE	NTQ	FALSE	2	0	2
15464	Plantae	Equisetopsida	Poaceae	Dichanthium aristatum	C	FALSE	FALSE	NAQ	FALSE	1	1	1
15465	Plantae	Equisetopsida	Poaceae	Dichanthium fecundum	C	FALSE	FALSE	NTQ	FALSE	1	0	1
11064	Plantae	Equisetopsida	Poaceae	Dichanthium queenslandicum	V	FALSE	TRUE	NTQ	FALSE	2	2	2
9620	Plantae	Equisetopsida	Poaceae	Dichanthium sericeum	C	FALSE	FALSE	NTQ	FALSE	30	0	30
15467	Plantae	Equisetopsida	Poaceae	Dichanthium sericeum subsp. sericeum	C	FALSE	FALSE	NTQ	FALSE	4	4	4
10410	Plantae	Equisetopsida	Poaceae	Digitaria ammophila	C	FALSE	FALSE	NTQ	FALSE	6	1	6
15419	Plantae	Equisetopsida	Poaceae	Digitaria brownii	C	FALSE	FALSE	NTQ	FALSE	1	1	1
10360	Plantae	Equisetopsida	Poaceae	Digitaria hystrichoides	C	FALSE	FALSE	NTQ	FALSE	1	1	1
34495	Plantae	Equisetopsida	Poaceae	Dinebra decipiens var. asthenes	C	FALSE	FALSE	NTQ	FALSE	1	1	1
34500	Plantae	Equisetopsida	Poaceae	Dinebra ligulata	C	FALSE	FALSE	NTQ	FALSE	1	1	1
34499	Plantae	Equisetopsida	Poaceae	Diplachne fusca var. fusca	C	FALSE	FALSE	NTQ	FALSE	1	1	1
14567	Plantae	Equisetopsida	Poaceae	Echinochloa colona	C	FALSE	FALSE	NAQ	FALSE	1	0	1
15398	Plantae	Equisetopsida	Poaceae	Elytrophorus spicatus	C	FALSE	FALSE	NTQ	FALSE	2	0	2
15407	Plantae	Equisetopsida	Poaceae	Enneapogon truncatus	C	FALSE	FALSE	NTQ	FALSE	22	0	22
10334	Plantae	Equisetopsida	Poaceae	Enneapogon virens	C	FALSE	FALSE	NTQ	FALSE	1	1	1
10340	Plantae	Equisetopsida	Poaceae	Enteropogon acicularis	C	FALSE	FALSE	NTQ	FALSE	2	0	2
15408	Plantae	Equisetopsida	Poaceae	Enteropogon ramosus	C	FALSE	FALSE	NTQ	FALSE	3	0	3
10532	Plantae	Equisetopsida	Poaceae	Eragrostis	C	FALSE	FALSE	NTQ	FALSE	4	0	4
10727	Plantae	Equisetopsida	Poaceae	Eragrostis longipedicellata	C	FALSE	FALSE	NTQ	FALSE	1	1	1
15371	Plantae	Equisetopsida	Poaceae	Eragrostis parviflora	C	FALSE	FALSE	NTQ	FALSE	4	0	4
15373	Plantae	Equisetopsida	Poaceae	Eragrostis sororia	C	FALSE	FALSE	NTQ	FALSE	2	0	2
15377	Plantae	Equisetopsida	Poaceae	Eragrostis tenellula	C	FALSE	FALSE	NTQ	FALSE	10	0	10
15385	Plantae	Equisetopsida	Poaceae	Eriachne obtusa	C	FALSE	FALSE	NTQ	FALSE	3	0	3
11081	Plantae	Equisetopsida	Poaceae	Eriachne rara	C	FALSE	FALSE	NTQ	FALSE	1	1	1
15330	Plantae	Equisetopsida	Poaceae	Eriochloa crebra	C	FALSE	FALSE	NTQ	FALSE	30	2	30
15331	Plantae	Equisetopsida	Poaceae	Eriochloa procera	C	FALSE	FALSE	NTQ	FALSE	1	0	1
15332	Plantae	Equisetopsida	Poaceae	Eriochloa pseudoacrotricha	C	FALSE	FALSE	NTQ	FALSE	25	0	25
15320	Plantae	Equisetopsida	Poaceae	Heteropogon contortus	C	FALSE	FALSE	NTQ	FALSE	19	0	19
15254	Plantae	Equisetopsida	Poaceae	Iseilema vaginiflorum	C	FALSE	FALSE	NTQ	FALSE	34	1	34
10857	Plantae	Equisetopsida	Poaceae	Leptochloa digitata	C	FALSE	FALSE	NTQ	FALSE	2	0	2
9154	Plantae	Equisetopsida	Poaceae	Melinis repens	C	FALSE	FALSE	NAQ	FALSE	15	0	15
29956	Plantae	Equisetopsida	Poaceae	Moorochloa eruciformis	C	FALSE	FALSE	NAQ	FALSE	8	0	8
12586	Plantae	Equisetopsida	Poaceae	Ophiuros exaltatus	C	FALSE	FALSE	NTQ	FALSE	3	0	3
15173	Plantae	Equisetopsida	Poaceae	Panicum decompositum var. decompositum	C	FALSE	FALSE	NTQ	FALSE	24	1	24
18937	Plantae	Equisetopsida	Poaceae	Panicum queenslandicum	C	FALSE	FALSE	NTQ	FALSE	8	0	8
9985	Plantae	Equisetopsida	Poaceae	Panicum queenslandicum var. acuminatum	C	FALSE	FALSE	NTQ	FALSE	1	1	1

18424	Plantae	Equisetopsida	Poaceae	Panicum simile	C	FALSE	FALSE	NTQ	FALSE	1	1	1
14346	Plantae	Equisetopsida	Poaceae	Paspalidium albovillosum	C	FALSE	FALSE	NTQ	FALSE	2	2	2
10817	Plantae	Equisetopsida	Poaceae	Paspalidium goboideum	C	FALSE	FALSE	NTQ	FALSE	21	0	21
22783	Plantae	Equisetopsida	Poaceae	Paspalum mandiocanum		FALSE	FALSE	NAQ	FALSE	1	1	1
18061	Plantae	Equisetopsida	Poaceae	Poaceae		FALSE	FALSE		FALSE	1	0	1
15060	Plantae	Equisetopsida	Poaceae	Sehima nervosum	C	FALSE	FALSE	NTQ	FALSE	1	1	1
10244	Plantae	Equisetopsida	Poaceae	Setaria paspalidioides	C	FALSE	FALSE	NTQ	FALSE	2	2	2
15055	Plantae	Equisetopsida	Poaceae	Sporobolus caroli	C	FALSE	FALSE	NTQ	FALSE	3	0	3
15001	Plantae	Equisetopsida	Poaceae	Sporobolus creber	C	FALSE	FALSE	NTQ	FALSE	15	0	15
22166	Plantae	Equisetopsida	Poaceae	Sporobolus sessilis	C	FALSE	FALSE	NTQ	FALSE	1	0	1
14154	Plantae	Equisetopsida	Poaceae	Thellungia advena	C	FALSE	FALSE	NTQ	FALSE	4	1	4
14156	Plantae	Equisetopsida	Poaceae	Themeda avenacea	C	FALSE	FALSE	NTQ	FALSE	1	0	1
14974	Plantae	Equisetopsida	Poaceae	Themeda triandra	C	FALSE	FALSE	NTQ	FALSE	14	0	14
29199	Plantae	Equisetopsida	Poaceae	Urochloa piligera	C	FALSE	FALSE	NTQ	FALSE	2	0	2
34422	Plantae	Equisetopsida	Polygalaceae	Polygala crassitesta	C	FALSE	FALSE	NTQ	FALSE	13	0	13
14350	Plantae	Equisetopsida	Polygonaceae	Persicaria attenuata	C	FALSE	FALSE	NTQ	FALSE	1	1	1
42262	Plantae	Equisetopsida	Pontederiaceae	Pontederia cyanea	C	FALSE	FALSE	NTQ	FALSE	3	0	3
16359	Plantae	Equisetopsida	Portulacaceae	Portulaca oleracea		FALSE	FALSE	NAQ	FALSE	1	0	1
17034	Plantae	Equisetopsida	Proteaceae	Grevillea junctifolia	C	FALSE	FALSE	NTQ	FALSE	1	0	1
17040	Plantae	Equisetopsida	Proteaceae	Grevillea pteridifolia	C	FALSE	FALSE	NTQ	FALSE	1	1	1
17045	Plantae	Equisetopsida	Proteaceae	Grevillea striata	C	FALSE	FALSE	NTQ	FALSE	1	0	1
13215	Plantae	Equisetopsida	Proteaceae	Hakea chordophylla	C	FALSE	FALSE	NTQ	FALSE	1	0	1
22354	Plantae	Equisetopsida	Proteaceae	Hakea lorea subsp. lorea	C	FALSE	FALSE	NTQ	FALSE	1	1	1
16498	Plantae	Equisetopsida	Proteaceae	Persoonia falcata	C	FALSE	FALSE	NTQ	FALSE	1	1	1
15950	Plantae	Equisetopsida	Rhamnaceae	Ventilago viminalis	C	FALSE	FALSE	NTQ	FALSE	8	1	8
5565	Plantae	Equisetopsida	Rubiaceae	Coelospermum reticulatum	C	FALSE	FALSE	NTQ	FALSE	1	1	1
41446	Plantae	Equisetopsida	Rubiaceae	Dolichocharpa coeruleascens	C	FALSE	FALSE	NTQ	FALSE	1	1	1
7607	Plantae	Equisetopsida	Rubiaceae	Larsenikia ochreatea	C	FALSE	FALSE	NTQ	FALSE	2	2	2
41461	Plantae	Equisetopsida	Rubiaceae	Paranotis mitrasacmoides subsp. trachymenoides	C	FALSE	FALSE	NTQ	FALSE	6	0	6
29844	Plantae	Equisetopsida	Rubiaceae	Psydrax saligna forma saligna	C	FALSE	FALSE	NTQ	FALSE	1	1	1
16300	Plantae	Equisetopsida	Rubiaceae	Richardia brasiliensis		FALSE	FALSE	NAQ	FALSE	1	1	1
16135	Plantae	Equisetopsida	Rubiaceae	Spermacoce brachystema	C	FALSE	FALSE	NTQ	FALSE	1	0	1
17122	Plantae	Equisetopsida	Rutaceae	Flindersia dissosperma	C	FALSE	FALSE	NTQ	FALSE	4	0	4
16237	Plantae	Equisetopsida	Santalaceae	Santalum lanceolatum	SL	FALSE	TRUE	NTQ	FALSE	2	0	2
18054	Plantae	Equisetopsida	Sapindaceae	Alectryon diversifolius	C	FALSE	FALSE	NTQ	FALSE	1	0	1
14839	Plantae	Equisetopsida	Sapindaceae	Alectryon oleifolius subsp. elongatus	C	FALSE	FALSE	NTQ	FALSE	3	0	3
13714	Plantae	Equisetopsida	Sapindaceae	Atalaya		FALSE	FALSE		FALSE	5	0	5
17906	Plantae	Equisetopsida	Sapindaceae	Atalaya hemiglauc	C	FALSE	FALSE	NTQ	FALSE	4	0	4
13125	Plantae	Equisetopsida	Sapotaceae	Planchonella pohlmaniana	C	FALSE	FALSE	NTQ	FALSE	1	1	1
8631	Plantae	Equisetopsida	Scrophulariaceae	Eremophila debilis	C	FALSE	FALSE	NTQ	FALSE	4	0	4
3377	Plantae	Equisetopsida	Scrophulariaceae	Eremophila deserti	C	FALSE	FALSE	NTQ	FALSE	3	0	3
17277	Plantae	Equisetopsida	Scrophulariaceae	Eremophila maculata	C	FALSE	FALSE	NTQ	FALSE	5	0	5
17496	Plantae	Equisetopsida	Solanaceae	Datura stramonium		FALSE	FALSE	NAQ	FALSE	3	0	3
16156	Plantae	Equisetopsida	Solanaceae	Solanum adenophorum	E	FALSE	TRUE	NTQ	FALSE	1	1	1
13541	Plantae	Equisetopsida	Solanaceae	Solanum elaeagnifolium	E	FALSE	TRUE	NTQ	FALSE	1	1	1
16166	Plantae	Equisetopsida	Solanaceae	Solanum esuriale	C	FALSE	FALSE	NTQ	FALSE	8	0	8
29802	Plantae	Equisetopsida	Solanaceae	Solanum parvifolium subsp. parvifolium	C	FALSE	FALSE	NTQ	FALSE	1	1	1
17603	Plantae	Equisetopsida	Sparmanniaceae	Corchorus trilocularis	C	FALSE	FALSE	NTQ	FALSE	11	0	11
17049	Plantae	Equisetopsida	Sparmanniaceae	Grewia latifolia	C	FALSE	FALSE	NTQ	FALSE	3	0	3
40981	Plantae	Equisetopsida	Sparmanniaceae	Grewia savannicola	C	FALSE	FALSE	NTQ	FALSE	6	0	6
14178	Plantae	Equisetopsida	Stylidiaceae	Stylidium eglandulosum	SL	FALSE	TRUE	NTQ	FALSE	1	1	1
16488	Plantae	Equisetopsida	Thymelaeaceae	Pimelea haematostachya	C	FALSE	FALSE	NTQ	FALSE	19	0	19
12596	Plantae	Equisetopsida	Thymelaeaceae	Pimelea microcephala	C	FALSE	FALSE	NTQ	FALSE	1	0	1
34284	Plantae	Equisetopsida	Verbenaceae	Glandularia aristigera		FALSE	FALSE	NAQ	FALSE	1	0	1
12350	Plantae	Equisetopsida	Verbenaceae	Verbena macrostachya	C	FALSE	FALSE	NTQ	FALSE	1	0	1
8304	Plantae	Equisetopsida	Zygophyllaceae	Tribulus eichlerianus	C	FALSE	FALSE	NTQ	FALSE	1	0	1

Appendix C MSES Report

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026





Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

ML: 1781

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

Disclaimer

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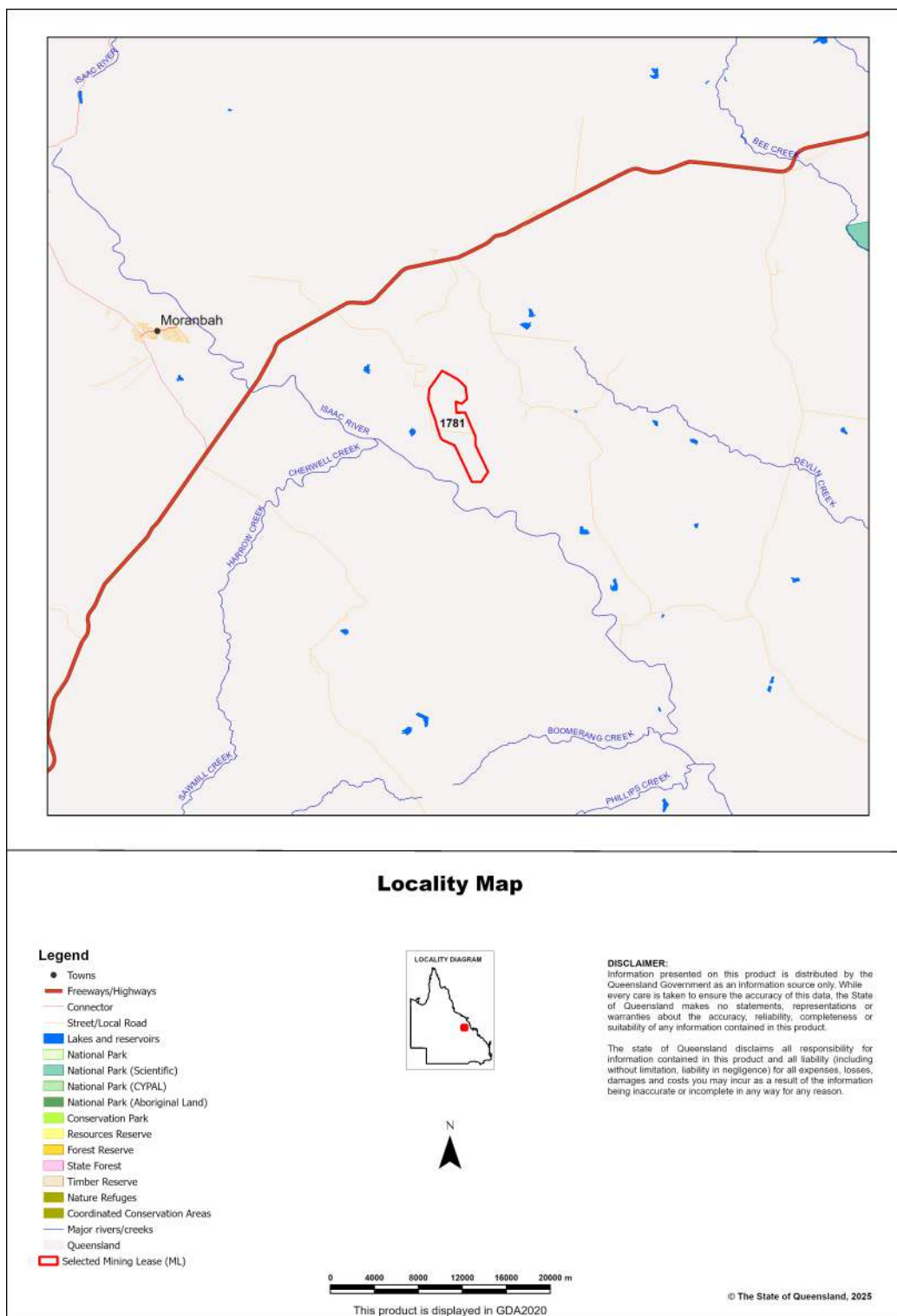
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Assessment Area Details

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

Table 1: Summary table, details for AOI: ML: 1781, with area 2234.47 ha

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



Matters of State Environmental Significance (MSES)

MSES Categories

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

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

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

The SPP defines matters of state environmental significance as:

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

MSES Values Present

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

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	4.74 ha	0.2%
7b Special least concern animals	1.29 ha	0.1%
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)	64.41 ha	2.9%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	41.84 ha	1.9%
8d Regulated Vegetation - Essential habitat	64.41 ha	2.9%
8e Regulated Vegetation - intersecting a watercourse	8 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

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

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

(No results)

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

(no results)

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

(no results)

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

(no results)

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

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

Values are present

7b. Special least concern animals

Values are present

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

Not applicable

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

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

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

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

Threatened (endangered or vulnerable) wildlife species records

(No results)

Special least concern animal species records

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

Shorebird habitat (critically endangered/ endangered/ vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

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

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

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

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

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

MSES - Regulated Vegetation

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

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

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

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

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

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.4.9	E-dom	rem_end
11.9.3/11.9.2/11.9.5	E-subdom	rem_end

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

Not applicable

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

Regulated vegetation map category	Map number
R	8553

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

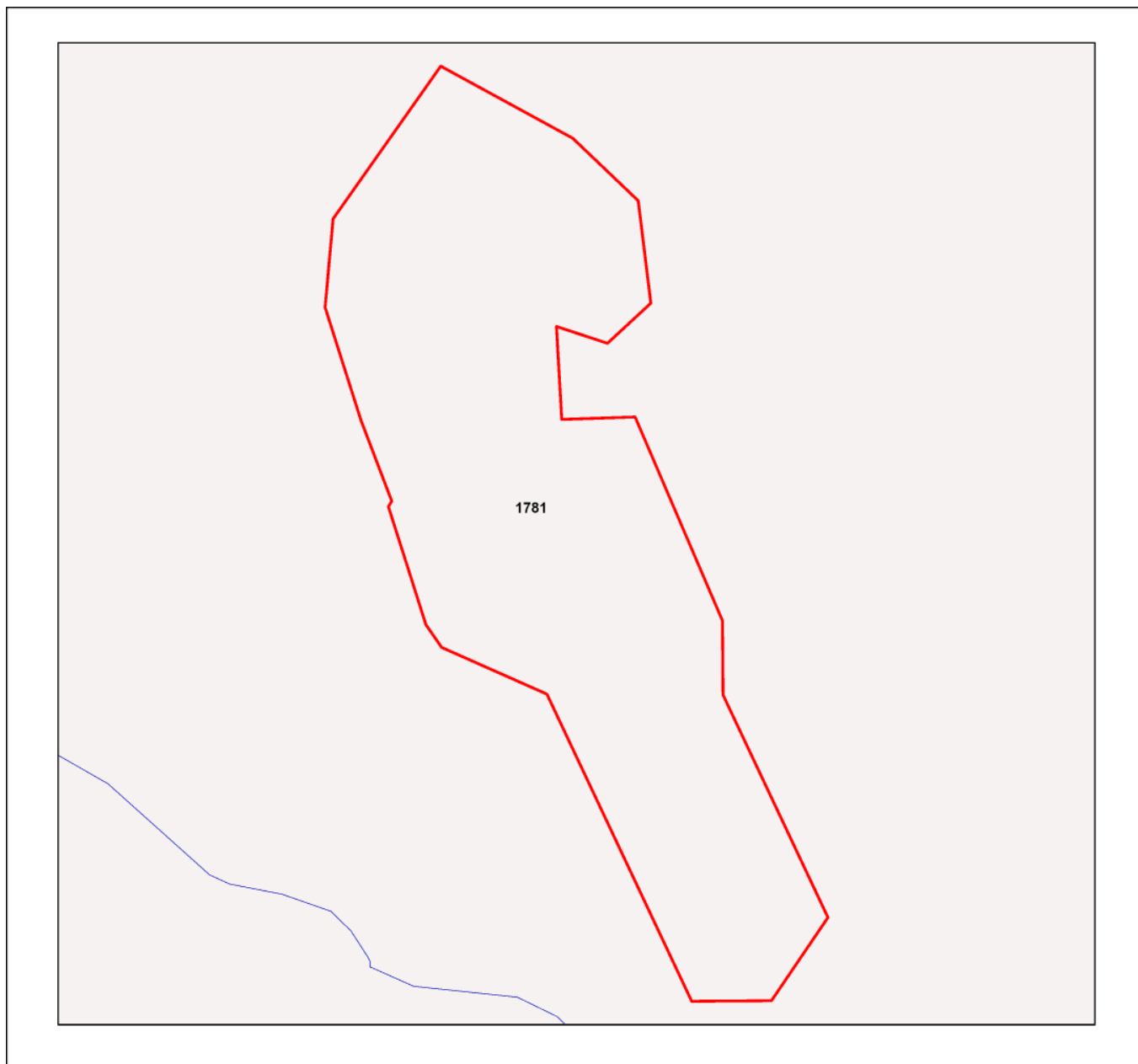
(No results)

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



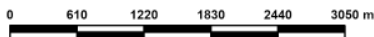
MSES - State Conservation Areas

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



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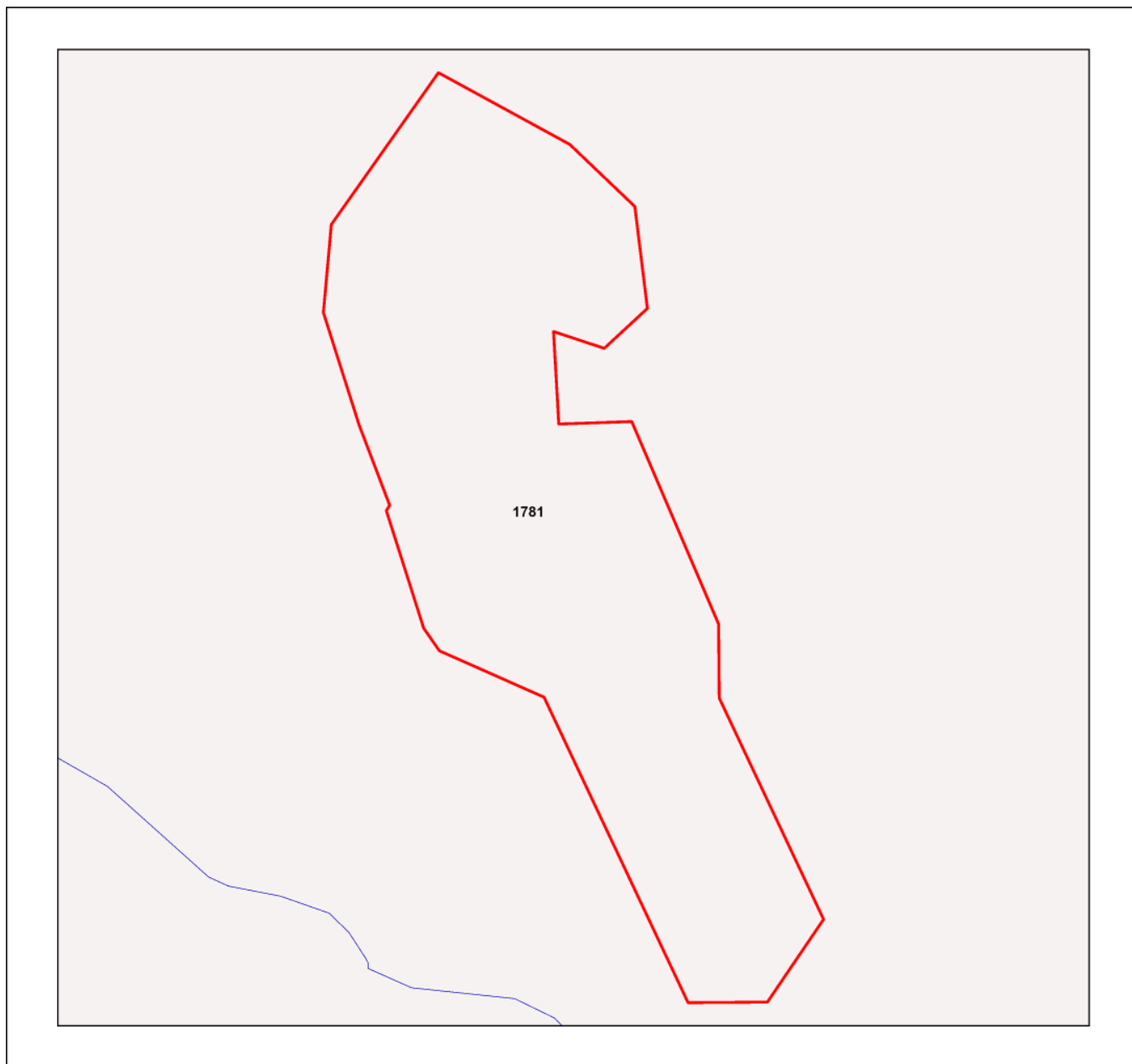
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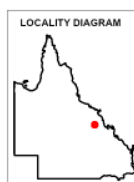
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Map 2 - MSES - Wetlands and Waterways



MSES - Wetlands and Waterways

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Declared high ecological value waters (watercourse)
- ▣ Strategic environmental area (designated precinct)
- ▣ Declared high ecological value waters (wetland)
- ▣ High ecological significance wetlands
- ▣ Selected Mining Lease (ML)

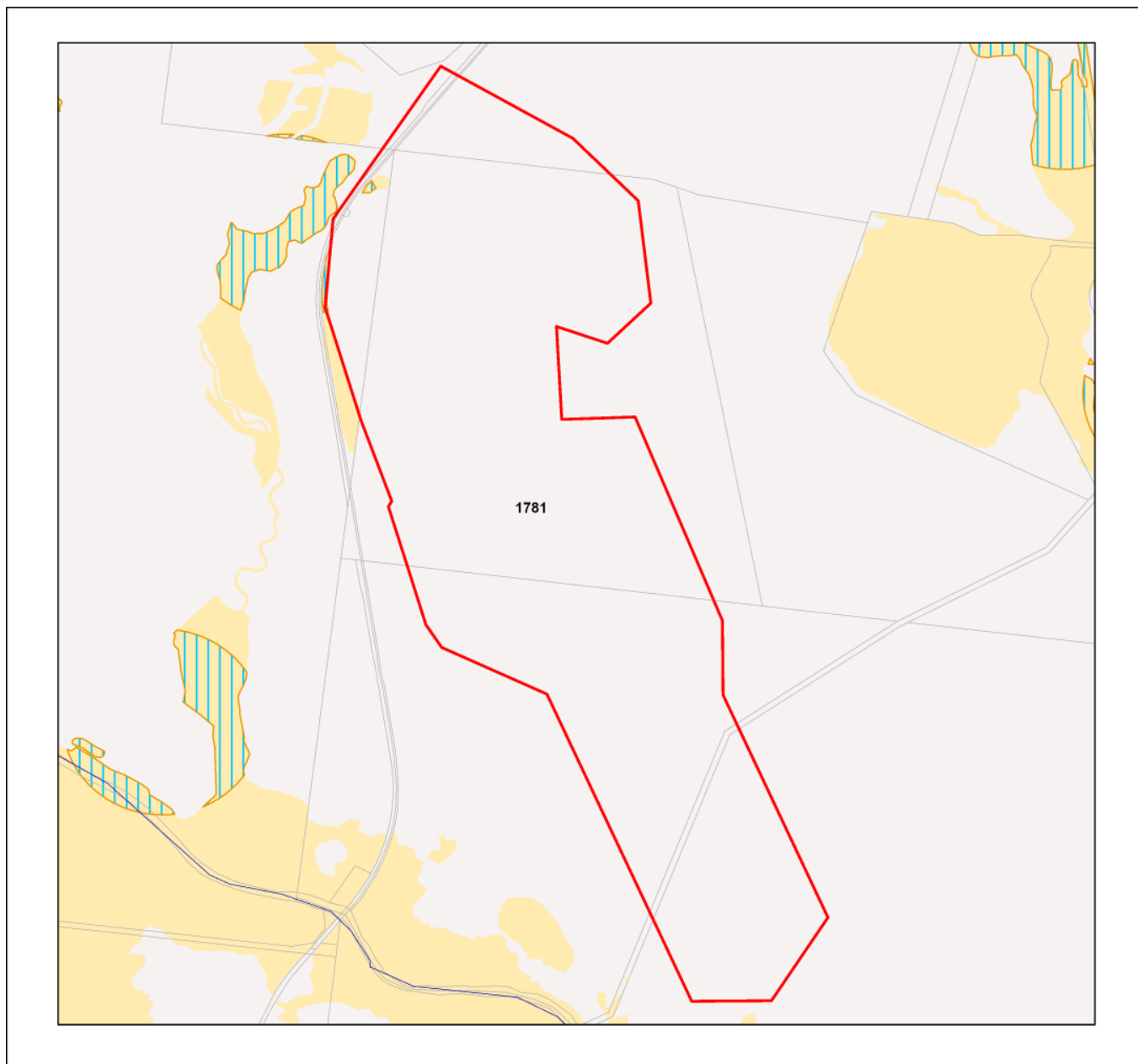


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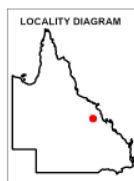
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Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



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

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- ▨ Wildlife habitat (special least concern)
- Wildlife habitat (endangered or vulnerable)
- ▭ Selected Mining Lease (ML)

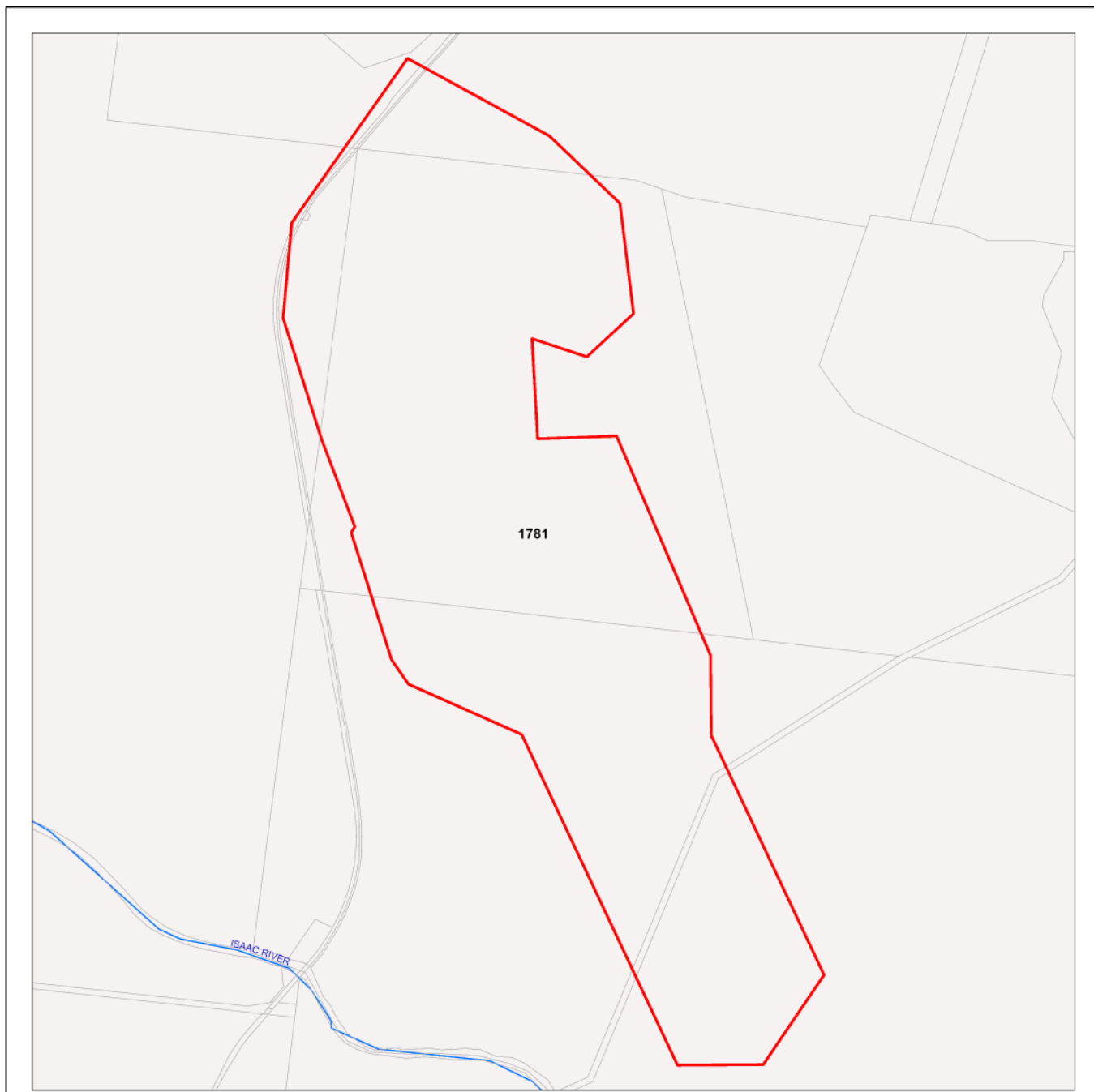


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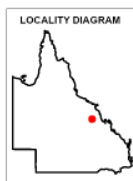
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Map 3b - MSES - Species - Koala habitat area (SEQ)



**MSES - Species
Koala habitat area (SEQ)**

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Selected Mining Lease (ML)



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

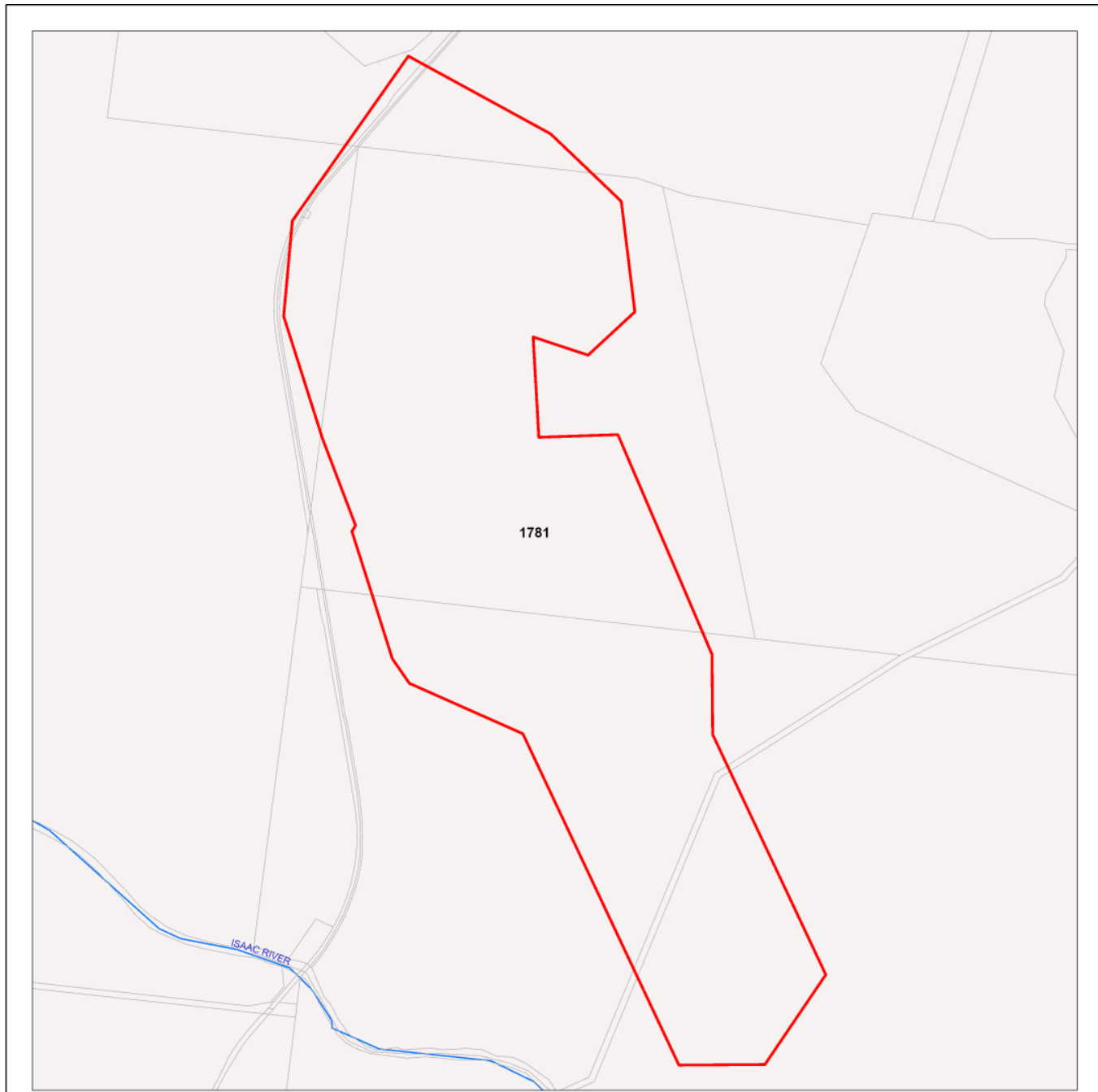
The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.



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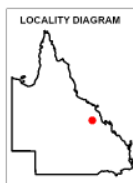
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Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



MSES - Wildlife habitat (sea turtle nesting areas)

-  Towns
-  Freeways/Highways
-  Secondary roads
-  Major rivers/creeks
-  Wildlife habitat (sea turtle nesting areas)
-  Selected Mining Lease (ML)

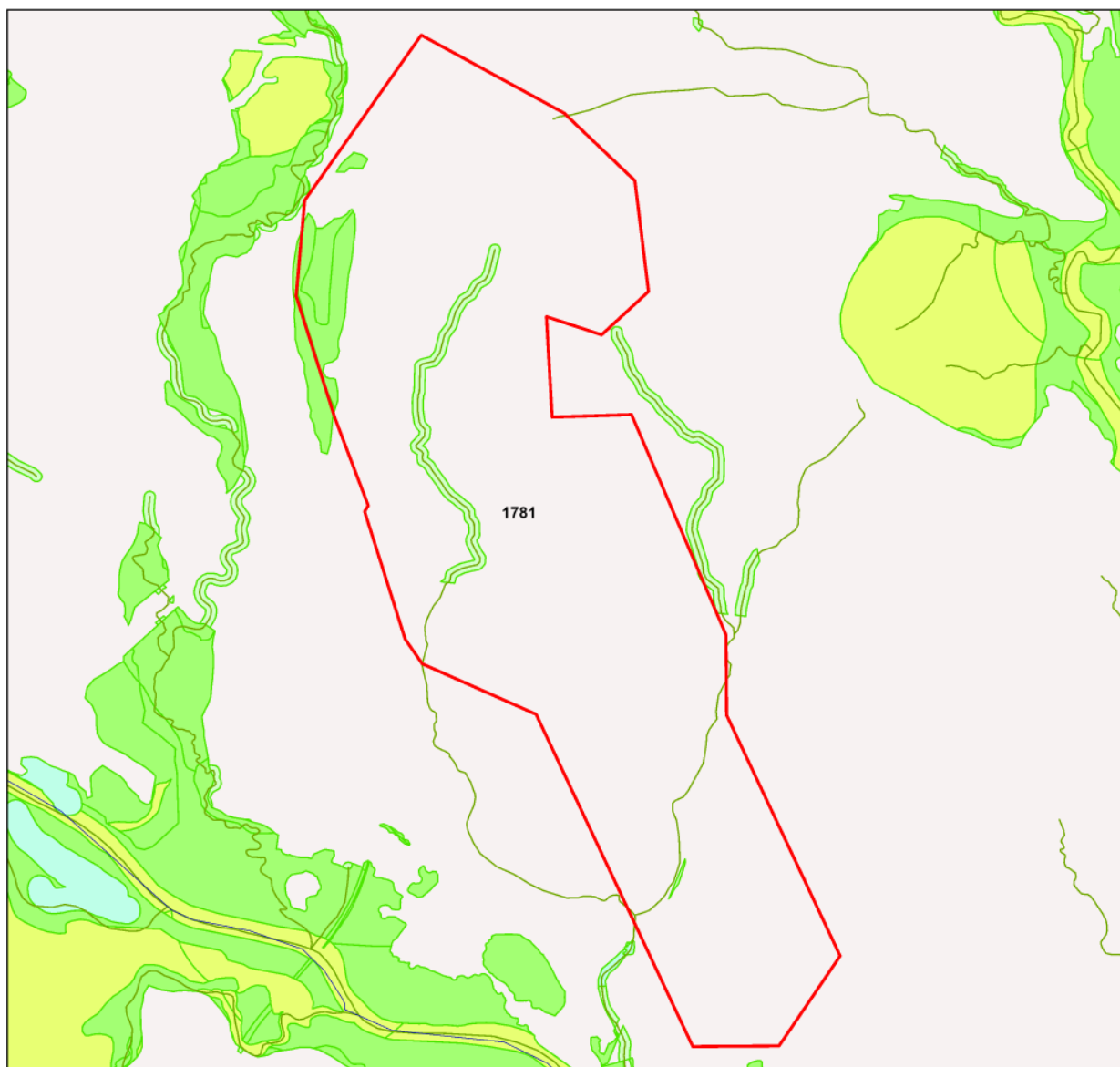


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MSES mapping of sea turtle nesting areas identifies beaches where the recorded number of turtle nests are over 1% of the turtle species or genetic stock. The linework is also deliberately extended along nearby rocky coastlines and headlands to recognise that significant numbers of nesting adults and hatchlings can become disoriented by light pollution from development on rocky coastlines and headlands while navigating offshore from nesting beaches.

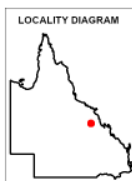


Map 4 - MSES - Regulated Vegetation



MSES - Regulated Vegetation

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

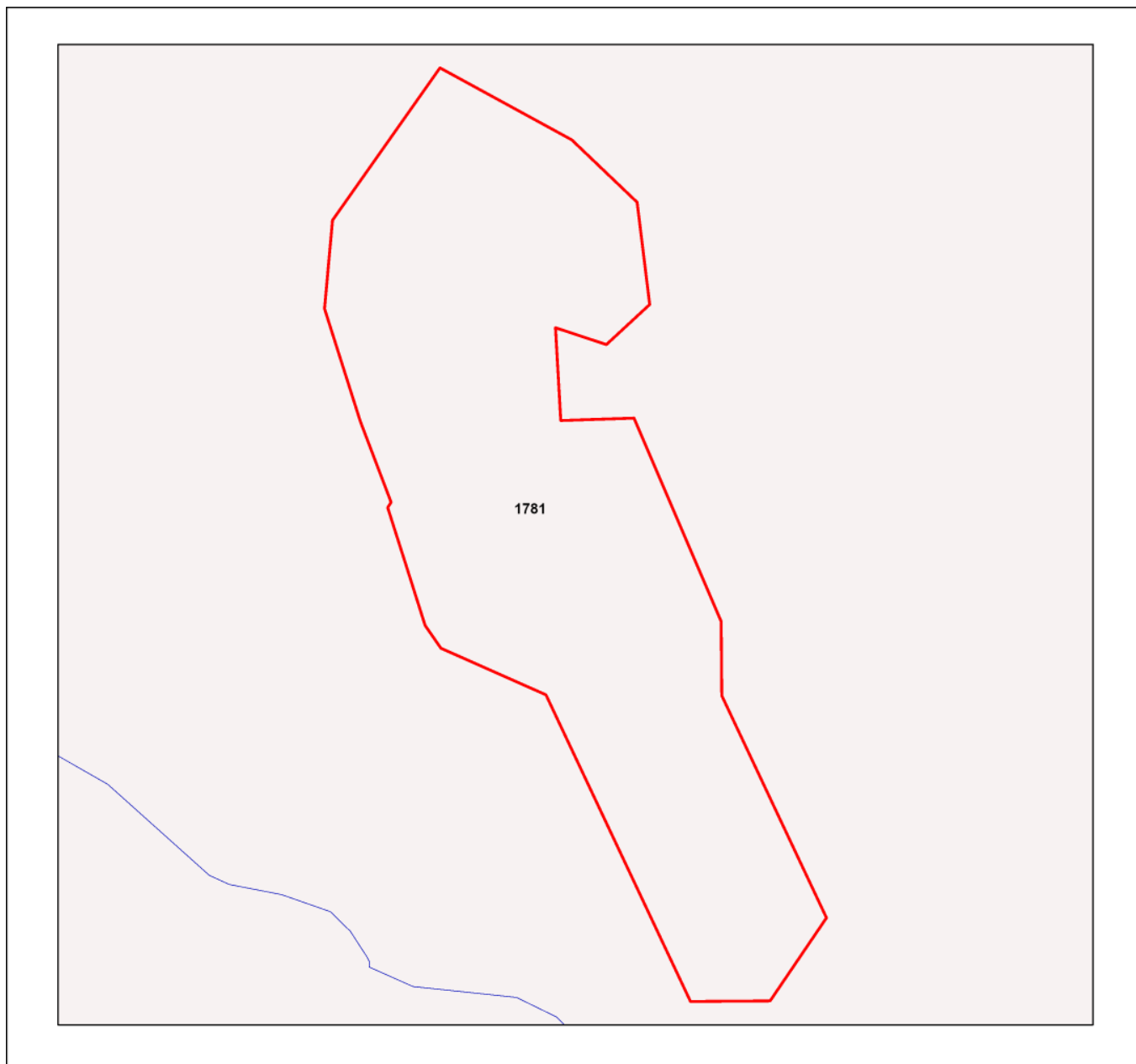


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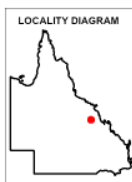
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Map 5 - MSES - Offset Areas



MSES - Offsets

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Legally secured offset area (offset register)
- Legally secured offset area (vegetation offsets)
- Selected Mining Lease (ML)



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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

Appendix D Likelihood of Occurrence Assessment

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026



Table D1 Likelihood of occurrence assessment criteria

Likelihood of occurring	Key criteria
Known to occur	Species positively identified during field surveys within the MLAA.
High	Species previously recorded within the Study area and the MLAA contains habitat that is suitable for the species.
Moderate	Species previously recorded within the Study area and the MLAA contains marginal / low quality habitat for the species OR No previous records of the species within the Study area, but the Project Site contains suitable habitat for the species and is within the known range of the species.
Low	Species previously recorded within the Study area, but the MLAA does not contain suitable habitat for the species OR No previous records of the species within the Study area and the Project Site contains marginal / low quality habitat for the species or there is no suitable habitat in the Project Site OR No previous records of the species within the Study area and the Study area is beyond the current known geographic range of the species.

Table D2 Likelihood of occurrence assessment

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
Flora						
<i>Bertya pedicellata</i>	-	NT	-	WN	This species is confined to central and southeast Queensland from Aramac eastward to Rockhampton and south to near Biggenden. <i>Bertya pedicellata</i> has been recorded to grow on rocky hill sides in eucalypt forests and woodlands as well as <i>Acacia</i> woodland or shrubland (DETSI, 2025a). It grows in skeletal to shallow sandy clay and in clay loams overlaying rhyolite or sandstone substrates.	Low - There is 14 records of this species within the Study area. There is no suitable habitat within the Project Site and the Project Site has been cleared previously.
<i>Denhamia megacarpa</i>	large-fruited denhamia	E	E	PMST	This species is restricted to a few sites on sandy or gravelly soils that support open eucalypt woodland (RE 11.5.9b) or <i>Acacia</i> forests dominated by <i>Acacia shirleyi</i> (Lancewood) and <i>A. catenulata</i> (Bendee) (RE 11.7.2) (TSSC, 2022).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Dichanthium queenslandicum</i>	king blue-grass	V	E	PMST/WN	This species occurs from near Dalby north to about 90 km north of Hughenden and west as far as Clermont. The main concentration of populations in central Queensland in the Emerald region (DES, 2023e). This species occurs on black cracking clay in tussock grasslands mainly in association with other species of blue grasses and is confined to natural grassland on the heavy black clay on undulating plains (DETSI, 2025a).	Low - There are two records of this species in the Study area and the Project Site occurs within the DCCEEW (2025b) modelled core distribution for this species. This species has not been detected within the Project Site or local area through multiple field assessments undertaken over the April, May, and November 2021, November 2023 and September 2025. The Project Site has been subject to extensive mechanical clearing and soil disturbance and a high proportion of the Project Site is dominated by introduced grass species. Furthermore, the Project Site is subject to extensive impacts and pressure from Cattle grazing. Overall, despite this species being previously recorded within the Study area, the history of land use and extensive modification of existing habitats for this species results in the Project Site not containing suitable habitat for this species.
<i>Dichanthium setosum</i>	bluegrass	LC	V	PMST	This species occurs in inland QLD and NSW, with Queensland populations in the southern and central Brigalow Belt, the Central Queensland Highlands and the Einasleigh Uplands between Charters Towers and Georgetown. Other scattered records occur in the Cape York Peninsula and Northwest Highlands. It is found in moderately disturbed areas such as cleared woodland, grassy roadside remnants. It is typically associated with heavy black soils and red-brown loams with clay subsoil (DETSI, 2025a).	Low - There are no records of this species in the Study area. There is marginal habitat with some cracking black soil present within the Project Site but are heavily disturbed by cattle.
<i>Eucalyptus raveretiana</i>	black ironbox	V	V	PMST	This species has a wide distribution in coastal and sub-coastal areas of Queensland, from south of Townsville to Nebo, around Rockhampton and areas 100km west of the city. It has been recorded from about 23 sites throughout its range, in two main areas: Nebo to Ayr and Aps Creek to Rockhampton (DETSI, 2025a).. The majority of sites are on roadsides, freehold land and leasehold land. However, it is also present in both state forests and national parks. This species usually grows along watercourses and sometimes on river flats or open woodland.	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site and the project area is outside the known distribution of this species.
<i>Polianthion minutiflorum</i>	-	V	V	PMST	This species is a shrub that grows up to 1 m high, and flowers throughout the year. It is usually found in forests and woodland on sandstone slopes, or sometimes deeper sands adjacent to deeply weather laterite (DETSI, 2025a).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Ptilotus uncinellus</i>	-	E	E	WN	This species is known only from the vicinity of the Newlands coal mine about 130 km west of Mackay in Queensland. It grows on the slopes of tertiary plateaux (or 'jump-ups'), appearing to prefer south-facing slopes (TSSC, 2024). This species occurs in	Low - There is 2 records of this species within the Study area. There is no suitable habitat within the Project Site.

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
					woodland of <i>Acacia shirleyi</i> , with 'scrub' elements in the understorey, e.g., <i>Erythroxylum australe</i> , <i>Croton insularis</i> , <i>Acalypha eremorum</i> and <i>Grevillea helmsiae</i> .	
<i>Samadera bidwillii</i>	quassia	V	V	PMST	This species can be found east of Mackay, to as far south as Bauple and west to Biloela. The species is distributed within Byfield National Park, Goomboorian National Park, Mount Bauple National Park, Mount Walsh National Park, South Cumberland National Park, Byfield State Forest, Cordalba State Forest Tiaro State Forest, Tuan State Forest, Young State Forest 3 and Callide Timber Reserve (DES, 2023e). <i>Samadera bidwillii</i> commonly occurs in lowland rainforest often with <i>Araucaria cunninghamii</i> or on rainforest margins, but it can also be found in other forest types, such as open forest and woodland (DAWE, 2008).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Solanum adenophorum</i>	-	E	-	WN	<i>Solanum adenophorum</i> is endemic to the Dingo - Nebo - Clermont area in central-eastern Queensland. This species occurs mostly in Brigalow woodland and on very gently inclined slopes. It also occurs in gidgee scrub on deep cracking clay soils (DETSI, 2025a).	Low - There is 1 record of this species within the Study area. Due to a history of clearing within the Project Site and recent widespread mechanical clearing there is no suitable habitat within the Project Site.
<i>Solanum elachophyllum</i>	-	E	-	WN	This species is a perennial shrub to 0.4m in height and grows on fertile cracking clay soils in open forests dominated by <i>Eucalyptus</i> and <i>Acacia</i> species (DETSI, 2025a). It is known from the Leichardt district of Queensland from Nebo south to near Theodore.	Low - There is 1 record of this species in the Study area. Due to a history of clearing within the Project site and recent widespread mechanical clearing there is no suitable habitat within the Project Site.
Birds						
<i>Actitis hypoleucos</i>	common sandpiper	SLC	Mi	PMST	Widespread but patchy distribution along all coastlines of Australia. Found in coastal wetlands and inland wetlands with varying levels of salinity (DCCEEW, 2025b). Most commonly found in muddy or rocky shores of estuaries, deltas of streams, banks upstream, lakes, pools, billabongs, reservoirs, and dams.	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Apus pacificus</i>	fork-tailed swift	SLC	Mi	WN	The fork-tailed swift is a non-breeding visitor to all states and territories of Australia. This species is known to utilise cliffs and beaches and to hunt above various habitat types including rainforest and open forests ahead of storm fronts (DCCEEW, 2025b).	Low - There is 1 record of this species within the Study area. This species may utilise aerial habitats above the Project Site, however the Project Site does not hold distinct terrestrial value for this species. Therefore, there is no suitable habitat within the Project Site.
<i>Calidris acuminata</i>	sharp-tailed sandpiper	V	V, Mi	PMST	This species occurs around the entire coast of Australia outside its breeding season, where it occurs around a broad range of permanent or ephemeral water bodies, primarily brackish. In Queensland, it is sparsely distributed across the state during this period, with many records being fly-overs (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Calidris ferruginea</i>	curlew sandpiper	CE	CE, Mi	PMST	This species occurs around the coasts of Australia from Cairns south. It is also quite widespread inland, with scattered records occurring in the Gulf of Carpentaria. This species mainly occurs on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets, lagoons and also around non-tidal swamps, lakes, and lagoons near the coast, foraging on mudflats and nearby shallow water (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Calidris melanotos</i>	pectoral sandpiper	SLC	Mi	PMST	Most records of this species are east of the Great Dividing Range between Cairns and Yeppoon. It is more habitat-specific than many of its relatives, preferring shallow wetlands (fresh to marine) and tending not to utilise small or ephemeral water bodies (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Cuculus optatus</i>	Oriental cuckoo	SLC	Mi	PMST	This species is widespread in the northern and eastern parts of Australia, inhabiting rainforest margins, monsoon forest, vine scrubs, riverine thickets, wetter, densely canopied eucalypt forests, paperbark swamps and mangroves (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
<i>Erythrotriorchis radiatus</i>	red goshawk	E	E	PMST	This species prefers open forests and woodland with a mosaic of vegetation types, particularly near riverine systems and permanent water where there is an abundance of prey species (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. Due to a history of clearing within the Project site and recent widespread mechanical clearing there is no suitable habitat within the Project Site. Additionally, there is no permanent water available.
<i>Falco hypoleucos</i>	grey falcon	V	V	PMST	This species is sparsely distributed around inland drainage systems—it is usually restricted to shrubland, grassland and wooded water courses and occasionally found in open woodlands near the coast. Often found on stony plains and Acacia shrublands (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. Due to a history of clearing within the Project site and recent widespread mechanical clearing there is no suitable habitat within the Project Site.
<i>Gallinago hardwickii</i>	Latham's snipe	V	V, Mi	PMST	This species is distributed along the east coast of Australia from Cape York Peninsula south to south eastern Australia. This species occurs in permanent and ephemeral wetlands with low to dense vegetation up to 2,000 m above sea-level (DCCEEW, 2025b). This species is also known to occur close to humans and human activity.	Low - There are no records of this species within Study area. There is no suitable habitat within the Project Site.
<i>Geophaps scripta scripta</i>	squatter pigeon (southern)	V	V	PMST/WN	Habitats that this species occur in are generally defined as open-forests to sparse, open-woodlands and scrub that is mostly dominated in the overstorey by <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Acacia</i> or <i>Callitris</i> species (DCCEEW, 2025b). This species is widespread across central and coastal Queensland.	High - There are 19 records of this species within the Study area. This species was recorded numerous times during SLR field assessments between 1-2km to the southeast of the Project Site. Most of these observations were associated with deeper sections of VM Act watercourses in RE 11.3.3 and nearby cattle yards. Deeper sections of VM Act watercourses where this species was observed were modified to hold water for longer periods of time for cattle grazing purposes. Within the Project Site, similar features were encountered, characterised by deeper sections of VM Act watercourses. Although dry during the 2025 field assessment, these deeper sections occurred in field-verified RE 11.3.3 and showed signs of prolonged pooling into the dry season. Based on the presence of nearby records of this species in habitat features consistent with those present within the Project Site this species has a high likelihood of occurring within the Project Site.
<i>Grantiella picta</i>	painted honeyeater	V	V	PMST	This species is sparsely distributed across the eastern Northern Territory, north-western Queensland and south-eastern Australia. Habitat includes dry open woodlands and forests where fruiting mistletoe and flowering eucalypts are present (DETSI, 2025a) as these resources form the main component of its diet (DCCEEW, 2025b). Associated vegetation includes Ironbark, Box, Yellow Gum, River Red Gum, Melaleuca, Acacia, Casuarina and Callitris, with broad areas of mature trees preferred due to their increased ability to host mistletoe (DCCEEW, 2025b).	Low - There is no records of this species within the Study area. Due to a history of clearing within the Project site and recent widespread mechanical clearing mistletoe species richness and abundance within the Project Site is low, with large areas containing no mistletoe. Therefore, habitat values for this species are low and highly degraded.
<i>Hydroprogne caspia</i>	Caspian tern	SLC	Mi	WN	The Caspian tern is usually found in sheltered coastal bays, particularly those with sandy or muddy margins, but also occurs on near-coastal and inland fresh and saline wetlands, particularly lakes and waterholes but also artificial waterbodies (DCCEEW, 2023b). It forages over open wetlands such as lakes and wide rivers, and over coastal waters. Breeding habitats include low islands and cays, sandbanks and spits, beaches, and the margins of terrestrial wetlands (DCCEEW, 2025b).	Low - There is 1 record of this species within the Study area. There is no suitable habitat within the Project Site as there is no permanent water available.
<i>Motacilla flava</i>	yellow wagtail	SLC	Mi	PMST	This species is a rare but regular migrant to coastal areas within Australia. It typically inhabits open habitats, often near water and occasionally on drier inland plains and edges of mangroves (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Pandion haliaetus</i>	eastern osprey	SLC	Mi	PMST	Found on the coasts, interior and many offshore islands of Australia, this species occurs in coastal habitats and terrestrial wetlands of tropical and temperate Australia. This species may travel inland along major rivers in its northern distribution (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
<i>Plegadis falcinellus</i>	glossy ibis	SLC	Mi	WN	This species is widespread across eastern North America, Europe, Africa, Russia and Siberia, southern and southeast Asia, Papua New Guinea and Australia; the Australian population is thought to account for 12% of the species' total population (DCCEEW, 2023b). In Australia, the species occurs in the Eastern Pilbara and Kimberley regions of Western Australia, across much of the Top End and into central Northern Territory, throughout Queensland and New South Wales, through central Victoria to eastern South Australia. The Glossy Ibis is migratory and nomadic—individuals disperse post-breeding and move considerable distances (to over 1,000 km) in search of resources; in Australia, dispersal occurs in response to good rainfall and the species moves north from breeding sites for the winter. Breeding in Australia occurs in a few specific locations in the central south of the country, including the Murray-Darling basin, the western Riverina district, and the Channel Country of southern Queensland (DCCEEW, 2025b). The Glossy Ibis occurs in association with various waterbodies including lakes, rivers, swamps, floodplains, reservoirs and irrigated crops; it feeds in freshwater marshes on the edges of broader wetlands (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Poephila cincta cincta</i>	southern black-throated finch	E	E	PMST	This species occurs mainly in grassy, open woodlands and forests, typically dominated by <i>Eucalyptus</i> , <i>Corymbia</i> and <i>Melaleuca</i> , and occasionally in tussock grasslands or other habitats, often along or near watercourses, or in the vicinity of water (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. The extent of occurrence of this species has significantly declined, contributing to its current status as a threatened species. The Project Site occurs well outside of the extant distribution of this species. This, combined with grazing pressure and habitat modification from a repeated history of mechanical clearing degrades the suitability and occurrence of habitat for this species within the Project Site.
<i>Rostratula australis</i>	Australian painted snipe	E	E	PMST	This species has been recorded at wetland sites throughout much of Australia but is most common in the eastern states. The Australian Painted Snipe is a distinct species but can be hard to detect due to its cryptic and crepuscular behaviour. This species typically occurs in shallow freshwater wetlands and other permanently or temporarily inundated areas, particularly where rank tussocks of grasses, sedges, rushes or reeds are present (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Stagonopleura guttata</i>	diamond firetail	V	V	PMST	The diamond firetail is endemic to south-eastern Australia, extending from central Queensland to the Eyre Peninsula in South Australia. This species is found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum <i>Eucalyptus pauciflora</i> Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. This species is often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season) and nests are globular structures built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. Furthermore, there are very few (three) records of this species north of Rockhampton, all of which do not have a collection date (ALA, 2025). Based on an absence of contemporary records of this species north of Rockhampton the Project Site occurs beyond the current geographical range of this species.
<i>Tringa nebularia</i>	common greenshank	E	E, Mi	PMST	Within Queensland, this species is widespread in the Gulf country and eastern Gulf of Carpentaria and has been recorded in most coastal regions. It utilises a broad range of habitat types—typically coastal mudflats and saltmarsh but including permanent and ephemeral water sources such as lakes, dams, rivers, creeks and billabongs (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
Mammals						
<i>Chalinolobus dwyeri</i>	large-eared pied bat	E	E	WN	This species distribution is poorly known, but records indicate that this species can be found from near Rockhampton, QLD south to Ulladulla, (DCCEEW, 2025b).The majority of records are located within large sandstone escarpments particularly in the Sydney basin but have been known to occupy disused mines.	Low - There is one record of this species within the Study area. The Project Site occurs outside of the DCCEEW (2025b) modelled distribution for this species and all other publicly available records of this species occur well to the south of the Project Site (ALA, 2025). Additionally, the Project Site does

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
						not contain suitable roosting habitat for this species. Based on the above, habitat values for this species within the Project Site are likely to be degraded and the Project Site is largely outside of the current geographical range of this species.
<i>Dasyurus hallucatus</i>	northern quoll	LC	E	PMST	The distribution of this species is highly fragmented in the state and surveys indicate severe reductions from the species former distribution. This species occupies a diversity of habitats across its range, including rocky areas, forests, woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert (DCCEEW, 2025b).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Macroderma gigas</i>	ghost bat	E	V	PMST	The distribution of this species is discontinuous across Australia with two ranges in Queensland: coastal and near-coastal eastern Queensland, from Cape York to near Rockhampton, and western Queensland (DCCEEW, 2025b). It has been recorded hunting in rainforest, deciduous vine thicket, open woodland, spinifex, black soil and grassland habitats. Ghost Bats roost in caves, boulder piles, shallow escarpments and mines, and have very specific roosting requirements with respect to temperature and humidity (Hourigan, 2011).	Low - There are no records of this species within the Study area. There is no suitable roosting habitat within the Project Site.
<i>Nyctophilus corbeni</i>	Corben's long-eared bat	V	V	PMST	This 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. This species is uncommon within this distribution and is rarely recorded, except in some areas including the Nandewar and Brigalow Belt South bioregions in New South Wales and Queensland. It is found in a wide range of inland woodland vegetation types, but in Queensland is distinctly more common in box/ironbark/cypress pine vegetation that occurs in a north-south belt along the western slopes and plains of New South Wales and southern Queensland. This species is more abundant in extensive stands of vegetation than in smaller woodland patches, suggesting its home range is probably large (TSSC, 2015a).	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.
<i>Petauroides volans</i>	greater glider (southern and central)	E	E	PMST/WN	This species occurs in eastern Australian states from Cairns to Victoria, inhabiting eucalypt-dominated low open forests on the coast to tall forests in the ranges and low woodlands west of the Great Dividing Range (McGregor <i>et al.</i> , 2020).	Low - There are 83 records of this species within the Study area. Despite the presence of local records, habitat values for this species within the Project Site are highly dissected from larger, contiguous patches of known habitat for this species due to a history of mechanical clearing. Potential values for this species within the Project site are limited to small areas of RE 11.3.3. However, this RE is not described to contain known or potential habitat for this species. As Eucalypt woodland within the Project Site is highly fragmented from surrounding communities and RE 11.3.3 not being described to contain known or potential habitat for this species any values for this species within the Project Site are highly degraded. Furthermore, spotlighting effort within small areas of RE 11.3.3 within the Project Site did not return any observations of this species.
<i>Petaurus australis australis</i>	yellow-bellied glider (southern subspecies)	V	V	WN	This species' distribution extended from south-eastern QLD to far south-eastern South Australia. It occurs in eucalypt-dominated woodlands and forests, preferring large patches of mature old growth trees (DAWE, 2022a).	Low - There is 1 record of this species within the Study area. Despite the presence of local records, habitat values for this species within the Project Site are highly dissected from larger, contiguous patches of habitat for this species due to a history of mechanical clearing. Potential values for this species within the Project Site are limited to small areas of RE 11.3.3. Spotlighting effort within small areas RE 11.3.3 within the Project Site did not return any observations of this species. Overall, habitats within the Project Site are not suitable for this species and it has a low likelihood of occurring.

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
<i>Phascolarctos cinereus</i>	koala	E	E	PMST/WN	This species range includes the eastern half of Queensland in sclerophyll forest and woodland (DAWE, 2022b). Although widespread, suitable feed species and leaf moisture are the primary determinants of habitat suitability (DCCEEW, 2025b).	Moderate - There are 84 records of this species within the Study area. Despite the presence of local records, habitat values for this species within the Project Site are highly dissected from larger, contiguous patches of known habitat for this species due to a history of mechanical clearing. Potential values for this species within the Project Site are limited to small areas of RE 11.3.3. RE 11.3.3 within the Project Site is highly fragmented from surrounding habitat where evidence of this species is known from. Furthermore, due to historical clearing and mining within the local area, RE 11.3.3 within the Project Site does not form a connectivity pathway to surrounding habitat for this species. As this species has been recorded within the Study area and the Project Site contains marginal / low quality habitat for the species this species has a moderate likelihood of occurrence.
<i>Tachyglossus aculeatus</i>	short-beaked echidna	SLC	-	WN	This well-known monotreme is the most widespread native mammal in Australia (Nicol and Andersen, 2007) occurring in all states and territories and in almost all terrestrial habitats, from deserts to rainforests. Mostly solitary, short-beaked echidnas occupy large home ranges (up to 268ha in arid environments) and feed on soil invertebrates including larvae, beetles, worms, ants and termites (Nicol and Andersen, 2007).	High - There are 15 records of this species within the Study area and this species has been detected in previous studies south of the Project Site (SLR, 2023). There is suitable foraging habitat in the Project Site.
Reptiles						
<i>Acanthophis antarcticus</i>	common death adder	V	-	WN	This species occurs from central Queensland through to New South Wales to southern part of South Australia and Western Australia. This species can be found in well-drained habitats in rainforests, wet sclerophyll forests, woodlands, shrublands, grasslands and coastal heathlands in areas with deep fixed leaf litter (Rowland and Ferguson, 2012) This species is highly cryptic in nature and difficult to detect.	Low - There is one record of this species within the Study area. There is limited habitat features within the Project Site. Little amounts of leaf litter area present and the Project Site contains impacts from cattle which further limit the use of the area for this species. There is a low likelihood that this species would occur in the Project Site.
<i>Denisonia maculata</i>	ornamental snake	V	V	PMST/WN	The species is known only from the Brigalow Belt North and parts of the Brigalow Belt South biogeographical regions. The core of the species distribution occurs within the drainage system of the Fitzroy and Dawson Rivers. The preferred habitat of this species is within, or close to, habitat that is favoured by its prey – frogs. The species is known to prefer woodlands and open forests associated with moist areas, particularly gilgai mounds and depressions, but also lake margins and wetlands (DAWE, 2014).	High - There are 26 records of this species in the Study area. The Project Site is largely dominated by black, clay soils. Due to recent mechanical clearing within the Project Site, soil disturbance is likely influencing the presence/absence and abundance of soil cracks. Key habitat areas for this species are centralised around deeper pools associated with field-verified RE 11.3.3. These deeper pools contained notable cracks and <i>Litoria inermis</i> were observed in this area during the dry season. Numerous cane toads were also observed sheltering in soil cracks during the dry season. Therefore, potential habitat for this species also provides shelter habitat for a key threat to this species and degrades local values for this species. As this species has been recorded within the Study area and the Project Site contains localised, marginal habitat for the species due to the presence of Cane Toads, this species has a high likelihood of occurrence.
<i>Egernia rugosa</i>	yakka skink	V	V	PMST	The known distribution of this species extends from the coast to the hinterland of sub-humid to semi-arid eastern Queensland. This vast area covers portions of the Brigalow Belt, Mulga Lands, South-east Queensland, Einasleigh Uplands, Wet Tropics and Cape York Peninsula biogeographical regions. This species is known to occur in open dry sclerophyll forest, woodland and scrub. The core habitat of this species is within the mulga lands and Brigalow Belt South bioregions. It is most commonly found in cavities under and between partly buried rocks, logs or tree stumps, root cavities and abandoned animal burrows. This species often takes refuge in large hollow logs and	Low - There are no records of this species within the Study area. There is no suitable habitat within the Project Site.

Scientific name	Common name	NC Act	EPBC Act	Source	Ecology	Likelihood of occurrence justification
					has been known to excavate deep burrow systems, sometimes under dense ground vegetation. In cleared habitat, it can persist where there are shelter sites such as raked log piles, deep gullies, tunnel erosion/sinkholes and rabbit warrens (DSITIA, 2014).	
<i>Eseya albagula</i>	southern snapping turtle	CE	CE	PMST	This species is found in Queensland in the Fitzroy, Mary and Burnett Rivers, and associated smaller drainages in southeastern Queensland (Todd et al., 2013). This species prefers clear, flowing, well-oxygenated waters but can be found in non-flowing areas.	Low - There are no records of this species within the Study area There is no suitable habitat within the Project Site.
<i>Furina dunmali</i>	Dunmall's snake	V	V	PMST	This species occurs primarily in the Brigalow Belt region in the south-eastern interior of Queensland. Records indicate this species occupies sites at elevations between 200 and 500 m ASL. This species is very rare or secretive with limited records existing. This species has been found in a broad range of habitats, including; forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow, other wattles, native Cypress or Bull-oak, and various Blue Spotted Gum, Ironbark, White Cypress Pine and Bull-oak open forest and woodland association on sandstone derived soils (DCCEEW, 2025b).	Low - There are no record of this species in the Study area. There is marginal habitat with some cracking black soil present within the Project Site but are heavily disturbed by cattle.
<i>Hemiaspis damelii</i>	grey snake	E	E	PMST	The species is endemic to eastern Australia and is most commonly found across central inland New South Wales through to the interior of south-eastern Queensland. Floodplains and ephemeral wetlands associated with heavy clay soils are key habitat features for the grey snake. This species shelters in soil cracks, rocks, logs, flood debris, and abandoned burrows within these habitats. The grey snake has not been sighted in dry phase wetlands, suggesting its detectability and activity patterns may be related to wetland inundation regimes and suitable weather conditions (DCCEEW, 2025b).	Low - There are no record of this species in the Study area. There is marginal habitat with some cracking black soil present within the Project Site but are heavily disturbed by cattle.
<i>Lerista allanae</i>	Allan's lerista	E	E	PMST	The range of this species is believed to occur within the Clermont area in eastern Central Queensland. It is known only from black soil downs of the Oxford land system in the Brigalow Belt North Biogeographic Region (DCCEEW, 2025b).	Low - There are no record of this species in the Study area. There is marginal habitat with some cracking black soil present within the Project Site but are heavily disturbed by cattle.
<i>Rheodytes leukops</i>	Fitzroy River turtle	E	E	PMST	This species is only found in the drainage system of the Fitzroy River, Queensland. Known sites include Coolburra, Gainsford, Glenroy Crossing, Theodore, Baralba, the Mackenzie River, the Connors River, Duaringa, Marlborough Creek and Gogango. This species is found in rivers with large deep pools with rocks, gravelly or sandy substrates, connected by shallow riffles. Preferred areas have high water clarity, and are often associated with Ribbonweed beds (DCCEEW, 2025b).	Low - There are no records of this species within the Study area There is no suitable habitat within the Project Site.

Appendix E Regional Ecosystem Verification Survey Results

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd


SLR Project No.: 620.043318.00001

25 May 2026




E.1 2025 September survey results

BC1

Vegetation Community Description	Non-remnant	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation		
Ecologically Dominant Layer (EDL)	S1	
EDL height (average)	0.75 m	
EDL Crown cover class	6.1%	
Landform	Plain	
Geology	Clay	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Acacia harpophylla, Alectryon diversifolius, Capparis anomala, Capparis lasiantha, Carissa ovata, Citrus glauca, Harrisia martinii, Lysiphyllum carronii, Maireana microphylla, Terminalia oblongata.</i>	
Ground layer dominant species	<i>Bothriochloa pertusa, Cenchrus ciliaris, Chloris divaricata var. divaricata, Clematicissus opaca, Dichanthium sericeum, Einadia nutans, Enchylaena tomentosa, Eremophila debilis, Euphorbia coghlanii, Evolvulus alsinoides, Parsonsia lanceolata, Parthenium hysterophorus, Senecio brigalowensis, Sporobolus caroli, Urochloa mosambicensis.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Rubbish, light grazing, timber cutting, animal tracks.	
TEC	N/A	


BC2

Vegetation Community Description	Non-remnant	
RE	N/A	
Remnant status	Non-remnant	


Vegetation Community Description	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation		
Ecologically Dominant Layer (EDL)	S1	
EDL height (average)	0.5 m	
EDL Crown cover class	4.8%	
Landform	Plain	
Geology	Clay	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Acacia harpophylla, Capparis lasiantha, Carissa ovata, Citrus glauca, Harrisia martinii, Opuntia tomentosa, Terminalia oblongata.</i>	
Ground layer dominant species	<i>Alternanthera denticulata, Bothriochloa pertusa, Calotis cuneata, Cenchrus ciliaris, Clematicissus opaca, Cyperaceae sp., Desmodium sp., Enchylaena tomentosa, Euchiton involucratus, Goodenia glabra, Jasminum didymum, Melinis repens, Neptunia gracilis, Parthenium hysterophorus, Polymeria longifolia, Polymeria pusilla, Rhynchosia minima, Rostellularia adscendens, Sporobolus caroli.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Heavy grazing, timber cutting.	
TEC	N/A	

BC3

Vegetation Community Description	Non-remnant	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation		


Vegetation Community Description	Non-remnant	
Ecologically Dominant Layer (EDL)	G	
EDL height (average)	N/A	
EDL Crown cover class	0.2%	
Landform	Mid slope	
Geology	Fine sedimentary	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Harrisia martinii</i>	
Ground layer dominant species	<i>Asteraceae sp.</i> , <i>Boerhavia dominii</i> , <i>Bothriochloa pertusa</i> , <i>Calotis cuneata</i> , <i>Cenchrus ciliaris</i> , <i>Evolvulus alsinoides</i> , <i>Gomphrena celosioides</i> , <i>Indigofera linnaei</i> , <i>Neptunia gracilis</i> , <i>Parthenium hysterophorus</i> , <i>Rhynchosia minima</i> , <i>Senecio brigalowensis</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> .	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Heavy grazing, timber cutting, animal tracks.	
TEC	N/A	

BC4

Vegetation Community Description	Non-remnant	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation		
Ecologically Dominant Layer (EDL)	G	
EDL height (average)	0.75 m	
EDL Crown cover class	1.8%	

Vegetation Community Description	Non-remnant	
Landform	Mid slope	
Geology	Clay	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Capparis lasiantha, Carissa ovata, Citrus glauca, Harrisia martinii, Owenia acidula, Terminalia oblongata.</i>	
Ground layer dominant species	<i>Alternanthera denticulata, Bothriochloa pertusa, Brunoniella australis, Calotis cuneata, Cenchrus ciliaris, Chloris divaricata var. divaricata, Einadia nutans, Enchylaena tomentosa, Eremophila debilis, Euchiton involucratus, Evolvulus alsinoides, Gomphrena celosioides, Hibiscus brachysiphonius, Leguminosae sp., Neptunia gracilis, Ocimum tenuiflorum, Parthenium hysterophorus, Phyllanthus virgatus, Ptilotus sp., Rhynchosia minima, Senecio brigalowensis, Sporobolus caroli, Stylosanthes scabra, Urochloa mosambicensis, Wahlenbergia sp.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Heavy grazing, timber cutting, animal tracks.	
TEC	N/A	

BC5

Vegetation Community Description	Non-remnant	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation		
Ecologically Dominant Layer (EDL)	G	
EDL height (average)	0.5 m	
EDL Crown cover class	4.5%	
Landform		
Geology	Clay	

Vegetation Community Description	Non-remnant
RE short description	N/A
Dominant emergent layer species	N/A
Tree 1 layer dominant species	N/A
Shrub layer dominant species	<i>Acacia harpophylla</i> , <i>Capparis lasiantha</i> , <i>Cassia brewsteri</i> , <i>Eustrephus latifolius</i> , <i>Lysiphyllum carronii</i> , <i>Terminalia oblongata</i> .
Ground layer dominant species	<i>Bothriochloa pertusa</i> , <i>Brunoniella australis</i> , <i>Cenchrus ciliaris</i> , <i>Centipeda minima</i> , <i>Dichanthium fecundum</i> , <i>Dichanthium sericeum</i> , <i>Euchiton involucratus</i> , <i>Heliotropium sp.</i> , <i>Jasminum didymum</i> , <i>Marsdenia sp.</i> , <i>Neptunia gracilis</i> , <i>Ocimum tenuiflorum</i> , <i>Oxalis radicata</i> , <i>Panicum queenslandicum</i> , <i>Parsonsia lanceolata</i> , <i>Parthenium hysterophorus</i> , <i>Paspalidium sp.</i> , <i>Phyllanthus virgatus</i> , <i>Pimelea decora</i> , <i>Polymeria longifolia</i> , <i>Polymeria pusilla</i> , <i>Pterocaulon sp.</i> , <i>Rhynchosia minima</i> , <i>Senecio brigalowensis</i> , <i>Sonchus oleraceus</i> , <i>Ventilago viminalis</i> , <i>Wahlenbergia sp.</i>
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Heavy grazing, timber cutting, animal tracks.
TEC	N/A


BC6

Vegetation Community Description	Non-remnant
RE	N/A
Remnant status	Non-remnant
RE VM Class	N/A
Vegetation structure formation	
Ecologically Dominant Layer (EDL)	G
EDL height (average)	1 m
EDL Crown cover class	3.4%
Landform	Stream
Geology	Clay
RE short description	N/A
Dominant emergent layer species	N/A



Vegetation Community Description	Non-remnant
Tree 1 layer dominant species	N/A
Shrub layer dominant species	<i>Acacia harpophylla</i> , <i>Acacia salicina</i> , <i>Atalaya hemiglauca</i> , <i>Capparis lasiantha</i> , <i>Harrisia martinii</i> , <i>Lysiphyllum carronii</i> , <i>Terminalia oblongata</i> .
Ground layer dominant species	<i>Abutilon fraseri</i> , <i>Acanthaceae sp.</i> , <i>Alternanthera denticulata</i> , <i>Bothriochloa pertusa</i> , <i>Calotis cuneata</i> , <i>Cenchrus ciliaris</i> , <i>Centipeda minima</i> , <i>Cyperaceae sp.</i> , <i>Datura leichhardtii</i> , <i>Dichanthium sericeum</i> , <i>Enchylaena tomentosa</i> , <i>Eragrostis sp.</i> , <i>Euchiton involucratus</i> , <i>Iseilema vaginiflorum</i> , <i>Leguminosae sp.</i> , <i>Lindernia sp.</i> , <i>Malvastrum americanum</i> .
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Heavy grazing, timber cutting, animal tracks.
TEC	N/A

BC7

Vegetation Community Description	Non-remnant	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation		
Ecologically Dominant Layer (EDL)		G
EDL height (average)		0.7 m
EDL Crown cover class		5.2%
Landform		Plain
Geology		Fine sedimentary
RE short description		N/A
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Acacia harpophylla</i> , <i>Acacia salicina</i> , <i>Alectryon diversifolius</i> , <i>Atalaya hemiglauca</i> , <i>Capparis lasiantha</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Citrus glauca</i> , <i>Flindersia dissosperma</i> , <i>Grewia</i>	

Vegetation Community Description	Non-remnant
	<i>savannicola</i> , <i>Harrisia martinii</i> , <i>Heliodendron basalticum</i> , <i>Ventilago viminalis</i> .
Ground layer dominant species	<i>Abutilon fraseri</i> , <i>Aristida</i> sp., <i>Asteraceae</i> sp., <i>Bothriochloa pertusa</i> , <i>Brunoniella australis</i> , <i>Cenchrus ciliaris</i> , <i>Chloris divaricata</i> var. <i>divaricata</i> , <i>Dichanthium sericeum</i> , <i>Einadia nutans</i> , <i>Enchylaena tomentosa</i> , <i>Eremophila debilis</i> , <i>Evolvulus alsinoides</i> , <i>Indigofera linifolia</i> , <i>Indigofera linnaei</i> , <i>Iseilema vaginiflorum</i> , <i>Leguminosae</i> sp., <i>Parthenium hysterophorus</i> .
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Heavy grazing, timber cutting, fire.
TEC	N/A


BC8

Vegetation Community Description	Non-remnant
RE	N/A
Remnant status	Non-remnant
RE VM Class	N/A
Vegetation structure formation	
Ecologically Dominant Layer (EDL)	G
EDL height (average)	0.8 m
EDL Crown cover class	1.9%
Landform	Mid slope
Geology	Clay
RE short description	N/A
Dominant emergent layer species	N/A
Tree 1 layer dominant species	N/A
Shrub layer dominant species	<i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Eustrephus latifolius</i> , <i>Grewia savannicola</i> , <i>Harrisia martinii</i> , <i>Heliodendron basalticum</i> , <i>Owenia acidula</i> , <i>Sida hackettiana</i> , <i>Terminalia oblongata</i> .
Ground layer dominant species	<i>Aristida</i> sp., <i>Asteraceae</i> sp., <i>Bothriochloa pertusa</i> , <i>Brunoniella australis</i> , <i>Calotis cuneata</i> , <i>Cenchrus ciliaris</i> , <i>Chrysocephalum apiculatum</i> , <i>Crotalaria</i> sp., <i>Eremophila debilis</i> , <i>Evolvulus alsinoides</i> , <i>Heteropogon contortus</i> , <i>Hibiscus brachysiphonius</i> ,



Vegetation Community Description	Non-remnant
	<i>Indigofera linifolia</i> , <i>Iseilema vaginiflorum</i> , <i>Jasminum didymum</i> , <i>Leguminosae sp.</i> , <i>Malvastrum americanum</i> .
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Vehicle track, heavy grazing, timber cutting, fire.
TEC	N/A


BC9

Vegetation Community Description	RE 11.3.3	
RE	11.3.3	
Remnant status	Remnant	
RE VM Class	Of concern	
Vegetation structure formation	Open woodland	
Ecologically Dominant Layer (EDL)	T1	
EDL height (average)	14.8 m	
EDL Crown cover class	19.9%	
Landform	Plain	
Geology	Clay	
RE short description	Eucalyptus coolabah open woodland on alluvial plains.	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	<i>Eucalyptus coolabah</i>	
Shrub layer dominant species	<i>Acacia salicina</i> , <i>Harrisia martinii</i> .	
Ground layer species	<i>Ammannia multiflora</i> , <i>Asteraceae sp.</i> , <i>Bothriochloa pertusa</i> , <i>Calotis cuneata</i> , <i>Cyperaceae sp.</i> , <i>Dichanthium sericeum</i> , <i>Eragrostis sp.</i> , <i>Euchiton involucratus</i> , <i>Euphorbia drummondii</i> , <i>Iseilema vaginiflorum</i> , <i>Leguminosae sp.</i> , <i>Lindernia sp.</i> , <i>Marseila sp.</i> , <i>Neptunia gracilis</i> , <i>Panicum queenslandicum</i> , <i>Parthenium hysterophorus</i> , <i>Polymeria longifolia</i> , <i>Rhynchosia minima</i> , <i>Sonchus oleraceus</i> , <i>Stylosanthes scabra</i> .	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	

Vegetation Community Description	<i>RE 11.3.3</i>
Disturbance Notes	Timber cutting, vehicle track, animal tracks, heavy grazing
TEC	N/A


E.2 Surveys completed prior to 2025

Q1 Field-data

Vegetation Community Description	Non-remnant (Brigalow)	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation	Grassland and brigalow regrowth	
Ecologically Dominant Layer (EDL)	S1	
EDL height (average)	2 m	
EDL Crown cover class	45%	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Acacia harpophylla. Lysiphylum. Terminalia oblongifolia. Atalaya hemiglauca.</i>	
Ground layer dominant species	<i>Cenchrus ciliaris. Bothriochloia sp.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Evidence of ongoing grazing.	
TEC	N/A	


Q32 Field-data

Vegetation Community Description	Non-remnant (Brigalow)	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	


Vegetation Community Description	<i>Non-remnant (Brigalow)</i>	
Vegetation structure formation	Grassland and brigalow regrowth	
EDL	T1	
EDL height (average)	6 m	
EDL Crown cover class	5%	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	<i>Eucalyptus orgadophila</i>	
Tree 2 layer dominant species	<i>Acacia harpophylla</i>	
Shrub 1 layer dominant species	<i>Archeondemdropsis basilica</i>	
Shrub 2 layer dominant species	<i>Carissa ovata</i>	
Ground layer dominant species	<i>Aristida sp.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Evidence of ongoing grazing.	
TEC	N/A	

Q33 Field-data

Vegetation Community Description	<i>Non-remnant (Brigalow)</i>	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation	Grassland and brigalow regrowth	
EDL	T1	


Vegetation Community Description	Non-remnant (Brigalow)	
EDL height (average)	4 m	
EDL Crown cover class	50%	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	<i>Acacia harpophylla</i>	
Shrub 1 layer dominant species	<i>Acacia harpophylla</i>	
Ground layer dominant species	<i>Cenchrus ciliaris</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Evidence of ongoing grazing.	
TEC	N/A	

Q36 Field-data

Vegetation Community Description	Non-remnant (Brigalow)	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation	Grassland and brigalow regrowth	
EDL	S1	
EDL height (average)	1.5 m	
EDL Crown cover class	45%	

Vegetation Community Description	Non-remnant (Brigalow)	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Acacia harpophylla</i> , <i>Terminalia oblongifolia</i> , <i>Lysiphylum sp.</i>	
Ground layer dominant species	<i>Cenchrus ciliaris</i> , <i>Aristida sp.</i> , <i>Bothriochloia sp.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Evidence of ongoing grazing and ground cover dominated by pastoral grasses.	
TEC	N/A	

Q61 Field-data

Vegetation Community Description	Non-remnant (Brigalow)	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation	Grassland and cleared regrowth	
EDL	S1	
EDL height (average)	1 m	
EDL Crown cover class	40%	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	<i>Eucalyptus populnea</i>	


Vegetation Community Description	Non-remnant (Brigalow)
Shrub layer dominant species	<i>Acacia harpophylla</i> .
Ground layer dominant species	<i>Aristida sp.</i>
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Evidence of ongoing grazing. Many of the <i>E. populnea</i> are dead.
TEC	N/A

Q62 Field-data

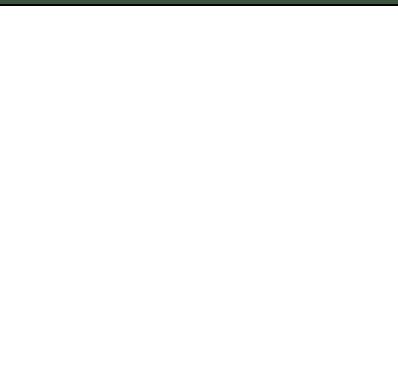
Vegetation Community Description	Non-remnant (Brigalow)
RE	NA
Remnant status	Non-remnant
RE VM Class	NA
Vegetation structure formation	Open woodland
EDL	T1
EDL height (average)	7 m
EDL Crown cover class	1%
Landform	Flat
Soil type	Alluvium
Geology	Alluvium deposits
RE short description	N/A
Dominant emergent layer species	N/A
Tree 1 layer dominant species	<i>Eucalyptus orgadophila</i>
Shrub layer dominant species	N/A
Ground layer dominant species	<i>Bothriochloa pertusa, Cenchrus ciliaris</i>
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Evidence of ongoing grazing. Most of the <i>E. orgadophila</i> are dead.
TEC	N/A




Q63 Field-data


Vegetation Community Description	Non-remnant (Brigalow)	
RE	NA	
Remnant status	Non-remnant	
RE VM Class	NA	
Vegetation structure formation	Grassland and brigalow regrowth	
EDL	S1	
EDL height (average)	4 m	
EDL Crown cover class	1%	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	NA	
Shrub layer dominant species	<i>Acacia harpophylla, Terminalia oblongata, Acacia salicina</i>	
Ground layer dominant species	<i>Aristida sp.</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Evidence of ongoing grazing.	
TEC	N/A	

T17 Field-data

Vegetation Community Description	Non-remnant (Brigalow)	
RE	N/A	
Remnant status	Non-remnant	
RE VM Class	N/A	
Vegetation structure formation	Grassland and brigalow woodland regrowth	
EDL	S1	
EDL height (average)	3 m	

Vegetation Community Description	<i>Non-remnant (Brigalow)</i>	
EDL Crown cover class	55%	
Landform	Flat	
Soil type	Alluvium	
Geology	Alluvium deposits, Cainozoic clay	
RE short description	N/A	
Dominant emergent layer species	N/A	
Tree 1 layer dominant species	N/A	
Shrub layer dominant species	<i>Terminalia oblongata, Atalaya hemiglauca</i>	
Ground layer dominant species	<i>Sporobolus caroli, Aristida sp., Astrebla squarrosa</i>	
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A	
Disturbance Notes	Evidence of ongoing grazing.	
TEC	N/A	

T18 Field-data

Vegetation Community Description	<i>Non-remnant (Brigalow)</i>		
RE	N/A		
Remnant status	Non-remnant		
RE VM Class	N/A		
Vegetation structure formation	Grassland and brigalow woodland regrowth		
EDL	S1		
EDL height (average)	1.5 m		
EDL Crown cover class	35%		
Landform	Flat		

Vegetation Community Description	<i>Non-remnant (Brigalow)</i>
Soil type	Alluvium
Geology	Alluvium deposits
RE short description	N/A
Dominant emergent layer species	N/A
Tree 1 layer dominant species	NA
Shrub layer dominant species	<i>Flindersia dissosperma, Citrus glauca, Carissa ovata, Terminalia oblongata</i>
Ground layer dominant species	<i>Aristida sp.</i>
Invasive Plants (<i>Biosecurity Act 2014</i>)	N/A
Disturbance Notes	Evidence of ongoing grazing.
TEC	N/A

Appendix F Flora species recorded within the Project Site and immediately adjacent area

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026



Table F1 Flora species recorded within and surrounding the Project Site and immediately adjacent area during current and previous surveys

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Acanthaceae	<i>Brunoniella australis</i>	blue trumpet	X	X
LC	-		Acanthaceae	<i>Rostellularia adscendens</i>	pink tongues	X	X
LC	-		Amaranthaceae	<i>Achyranthes aspera</i>	chaffweed	X	X
LC	-		Amaranthaceae	<i>Alternanthera denticulata</i>	lesser joyweed		X
-	-	Y	Amaranthaceae	<i>Gomphrena celosioides</i>	gomphrena weed	X	X
LC	-		Amaranthaceae	<i>Ptilotus</i> sp.	-	X	X
SLC	-		Amaryllidaceae	<i>Crinum flaccidum</i>	darling lily	X	X
LC	-		Apocynaceae	<i>Carissa ovata</i>	currant bush	X	X
	-		Apocynaceae	<i>Apocynaceae</i> sp.			X
LC	-		Apocynaceae	<i>Parsonsia lanceolata</i>	rough silkpod	X	X
LC	-		Asteraceae	<i>Calotis cuneata</i>			X
LC	-		Asteraceae	<i>Centipeda minima</i>	sneezeweed	X	X
LC	-		Asteraceae	<i>Chrysocephalum apiculatum</i>			X
LC	-		Asteraceae	<i>Euchiton involucratus</i>			X
-	-	Y**	Asteraceae	<i>Parthenium hysterophorus</i>	parthenium	X	X
	-		Asteraceae	<i>Pterocaulon</i> sp.			X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Asteraceae	<i>Senecio brigalowensis</i>			X
-	-	Y	Asteraceae	<i>Sonchus oleraceus</i>			X
-	-	Y	Asteraceae	<i>Xanthium occidentale</i>	Noogoora burr	X	
	-		Boraginaceae	<i>Heliotropium</i> sp.			X
-	-	Y*	Cactaceae	<i>Harrisia martinii</i>	Harrisia cactus	X	X
-	-	Y**	Cactaceae	<i>Opuntia tomentosa</i>	velvety tree pear		X
SLC	-		Campanulaceae	<i>Wahlenbergia gracilis</i>	spreading bluebell	X	X
LC	-		Campanulaceae	<i>Wahlenbergia</i> sp.			X
LC	-		Capparaceae	<i>Capparis anomala</i>	warrior bush	X	X
LC	-		Capparaceae	<i>Capparis lasiantha</i>	wait-a-while	X	X
LC	-		Capparaceae	<i>Capparis</i> sp.	mock orange	X	
LC	-		Casuarinaceae	<i>Casuarina cunninghamiana</i>	river she-oak	X	
LC	-		Celastraceae	<i>Denhamia cunninghamii</i>	yellowberry bush	X	
LC	-		Chenopodiaceae	<i>Einadia nutans</i>	climbing saltbush	X	X
LC	-		Chenopodiaceae	<i>Enchylaena tomentosa</i>	ruby saltbush	X	X
LC	-		Chenopodiaceae	<i>Maireana decalvans</i>	black cotton-bush	X	X
LC	-		Chenopodiaceae	<i>Maireana microphylla</i>			X
LC	-		Combretaceae	<i>Terminalia oblongata</i>	yellow wood	X	X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Commelinaceae	<i>Commelina ensifolia</i>	scurvy weed	X	
LC	-		Convolvulaceae	<i>Evolvulus alsinoides</i>			X
LC	-		Convolvulaceae	<i>Polymeria longifolia</i>			X
LC	-		Convolvulaceae	<i>Polymeria pusilla</i>			X
-	-	Y	Cyperaceae	<i>Cyperus compressus</i>	sedge	X	
LC	-		Cyperaceae	<i>Eleocharis philippinensis</i>	spikerush	X	
LC	-		Erythroxylaceae	<i>Erythroxylum australe</i>	cocaine bush	X	X
LC	-		Euphorbiaceae	<i>Euphorbia coghlanii</i>			X
LC	-		Euphorbiaceae	<i>Euphorbia drummondii</i>			X
-	-	Y	Euphorbiaceae	<i>Ricinus communis</i>	castor oil plant	X	
LC	-		Gentianaceae	<i>Schenkia australis</i>			X
LC	-		Goodeniaceae	<i>Goodenia glabra</i>			X
LC	-		Hemerocallidaceae	<i>Dianella longifolia</i>	blue flax-lily	X	X
LC	-		Lamiaceae	<i>Ocimum tenuiflorum</i>	native basil	X	X
LC	-		Laxmanniaceae	<i>Eustrephus latifolius</i>	wombat berry	X	X
LC	-		Leguminosae	<i>Acacia excelsa</i>	ironwood	X	X
LC	-		Leguminosae	<i>Acacia harpophylla</i>	brigalow	X	X
LC	-		Leguminosae	<i>Acacia salicina</i>	sally wattle	X	X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Leguminosae	<i>Acacia victoriae</i>	elegant wattle	X	
LC	-		Leguminosae	<i>Cassia brewsteri</i>	Leichhardt bean	X	X
	-		Leguminosae	<i>Crotalaria</i> sp.			X
	-		Leguminosae	<i>Desmodium</i> sp.			X
LC	-		Leguminosae	<i>Heliodendron basalticum</i>	dead finish	X	X
LC	-		Leguminosae	<i>Indigofera linifolia</i>	narrow-leaved indigo	X	X
LC	-		Leguminosae	<i>Indigofera linnaei</i>			X
-	-	Y	Leguminosae	<i>Leucaena leucocephala</i>	leucaena	X	
LC	-		Leguminosae	<i>Lysiphyllum carronii</i>	red bauhinia		X
LC	-		Leguminosae	<i>Lysiphyllum hookeri</i>	hookers bauhinia	X	X
LC	-		Leguminosae	<i>Neptunia gracilis</i>	native sensitive weed	X	X
LC	-		Leguminosae	<i>Rhynchosia minima</i>	rhyncho	X	X
-	-	Y	Leguminosae	<i>Stylosanthes scabra</i>	stylo	X	X
	-		Linderniaceae	<i>Lindernia</i> sp.			X
LC	-		Loranthaceae	<i>Amyema quandang</i>	grey mistletoe	X	
LC	-		Lythraceae	<i>Ammannia multiflora</i>	jerry-jerry		X
LC	-		Malvaceae	<i>Abutilon fraseri</i>	dwarf lantern flower		X
LC	-		Malvaceae	<i>Abutilon hannii</i>	-	X	

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Malvaceae	<i>Hibiscus brachysiphonius</i>			X
-	-	Y	Malvaceae	<i>Malvastrum americanum</i>			X
-	-	Y	Malvaceae	<i>Sida acuta</i>	—	X	X
-	-	Y	Malvaceae	<i>Sida cordifolia</i>	flannel weed	X	
LC	-		Malvaceae	<i>Sida hackettiana</i>			X
-	-	Y	Malvaceae	<i>Sida rhombifolia</i>	-	X	X
LC	-		Marsileaceae	<i>Marsilea mutica</i>	shiny nardoo	X	
	-		Marsileaceae	<i>Marsilea</i> sp.			X
LC	-		Meliaceae	<i>Owenia acidula</i>	emu bush	X	X
LC	-		Molluginaceae	<i>Glinus lotoides</i>	hairy carpet weed	X	
LC	-		Moraceae	<i>Ficus opposita</i>	sandpaper fig	X	
LC	-		Myrtaceae	<i>Blakella dallachiana</i>	Dallachy's gum	X	
LC	-		Myrtaceae	<i>Corymbia erythrophloia</i>	red bloodwood	X	
LC	-		Myrtaceae	<i>Eucalyptus cambageana</i>	blackbutt	X	
LC	-		Myrtaceae	<i>Eucalyptus coolabah</i>	coolabah	X	
LC	-		Myrtaceae	<i>Eucalyptus crebra</i>	narrow-leaved ironbark	X	
LC	-		Myrtaceae	<i>Eucalyptus orgadophila</i>	mountain coolabah	X	X
LC	-		Myrtaceae	<i>Eucalyptus populnea</i>	poplar box	X	X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Myrtaceae	<i>Eucalyptus tereticornis</i>	forest red gum	X	
LC	-		Myrtaceae	<i>Melaleuca bracteata</i>	black teatree	X	
LC	-		Myrtaceae	<i>Melaleuca fluviatilis</i>	weeping teatree	X	
LC	-		Myrtaceae	<i>Melaleuca linariifolia</i>	narrow-leaved honey myrtle	X	
LC	-		Nyctaginaceae	<i>Boerhavia dominii</i>	tarvine		X
LC	-		Oleaceae	<i>Jasminum didymum</i>	native jasmine	X	X
LC	-		Oxalidaceae	<i>Oxalis radicata</i>			X
LC	-		Pentapetaceae	<i>Melhania oblongifolia</i>	velvet hibiscus	X	X
LC	-		Phyllanthaceae	<i>Breynia oblongifolia</i>	coffee bush	X	
LC	-		Phyllanthaceae	<i>Phyllanthus</i> sp.	Phyllanthus	X	X
LC	-		Phyllanthaceae	<i>Phyllanthus virgatus</i>			X
LC	-		Picrodendraceae	<i>Petalostigma pubescens</i>	quinine bush	X	X
LC	-		Poaceae	<i>Aristida calycina</i>	dark wiregrass	X	X
LC	-		Poaceae	<i>Aristida latifolia</i>	feathertop wiregrass	X	X
LC	-		Poaceae	<i>Aristida leptopoda</i>	white speargrass	X	X
LC	-		Poaceae	<i>Aristida personata</i>	purple wiregrass	X	X
LC	-		Poaceae	<i>Aristida</i> sp.	wiregrass sp.		X
LC	-		Poaceae	<i>Astrebla squarrosa</i>	bull Mitchell grass	X	X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
-	-	Y	Poaceae	<i>Bothriochloa pertusa</i>	indian bluegrass	X	X
-	-	Y	Poaceae	<i>Cenchrus ciliaris</i>	buffel grass	X	X
LC	-		Poaceae	<i>Chloris divaricata</i> var. <i>divaricata</i>			X
LC	-		Poaceae	<i>Dichanthium fecundum</i>	bluegrass	X	X
LC	-		Poaceae	<i>Dichanthium sericeum</i>	Queensland bluegrass	X	X
LC	-		Poaceae	<i>Digitaria ammophila</i>	silky umbrella grass	X	
LC	-		Poaceae	<i>Enneapogon lindleyanus</i>	wiry nineawn	X	X
LC	-		Poaceae	<i>Enneapogon truncatus</i>	nineawn		X
LC	-		Poaceae	<i>Enteropogon acicularis</i>	umbrella grass	X	X
LC	-		Poaceae	<i>Eragrostis sororia</i>	woodland lovegrass	X	
LC	-		Poaceae	<i>Eragrostis</i> sp.			X
LC	-		Poaceae	<i>Eragrostis tenellula</i>	delicate lovegrass	X	
LC	-		Poaceae	<i>Eriochloa crebra</i>	tall cupgrass	X	
LC	-		Poaceae	<i>Eriochloa procera</i>	slender cupgrass	X	
LC	-		Poaceae	<i>Eulalia aurea</i>	silky browntop	X	
LC	-		Poaceae	<i>Heteropogon contortus</i>	black speargrass	X	X
LC	-		Poaceae	<i>Iseilema vaginiflorum</i>	red flinders Grass	X	X
LC	-		Poaceae	<i>Leptochloa digitata</i>	umbrella canegrass	X	X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
-	-	Y	Poaceae	<i>Melinis repens</i>	red natal grass	X	X
-	-	Y	Poaceae	<i>Panicum coloratum</i>	blue panic	X	
LC	-		Poaceae	<i>Panicum decompositum</i>	Australian millet	X	
LC	-		Poaceae	<i>Panicum queenslandicum</i>			X
LC	-		Poaceae	<i>Paspalidium caespitosum</i>	brigalow grass	X	
LC	-		Poaceae	<i>Paspalidium</i> sp.			X
LC	-		Poaceae	<i>Sporobolus caroli</i>	fairy grass	X	X
LC	-		Poaceae	<i>Thellungia advena</i>	coolabah grass		
LC	-		Poaceae	<i>Themeda triandra</i>	kangaroo grass	X	
-	-	Y	Poaceae	<i>Urochloa mosambicensis</i>	sabi grass	X	X
-	-	Y	Portulacaceae	<i>Portulaca oleracea</i>	pigweed	X	X
LC	-		Proteaceae	<i>Grevillea striata</i>	beefwood	X	X
LC	-		Proteaceae	<i>Hakea lorea</i>	bootlace oak	X	X
LC	-		Rhamnaceae	<i>Alphitonia excelsa</i>	red ash	X	X
LC	-		Rhamnaceae	<i>Ventilago viminalis</i>			X
LC	-		Rubiaceae	<i>Psydrax odorata</i>	shiny-leaved canthium	X	
LC	-		Rutaceae	<i>Citrus glauca</i>	lime bush	X	X
LC	-		Rutaceae	<i>Flindersia dissosperma</i>	scrub leopardwood	X	X

Status			Family	Scientific name	Common name	RE	
NC Act	EPBC Act	Non-native				Previous survey (2021-2023)	September 2025
LC	-		Rutaceae	<i>Geijera parviflora</i>	wilga	X	
LC	-		Rutaceae	<i>Geijera salicifolia</i>	scrub wilga	X	X
SLC	-		Santalaceae	<i>Santalum lanceolatum</i>	sandalwood	X	
LC	-		Sapindaceae	<i>Alectryon diversifolius</i>	scrub boonaree		X
LC	-		Sapindaceae	<i>Alectryon oleifolius</i>	Boonaree	X	X
LC	-		Sapindaceae	<i>Atalaya hemiglauca</i>	whitewood	X	X
LC	-		Scrophulariaceae	<i>Eremophila debilis</i>	winter apple	X	X
-	-	Y	Solanaceae	<i>Datura leichhardtii</i>			X
LC	-		Solanaceae	<i>Solanum esuriale</i>	quena	X	X
LC	-		Sparrmanniaceae	<i>Grewia savannicola</i>	rough grewia	X	X
SLC	-		Sterculiaceae	<i>Brachychiton australis</i>	broad-leaved bottle tree	X	X
LC	-		Thymelaeaceae	<i>Pimelea decora</i>			X
-	-	Y**	Verbenaceae	<i>Lantana camara</i>	lantana	X	
LC	-		Vitaceae	<i>Clematicissus opaca</i>			X

NC Act Status: LC = least concern, SLC = special least concern.

*= Category 3 restricted weed under the *Biosecurity Act 2014*, **= Category 3 restricted weed under the *Biosecurity Act 2014* and WoNS

Appendix G Fauna species recorded within the Project Site and immediate vicinity

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026



Table G1 Fauna species recorded within and surrounding the Project Site during current and previous surveys

Status			Scientific name	Common name	Survey period	
NC Act	EPBC Act	Non-native			2021-2023	2025
Amphibians						
LC	-		<i>Cyclorana novaehollandiae</i>	eastern snapping frog	X	
LC	-		<i>Limnodynastes convexiusculus</i>	marbled marsh frog	X	
LC	-		<i>Litoria caerulea</i>	green tree frog	X	X
LC	-		<i>Litoria inermis</i>	bumpy rocket frog	X	X
-	-	*	<i>Rhinella marina</i>	cane toad	X	X
Birds						
LC	-		<i>Acanthagenys rufogularis</i>	spiny-cheeked honeyeater		X
LC	-		<i>Acanthiza nana</i>	yellow thornbill	X	
LC	-		<i>Accipiter cirrocephalus</i>	collared sparrowhawk	X	
-	-	*	<i>Acridotheres tristis</i>	common myna		X
LC	-		<i>Aegotheles cristatus</i>	Australian owlet-nightjar		X
LC	-		<i>Anas gracilis</i>	grey teal	X	
LC	-		<i>Anas superciliosa</i>	pacific black duck	X	X
LC	-		<i>Anthus novaeseelandiae</i>	Australian pipit	X	X
LC	-		<i>Aprosmictus erythropterus</i>	red-winged parrot	X	X
LC	-		<i>Aquila audax</i>	wedge-tailed eagle	X	X
LC	-		<i>Ardea pacifica</i>	white-necked heron	X	
LC	-		<i>Ardeotis australis</i>	Australian bustard	X	X
LC	-		<i>Artamus cinereus</i>	black-faced woodswallow	X	X
LC	-		<i>Cacatua galerita</i>	sulphur-crested cockatoo	X	X
LC	-		<i>Cacatua sanguinea</i>	little corella	X	X
LC	-		<i>Cacomantis pallidus</i>	pallid cuckoo		X
LC	-		<i>Centropus phasianinus</i>	pheasant coucal	X	
LC	-		<i>Chenonetta jubata</i>	Australian wood duck		X
LC	-		<i>Cincloramphus cruralis</i>	brown songlark		X
LC	-		<i>Colluricincla harmonica</i>	grey shrike-thrush		X
LC	-		<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	X	X
LC	-		<i>Corcorax melanorhamphos</i>	white-winged chough	X	

Status			Scientific name	Common name	Survey period	
NC Act	EPBC Act	Non-native			2021-2023	2025
LC	-		<i>Corvus coronoides</i>	Australian raven	X	
LC	-		<i>Corvus orru</i>	Torresian crow	X	X
LC	-		<i>Coturnix pectoralis</i>	stubble quail	X	
LC	-		<i>Cracticus nigrogularis</i>	pie'd butcherbird	X	X
LC	-		<i>Cracticus tibicen</i>	Australian magpie	X	X
LC	-		<i>Cracticus torquatus</i>	grey butcherbird	X	X
LC	-		<i>Dacelo leachii</i>	blue-winged kookaburra		X
LC	-		<i>Dacelo novaeguineae</i>	laughing kookaburra	X	X
LC	-		<i>Dicaeum hirundinaceum</i>	mistletoebird		X
LC	-		<i>Dicrurus bracteatus</i>	spangled drongo	X	X
LC	-		<i>Dromaius novaehollandiae</i>	emu		X
LC	-		<i>Egretta novaehollandiae</i>	white-faced heron	X	X
LC	-		<i>Elanus axillaris</i>	black-shouldered kite		X
LC	-		<i>Entomyzon cyanotis</i>	blue-faced honeyeater	X	X
LC	-		<i>Eolophus roseicapillus</i>	galah	X	X
LC	-		<i>Eurystomus orientalis</i>	dollarbird	X	
LC	-		<i>Falco berigora</i>	brown falcon	X	X
LC	-		<i>Falco cenchroides</i>	nankeen kestrel	X	X
LC	-		<i>Falco subniger</i>	black falcon	X	
LC	-		<i>Gavicalis virescens</i>	singing honeyeater	X	
LC	-		<i>Geopelia humeralis</i>	bar-shouldered dove		X
V	V		<i>Geophaps scripta scripta</i>	squatter pigeon (southern)	X	
LC	-		<i>Gerygone olivacea</i>	white-throated gerygone	X	X
LC	-		<i>Grallina cyanoleuca</i>	magpie-lark	X	X
LC	-		<i>Grus rubicunda</i>	brilga	X	X
LC	-		<i>Haliastur sphenurus</i>	whistling kite	X	X
LC	-		<i>Hirundo neoxena</i>	welcome swallow	X	X
LC	-		<i>Malurus melanocephalus</i>	red-backed fairy-wren	X	X
LC	-		<i>Manorina flavigula</i>	yellow-throated miner	X	
LC	-		<i>Manorina melanocephala</i>	noisy miner		X
LC	-		<i>Melithreptus albogularis</i>	white-throated honeyeater	X	X
LC	-		<i>Merops ornatus</i>	rainbow bee-eater	X	X
LC	-		<i>Microeca fascinans</i>	jacky winter		X

Status			Scientific name	Common name	Survey period	
NC Act	EPBC Act	Non-native			2021-2023	2025
LC	-		<i>Milvus migrans</i>	black kite	X	X
LC	-		<i>Mirafra javanica</i>	Horsfield's bushlark	X	
LC	-		<i>Ninox boobook</i>	southern boobook		X
LC	-		<i>Ocyphaps lophotes</i>	crested pigeon	X	X
LC	-		<i>Pachycephala rufiventris</i>	rufous whistler	X	X
LC	-		<i>Pardalotus striatus</i>	striated pardalote	X	X
LC	-		<i>Petrochelidon ariel</i>	fairy martin		X
LC	-		<i>Phalacrocorax sulcirostris</i>	little black cormorant	X	
LC	-		<i>Philemon citreogularis</i>	little friarbird		X
LC	-		<i>Philemon corniculatus</i>	noisy friarbird	X	X
LC	-		<i>Platycercus adscitus</i>	pale-headed rosella	X	X
LC	-		<i>Plectorhyncha lanceolata</i>	striped honeyeater	X	
LC	-		<i>Podargus strigoides</i>	tawny frogmouth	X	X
LC	-		<i>Pomatostomus temporalis</i>	grey-crowned babbler	X	X
LC	-		<i>Ptilonorhynchus maculatus</i>	spotted bowerbird	X	X
LC	-		<i>Rhipidura albiscapa</i>	grey fantail	X	X
LC	-		<i>Rhipidura leucophrys</i>	willie wagtail	X	X
LC	-		<i>Scythrops novaehollandiae</i>	channel-billed cuckoo	X	
LC	-		<i>Smicrornis brevirostris</i>	weebill	X	X
LC	-		<i>Strepera graculina</i>	pieb currawong	X	X
LC	-		<i>Struthidea cinerea</i>	apostlebird	X	X
LC	-		<i>Tachybaptus novaehollandiae</i>	Australasian grebe	X	
LC	-		<i>Taeniopygia bichenovii</i>	double-barred finch	X	X
LC	-		<i>Todiramphus pyrrhopygius</i>	red-backed kingfisher		X
LC	-		<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		X
LC	-		<i>Trichoglossus moluccanus</i>	rainbow lorikeet	X	X
LC	-		<i>Tyto alba</i>	barn owl	X	
LC	-		<i>Vanellus miles</i>	masked lapwing	X	X
Mammals						
-	-	*	<i>Bos taurus</i>	European cattle	X	X
			<i>Canis familiaris</i> (dingo)	dingo		X
LC	-		<i>Chaerephon jobensis</i>	greater northern freetail bat	X	
LC	-		<i>Chalinolobus gouldii</i>	Gould's wattled bat	X	

Status			Scientific name	Common name	Survey period	
NC Act	EPBC Act	Non-native			2021-2023	2025
LC	-		<i>Chalinolobus morio</i>	chocolate wattled bat	X	
LC	-		<i>Chalinolobus picatus</i>	little pied bat	X	
LC	-		<i>Hydromys chrysogaster</i>	water rat	X	
	-	*	<i>Lepus europaeus</i>	European brown hare		X
LC	-		<i>Macropus giganteus</i>	eastern grey kangaroo	X	X
LC	-		<i>Nyctophilus</i>	long-eared bat	X	
LC	-		<i>Ozimops lumsdenae</i>	northern freetail bat	X	
LC	-		<i>Ozimops ridei</i>	Ride's free-tailed bat	X	
E	E		<i>Petauroides volans</i>	greater glider	X	
E	E		<i>Phascolarctos cinereus</i>	koala	X	X
LC	-		<i>Planigale ingrami</i>	long-tailed planigale	X	
LC	-		<i>Pteropus scapulatus</i>	little red flying fox	X	X
LC	-		<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tailed bat	X	
LC	-		<i>Scotorepens balstoni</i>	western broad-nosed bat	X	
LC	-		<i>Scotorepens greyii</i>	little broad-nosed bat	X	
LC	-		<i>Scotorepens sanborni</i>	northern broad-nosed bat	X	
	-	**	<i>Sus scrofa</i>	feral pig	X	
SLC	-		<i>Tachyglossus aculeatus</i>	short-beaked echidna	X	
LC	-		<i>Trichosurus vulpecula</i>	common brushtail possum	X	X
LC	-		<i>Vespadelus baverstocki</i>	inland forest bat	X	
LC	-		<i>Vespadelus troughtoni</i>	eastern cave bat	X	
	-		<i>Vulpes vulpes</i>	red fox		X
Reptiles						
LC	-		<i>Aspidites melanocephalus</i>	black-headed python	X	
LC	-		<i>Carlia munda</i>	shaded-litter rainbow skink	X	
LC	-		<i>Carlia sp.</i>	rainbow skink	X	X
LC	-		<i>Chelodina longicollis</i>	eastern long-necked turtle	X	
LC	-		<i>Cryptoblepharus metallicus</i>	metallic snake-eyed skink	X	X
LC	-		<i>Dendrelaphis punctulatus</i>	common tree snake		X
LC	-		<i>Gehyra catenata</i>	chain-backed dtella		X

Status			Scientific name	Common name	Survey period	
NC Act	EPBC Act	Non-native			2021-2023	2025
LC	-		<i>Gehyra dubia</i>	dubious dtella	X	X
LC	-		<i>Heteronotia binoei</i>	Bynoe's gecko	X	X
LC	-		<i>Lygisaurus foliorum</i>	iridescent litter skink	X	
LC	-		<i>Menetia greyii</i>	common dwarf skink	X	
LC	-		<i>Morethia taeniopleura</i>	fire-tailed skink	X	
LC	-		<i>Pogona barbata</i>	eastern bearded dragon		X
LC	-		<i>Pseudonaja textilis</i>	eastern brown snake	X	X
LC	-		<i>Tiliqua scincoides</i>	common blue-tongued skink	X	
LC	-		<i>Varanus tristis</i>	black-headed monitor	X	

NC Act status: E = endangered, V = vulnerable, SLC = special least concern, LC = least concern

EPBC Act status: E = endangered, V = vulnerable

* = Fauna species non-native to Australia

** = Restricted invasive fauna under the *Biosecurity Act 2014*. Note: Dingoes are a protected native species under the NC Act within a protected area. However, this species is a restricted invasive fauna species under the *Biosecurity Act 2014* outside of protected areas.

Appendix H BioCondition assessment data

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026



H.1 2025 September survey

BioCondition assessment site in non-remnant vegetation (pre-clear RE 11.4.9)

Site-based attributes	Benchmark values	BC1		BC2	
	RE 11.4.9	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	100	5	100	5
Non-native plant cover (%)	0	30	3	20	5
Native tree species richness	2	0	0	0	0
Native shrub species richness	5	10	5	5	5
Native grass species richness	5	3	2.5	1	0
Native forb and other species richness	10	13	5	18	5
Emergent canopy median height (m)	N/A	0	0	0	0
Tree canopy median height (m)	10	0		0	
Tree sub-canopy median height (m)	6	0		0	
Emergent canopy cover (%)	N/A	0	0	0	0
Tree canopy cover (%)	25	0		0	
Tree sub-canopy cover (%)	11	0		0	
Number of large eucalypts (DBH is N/A) per ha	N/A	0	0	0	0
Number of large non-eucalypts (DBH of ≥30cm) per ha	28	0		0	
Shrub canopy cover (%)	5	6.1	5	4.8	5
Native perennial grass cover (%)	16	4.5	1	0	0
Organic litter cover (%)	45	30.4	5	33.8	5
Coarse woody debris length (m per ha)	980	0	0	0	0
Sum of scores			31.5		30
Average S^c (out of 80):		30.75			

Site-based attributes	Benchmark values	BC1		BC2	
	RE 11.4.9	Raw values	S ^c	Raw values	S ^c
BioCondition score:		0.38			
BioCondition class (based on site-based attributes):		4			

S^c = Site-based attribute score

BioCondition assessment site in non-remnant vegetation (pre-clear RE 11.9.4)

Site-based attributes	Benchmark values	BC3		BC4	
	RE 11.9.2	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	0	0	100	5
Non-native plant cover (%)	0	80	0	70	0
Native tree species richness	2	0	0	1	2.5
Native shrub species richness	10	0	0	5	2.5
Native grass species richness	7	0	0	2	2.5
Native forb and other species richness	12	9	2.5	20	5
Emergent canopy median height (m)	N/A	0	0	5	3
Tree canopy median height (m)	15	0.25		0	
Tree sub-canopy median height (m)	6	0		0	
Emergent canopy cover (%)	N/A	0	0	0	0
Tree canopy cover (%)	25	0		0	
Tree sub-canopy cover (%)	3	0		0	
Number of large eucalypts (DBH is N/A) per ha	47	0	0	0	0
Number of large non-eucalypts (DBH of ≥30 cm) per ha	N/A	0		0	
Shrub canopy cover (%)	25	0.2	0	1.8	0

Site-based attributes	Benchmark values	BC3		BC4	
	RE 11.9.2	Raw values	S ^c	Raw values	S ^c
Native perennial grass cover (%)	18	0	0	6	1
Organic litter cover (%)	30	3.6	3	11	3
Coarse woody debris length (m per ha)	366	60	2	10	0
Sum of scores			7.5		24.5
Average S^c (out of 80):		16			
BioCondition score:		0.20			
BioCondition class (based on site-based attributes):		4			

S^c = Site-based attribute score

BioCondition assessment site in non-remnant vegetation (pre-clear RE 11.9.2/11.95*)

Site-based attributes	Benchmark values	BC5			BC6			BC7			BC8		
	RE 11.9.2	Raw values	% of benchmark	S ^c	Raw values	% of benchmark	S ^c	Raw values	% of benchmark	S ^c	Raw values	% of benchmark	S ^c
Recruitment of woody perennial species (%)	100	0	0	0	0	0	0	0	0	0	0	0	0
Non-native plant cover (%)	0	25		3	50		3	30		3	60		0
Native tree species richness	2	0	0	0	0	0	0	0	0	0	0	0	0
Native shrub species richness	10	6	60	2.5	6	60	2.5	13	130	5	8	80	2.5
Native grass species richness	7	4	57.143	2.5	4	57.143	2.5	6	85.71	5	3	42.86	2.5
Native forb and other species richness	12	23	191.67	5	21	175	5	18	150	5	20	166.67	5
Emergent canopy median height (m)	N/A	0		0	0		0	0		0	0		0

Site-based attributes	Benchmark values	BC5			BC6			BC7			BC8		
	RE 11.9.2	Raw values	% of benchmark	S ^c	Raw values	% of benchmark	S ^c	Raw values	% of benchmark	S ^c	Raw values	% of benchmark	S ^c
Tree canopy median height (m)	15	0	0		0	0		0	0		0	0	
Tree sub-canopy median height (m)	6	0	0		0	0		0	0		0	0	
Emergent canopy cover (%)	N/A	0		0	0		0	0		0	0		0
Tree canopy cover (%)	25	0	0		0	0		0	0		0	0	
Tree sub-canopy cover (%)	3	0	0		0	0		0	0		0	0	
Number of large eucalypts (DBH is N/A) per ha	47	0	0	0	0	0	0	0	0	0	0	0	0
Number of large non-eucalypts (DBH of ≥30cm) per ha	N/A	0			0			0			0		
Shrub canopy cover (%)	25	4.3	17.2	3	3.4	13.6	3	5.2	20.8	3	1.9	7.6	0
Native perennial grass cover (%)	18	10	55.556	3	0	0	0	0	0	0	2	11.11	1
Organic litter cover (%)	30	14	46.667	3	17	56.667	5	39.4	131.3	5	22	73.33	5
Coarse woody debris length (m per ha)	366	0	0	0	5	1.37	0	5	1.37	0	35	9.56	0
Sum of scores				22			21			26			16
Average S^c (out of 80):		21.25											
BioCondition score:		0.27											
BioCondition class (based on site-based attributes):		4											

* RE 11.9.2 benchmarks were used for these sites which had a mosaic pre-clear RE of 11.9.2/11.9.5.

Sc = Site-based attribute score

BioCondition assessment site in RE 11.3.3

Site-based attributes	Benchmark values	BC9	
	RE 11.3.3	Raw values	S ^c
Recruitment of woody perennial species (%)	100	0	0
Non-native plant cover (%)	0	45	3
Native tree species richness	3	0	0
Native shrub species richness	5	1	0
Native grass species richness	12	6	2.5
Native forb and other species richness	15	14	5
Emergent canopy median height (m)	N/A	0	
Tree canopy median height (m)	18	14.8	5
Tree sub-canopy median height (m)	10	0	
Emergent canopy cover (%)	N/A	0	
Tree canopy cover (%)	28	19.9	5
Tree sub-canopy cover (%)	5	0	
Number of large eucalypts (DBH is N/A) per ha	45	3	5
Number of large non-eucalypts (DBH of ≥30 cm) per ha	N/A	0	
Shrub canopy cover (%)	4	0.5	3
Native perennial grass cover (%)	45	35	3
Organic litter cover (%)	30	34.2	5
Coarse woody debris length (m per ha)	285	45	2
Sum of scores			38.5
Average S^c (out of 80):		38.5	
BioCondition score:		0.48	
BioCondition class (based on site-based attributes):		3	

S^c = Site-based attribute score

H.2 Previous BioCondition assessments within and adjacent to the Project Site

BioCondition assessment sites in RE 11.3.1

Site-based attributes	Benchmark values RE 11.3.1	Site H9		Site H10		Site H12	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	75	3	100	5	50	3
Non-native plant cover (%)	0	10	5	15	5	3	10
Native tree species richness	4	4	5	5	5	4	5
Native shrub species richness	4	5	5	3	2.5	6	5
Native grass species richness	6	5	2.5	6	5	4	2.5
Native forb and other species richness	10	10	5	10	5	8	2.5
Emergent canopy median height (m)	N/A	-	1.5	-	5	-	5
Tree canopy median height (m)	15	7.5		11		16	
Tree sub-canopy median height (m)	7	0		8		7	
Emergent canopy cover (%)	N/A	4.3	5	15	5	-	5
Tree canopy cover (%)	35	41.4		32.5		32.5	
Tree sub-canopy cover (%)	15	9.9		23		25.5	
Number of large eucalypts (DBH is N/A) per ha	N/A	0	5	0	5	0	0
Number of large non-eucalypts (DBH of ≥30 cm) per ha	53	2		2		0	
Shrub canopy cover (%)	15	1.2	0	3.5	3	10	5
Native perennial grass cover (%)	33	1	0	5.2	1	3.2	0
Organic litter cover (%)	30	19	5	51.8	5	71	3
Coarse woody debris length (m per ha)	1520	990	5	765	5	380	2
Sum of scores		-	47	-	56.5	-	48
Average S^c (out of 80):		$(47 + 56.5 + 48) / 3 = 50.5$					

Site-based attributes	Benchmark values RE 11.3.1	Site H9		Site H10		Site H12	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
BioCondition score:		(50.5 / 80) = 0.63					
BioCondition class (based on site-based attributes):		2					

S^c = Site-based attribute score

BioCondition assessment sites in RE 11.3.2

Site-based attributes	Benchmark values RE 11.3.2	Site H4		Site H6		Site H8		Site H11	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	100	5	100	5	100	5	75	3
Non-native plant cover (%)	0	15	5	60	0	20	5	35	3
Native tree species richness	2	1	2.5	1	2.5	2	5	4	5
Native shrub species richness	2	7	5	5	5	5	5	2	5
Native grass species richness	9	6	2.5	1	0	9	5	2	0
Native forb and other species richness	15	19	5	11	2.5	15	5	12	2.5
Emergent canopy median height (m)	N/A	-	2.5	-	2.5	-	2.5	-	5
Tree canopy median height (m)	18	20		19		16		15	
Tree sub-canopy median height (m)	9	0		0		0		9	
Emergent canopy cover (%)	N/A	-	2.5	-	4	-	3.5	-	5
Tree canopy cover (%)	37	63.4		22.8		44.5		34	
Tree sub-canopy cover (%)	7	0		20		3.2		9.5	
Number of large eucalypts (DBH of ≥44 cm) per ha	18	4	5	12	10	8	5	12	10
Number of large non-eucalypts (DBH is N/A) per ha	N/A	0		0		0		0	
Shrub canopy cover (%)	4	1.6	3	3.5	5	1.7	3	0.5	3
Native perennial grass cover (%)	26	1	0	2	0	14	3	0	0

Site-based attributes	Benchmark values RE 11.3.2	Site H4		Site H6		Site H8		Site H11	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Organic litter cover (%)	35	44	5	28	5	50	5	38.8	5
Coarse woody debris length (m per ha)	281	600	2	730	2	440	5	195	5
Sum of scores		-	45	-	43.5	-	57		51.5
Average S^c (out of 80):		$(45 + 43.5 + 57 + 51.5) / 4 = 49.25$							
BioCondition score:		$(49.25 / 80) = 0.62$							
BioCondition class (based on site-based attributes):		2							

S^c = Site-based attribute score

BioCondition scores for site in RE 11.3.3

Site-based attributes	Benchmark values RE 11.3.3	Site H5		Site H13		Site BC1		Site BC12	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	100	5	80	5	66	3	100	5
Non-native plant cover (%)	0	10	5	8	5	2.6	10	0	10
Native tree species richness	3	1	2.5	5	5	3	5	3	5
Native shrub species richness	5	3	2.5	8	5	2	2.5	1	0
Native grass species richness	12	3	0	9	2.5	6	2.5	6	2.5
Native forb and other species richness	15	6	2.5	7	2.5	9	2.5	6	2.5
Emergent canopy median height (m)	N/A	-	2.5	-	2.5	-	2.5	-	2.5
Tree canopy median height (m)	18	16		17		14		13	
Tree sub-canopy median height (m)	10	0		0		0		0	
Emergent canopy cover (%)	N/A	-	2.5	-	2.5	-	2.5	-	2.5
Tree canopy cover (%)	28	32.9		35.5		51.6		39	
Tree sub-canopy cover (%)	5	0		0		0		0	

Site-based attributes	Benchmark values RE 11.3.3	Site H5		Site H13		Site BC1		Site BC12	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Number of large eucalypts (DBH of ≥45 cm) per ha	10	8	10	12	15	16	15	14	15
Number of large non-eucalypts (DBH N/A per ha)	N/A	0		0		0			
Shrub canopy cover (%)	4	0.8	3	26	3	0	0	0.5	3
Native perennial grass cover (%)	45	0	0	7.8	1	1.6	0	7.6	1
Organic litter cover (%)	30	81	3	44.4	5	88.2	3	40	5
Coarse woody debris length (m per ha)	285	570	5	640	2	250	5	360	5
Sum of scores		-	43.5	-	56	-	53.5	-	59
Average S^c (out of 80):	$(43.5 + 56 + 53.5 + 59) / 4 = 53$								
BioCondition score:	$(53 / 80) = 0.66$								
BioCondition class (based on site-based attributes):	2								

S^c = Site-based attribute score

BioCondition scores for site in RE 11.3.7

Site-based attributes	Benchmark values RE 11.3.7	Site BC6		Site BC7		Site BC11	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	33.3	3	75	3	60	3
Non-native plant cover (%)	0	17.8	5	27	3	9.4	5
Native tree species richness	5	6	5	4	2.5	5	5
Native shrub species richness	3	1	2.5	2	2.5	2	2.5
Native grass species richness	7	2	2.5	4	2.5	4	2.5
Native forb and other species richness	9	10	5	12	5	10	5
Emergent canopy median height (m)	N/A	-	5	20	5	-	5
Tree canopy median height (m)	16	15.5		15		14	
Tree sub-canopy median height (m)	N/A	6.5		7		7	
Emergent canopy cover (%)	N/A	-	3	-	3	-	5
Tree canopy cover (%)	24	71.5		67.5		40.5	
Tree sub-canopy cover (%)	N/A	0		0		6.5	
Number of large eucalypts (DBH of ≥55 cm) per ha	6	2	10	4	10	0	0
Number of large non-eucalypts (DBH of >30 cm) per ha	4	4		4		0	
Shrub canopy cover (%)	2	1	3		0	8.5	3
Native perennial grass cover (%)	14	0	0		0	27.2	5
Organic litter cover (%)	17	80.6	3		0	45	3
Coarse woody debris length (m per ha)	164	15	0	197.5	5	375	2
Sum of scores		-	47	-	41.5	-	46

Site-based attributes	Benchmark values RE 11.3.7	Site BC6		Site BC7		Site BC11	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Average S^c (out of 80):		$(47 + 41.5 + 46) / 3 = 44.83$					
BioCondition score:		$(44.83 / 80) = 0.56$					
BioCondition class (based on site-based attributes):		3					

S^c = Site-based attribute score

BioCondition assessment site in RE 11.3.27

Site-based attributes	Benchmark values RE 11.3.27	Site BC8	
		Raw values	S ^c
Recruitment of woody perennial species (%)	100	66.67	3
Non-native plant cover (%)	0	16.2	5
Native tree species richness	1	3	5
Native shrub species richness	1	0	0
Native grass species richness	3	2	2.5
Native forb and other species richness	6	2	2.5
Emergent canopy median height (m)	N/A	-	5
Tree canopy median height (m)	16	15	
Tree sub-canopy median height (m)	N/A	6	
Emergent canopy cover (%)	N/A	-	5
Tree canopy cover (%)	40	21	
Tree sub-canopy cover (%)	N/A	-	
Number of large eucalypts (DBH of ≥46 cm) per ha	28	2	5
Number of large non-eucalypts (DBH is N/A) per ha	N/A	0	

Site-based attributes	Benchmark values RE 11.3.27	Site BC8	
		Raw values	S ^c
Shrub canopy cover (%)	N/A	0	0
Native perennial grass cover (%)	3	2	3
Organic litter cover (%)	15	78.4	3
Coarse woody debris length (m per ha)	530	115	2
Sum of scores		-	41
Average S^c (out of 80):		41	
BioCondition score:		(41 / 80) = 0.51	
BioCondition class (based on site-based attributes):		3	

S^c = Site-based attribute score

BioCondition assessment sites in RE 11.4.9

Site-based attributes	Benchmark values RE 11.4.9	Site H1		Site H2		Site H3		Site H7		Site BC10		Site BC13	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	100	5	100	5	100	5	100	5	100	5	0	0
Non-native plant cover (%)	0	20	5	20	5	15	5	15	5	11.2	5	20	5
Native tree species richness	2	3	5	4	5	3	5	4	5	3	5	0	0
Native shrub species richness	5	4	2.5	9	5	6	5	7	5	5	5	3	2.5
Native grass species richness	5	3	2.5	3	2.5	4	2.5	4	2.5	1	0	3	2.5
Native forb and other species richness	10	12	5	13	5	15	5	11	5	5	2.5	1	0
Emergent canopy median height (m)	N/A	-	5	-	2.5	-	1.5	-	1.5	-	3	-	1.5
Tree canopy median height (m)	10	14		8		7		3		5		0	

Site-based attributes	Benchmark values RE 11.4.9	Site H1		Site H2		Site H3		Site H7		Site BC10		Site BC13	
		Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c	Raw values	S ^c
Tree sub-canopy median height (m)	6	8		0		0		0		2.5		3	
Emergent canopy cover (%)	N/A	4.8	4	-	3.5	-	2.5	-	0	-	5	-	2.5
Tree canopy cover (%)	25	23.1		9.8		8.5		0		30		0	
Tree sub-canopy cover (%)	11	26.6		13.3		32.7		0		10.3		7	
Number of large eucalypts (DBH is N/A) per ha	N/A	0	0	0	5	0	5	0	0	0	0	0	0
Number of large non-eucalypts (DBH of ≥28 cm) per ha	47	0		2		2		0		0		0	
Shrub canopy cover (%)	5	7.2	5	11.9	3	13	3	28.5	3	27.2	3	16.5	3
Native perennial grass cover (%)	16	8	1	15	5	9	3	2	1	0	0	9.6	3
Organic litter cover (%)	45	34	5	21	3	31	5	48	5	16.6	3	23.4	5
Coarse woody debris length (m per ha)	980	930	5	550	5	1730	5	170	2	930	5	115	2
Sum of scores		-	50	-	54.5	-	52.5	-	40	-	41.5	-	27
Average S^c (out of 80):	$(50 + 54.5 + 52.5 + 40 + 41.5 + 27) / 6 = 44.25$												
BioCondition score:	$(44.25 / 80) = 0.55$												
BioCondition class (based on site-based attributes):	3												

S^c = Site-based attribute score

BioCondition assessment site in RE 11.4.13

Site-based attributes	Benchmark values RE 11.4.13 ¹	Site BC9	
		Raw values	S ^c
Recruitment of woody perennial species (%)	-	83.33	-
Non-native plant cover (%)	-	30.6	-
Native tree species richness	-	6	-
Native shrub species richness	-	6	-
Native grass species richness	-	2	-
Native forb and other species richness	-	4	-
Emergent canopy median height (m)	-	-	5
Tree canopy median height (m)	-	19	
Tree sub-canopy median height (m)	-	2	
Emergent canopy cover (%)	-	0	5
Tree canopy cover (%)	-	19	
Tree sub-canopy cover (%)	-	2	
Number of large eucalypts (DBH of ≥46 cm) per ha	-	8	5
Number of large non-eucalypts (DBH is N/A) per ha	-	4	
Shrub canopy cover (%)	-	4.7	-
Native perennial grass cover (%)	-	8.4	-
Organic litter cover (%)	-	42.6	-
Coarse woody debris length (m per ha)	-	390	-
Sum of scores		-	-
Average S^c (out of 80):			-
BioCondition score:			-

Site-based attributes	Benchmark values RE 11.4.13 ¹	Site BC9	
		Raw values	S ^c
BioCondition class (based on site-based attributes):		-	

1. There are currently no published benchmark values for RE 11.4.13

S^c = Site-based attribute score

BioCondition assessment site in RE 11.5.3

Site-based attributes	Benchmark values RE 11.5.3	Site BC3		Site BC4	
		Raw values	S ^c	Raw values	S ^c
Recruitment of woody perennial species (%)	100	100	5	40	3
Non-native plant cover (%)	0	13.2	5	12.2	5
Native tree species richness	6	2	2.5	5	2.5
Native shrub species richness	6	1	0	0	0
Native grass species richness	6	1	0	2	2.5
Native forb and other species richness	10	11	5	10	5
Emergent canopy median height (m)	N/A	-	5	-	5
Tree canopy median height (m)	16	17		19	
Tree sub-canopy median height (m)	N/A	10		7	
Emergent canopy cover (%)	N/A	-	0	-	5
Tree canopy cover (%)	20	0		25	
Tree sub-canopy cover (%)	N/A	-		-	
Number of large eucalypts (DBH of ≥44 cm) per ha	9	12	15	6	10
Number of large non-eucalypts (DBH of ≥34 cm) per ha	1	0		2	
Shrub canopy cover (%)	3	1.2	3	0	0
Native perennial grass cover (%)	19	0	0	0.2	0

Site-based attributes	Benchmark values RE 11.5.3	Site BC3		Site BC4	
		Raw values	S ^c	Raw values	S ^c
Organic litter cover (%)	20	76.2	3	28.8	5
Coarse woody debris length (m per ha)	314	220	5	280	5
Sum of scores		-	48.5	-	48
Average S^c (out of 80):		$(48.5 + 48) / 2 = 48.25$			
BioCondition score:		$(48.25 / 80) = 0.60$			
BioCondition class (based on site-based attributes):		2			

S^c = Site-based attribute score

Appendix I Habitat quality assessment results and scores

Terrestrial Ecology Assessment Report

Daunia West Infrastructure Project

Whitehaven Daunia Pty Ltd

SLR Project No.: 620.043318.00001

25 May 2026



Squatter pigeon (southern) habitat quality assessment results and scores (2021-2023)

Attribute		Indicator		Habitat condition assessment scores																						
RE code		11.3.1				11.3.2				11.3.3				11.3.7				11.4.9				11.4.13	11.5.3	Non-remnant		
BioCondition Assessment site		H9	H10	H12	H6	H8	H11	H4	BC1	H5	H13	BC12	BC6	BC7	BC11	H7	H1	H2	H3	BC10	BC9	BC4	BC3	SQP9	SQP10	
Habitat assessment ID		SQP11	SQP12	SQP14	SQP9	SQP10	SQP13	SQP7	SQP1	SQP8	SQP15	SQP22	SQP17	SQP18	SQP21	SQP2	SQP3	SQP4	SQP6	SQP20	SQP19	SQP16	SQP5			
Food and habitat required for foraging	% cover of suitable foraging species (native grasses, herbs and shrubs)	10	5	15	15	10	10	5	10	10	5	10	0	0	10	15	0	0	15	0	5	0	10	15	15	
	Distance from water body (<3 km considered suitable)	25	25	25	25	25	15	20	15	25	20	25	25	10	25	15	15	15	15	15	15	25	25	20	20	
	% vegetation cover in the ground layer (>33% unsuitable)	20	15	15	10	15	10	5	5	10	15	10	5	10	0	15	10	15	5	5	20	20	20	20	20	
Average score for 'food and habitat required for foraging' per site		18.3	16.7	18.3	18.3	15	16.7	10	11.7	10	13.3	15	11.7	10	10	11.7	10	8.3	15	6.7	8.3	15	18.3	18.3	18.3	
Average score for 'food and habitat required for foraging' per vegetation community		17.7				15				12.2				10.6				10.3				8.3	16.6	18.3		
Quality and availability of habitat for shelter and breeding	Well draining soils	5	15	5	15	10	20	15	5	10	10	5	10	15	15	5	0	0	5	5	5	10	20	10	10	
	Distance from water body (<1 km suitable for breeding)	25	15	15	15	10	0	0	0	10	0	10	10	0	20	0	0	0	0	0	0	5	15	0	0	
Average score for 'quality and availability of habitat for shelter and breeding' per site		15	20	10	15	12.5	15	7.5	2.5	5	10	2.5	10	12.5	7.5	12.5	0	0	2.5	2.5	2.5	7.5	12.5	5	5	
Average score for 'quality and availability of habitat for shelter and breeding' per vegetation community		22.5				12.5				5				10				3.5				2.5	10	5		
Habitat required for mobility	Connectivity – landscape scale	15	5	15	5	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
Average score for 'habitat required for mobility' per site		15	5	15	5	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
Average score for 'habitat required for mobility' per vegetation community		17.5				12.5				15				15				15				15	15	15		
Absence of threats (high score indicates low threat)	Habitat loss	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	3	3	
	Habitat degradation (grazing, weeds)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	Predation from invasive species	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Drought	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
Average score for 'absence of threats' – lowest score per site		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Average threats score		3				3				3				3				3				3	3	3		
Habitat condition score		60.7 / 10 = 6				43 / 10 = 4				35.2 / 10 = 4				38.6 / 10 = 4				31.8 / 10 = 3				28.8 / 10 = 3	44.6 / 10 = 4	41.3 / 10 = 4		

Squatter pigeon (southern) habitat quality assessment results and scores (2025)

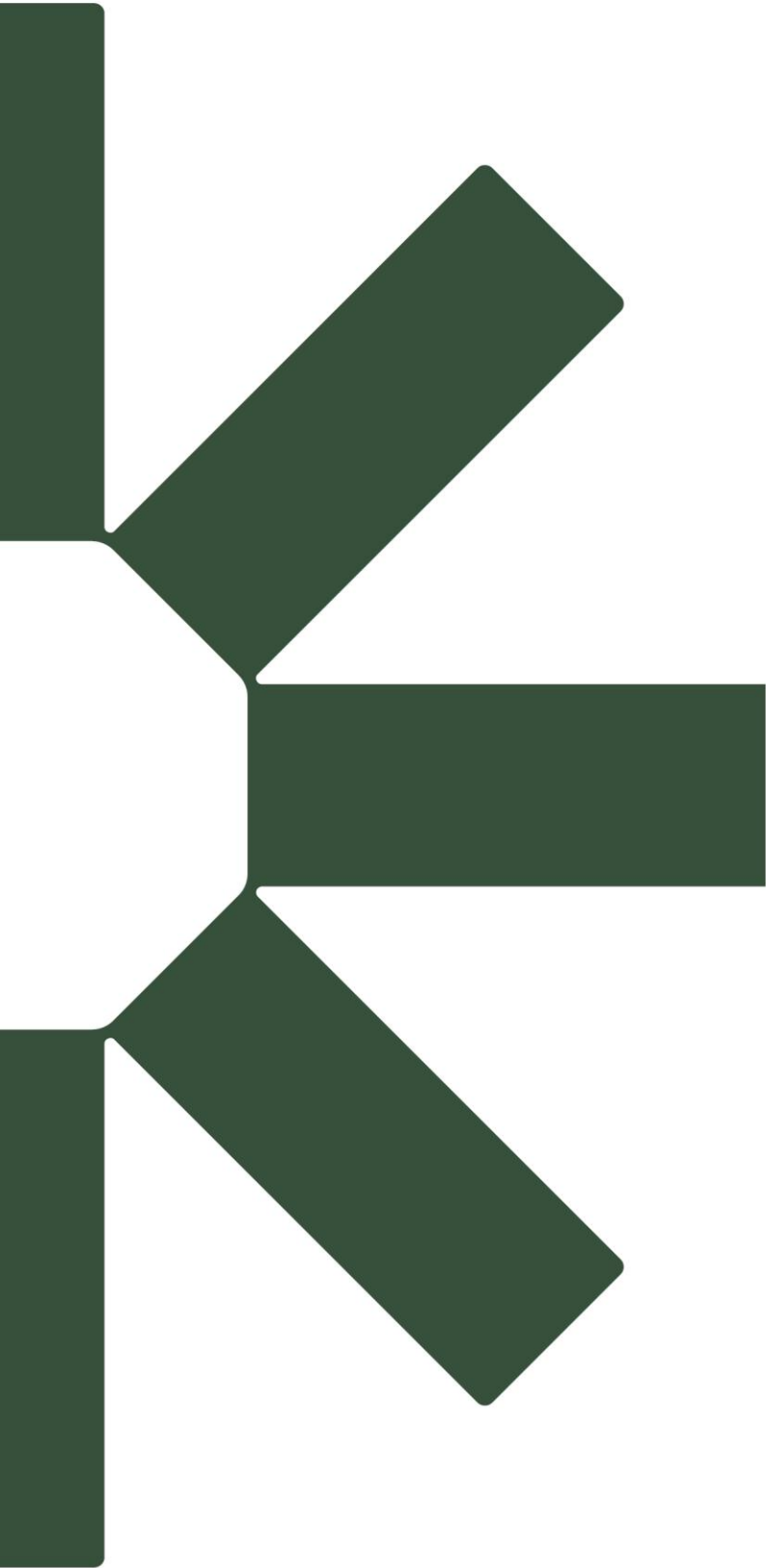
Attribute		Indicator	Habitat condition assessment scores								
RE code			Non-remnant								11.3.3
BioCondition Site / Habitat Assessment ID			BC1	BC2	BC3	BC4	BC5	BC6	BC7	BC8	BC9
Food and habitat required for foraging	Generalist seed eater of low vegetation, dependant on season. Average of richness for grasses, shrubs and forbs/other compared to benchmark for RE		10	10	5	5	10	10	0	15	5
	Distance from water body (<3 km considered suitable)		20	20	20	20	10	10	15	10	10
	% vegetation cover in the ground layer (>33% unsuitable)		20	20	0	0	20	20	20	10	15
Average score for 'food and habitat required for foraging' per site			16.67	16.67	8.33	8.33	13.33	13.33	11.67	11.67	10
Average score for 'food and habitat required for foraging' per vegetation community			12.5								10
Quality and availability of habitat for shelter and breeding	Well draining soils		0	0	10	10	0	0	0	0	0
	Distance from water body (<1 km suitable for breeding)		5	5	0	0	0	0	15	0	0
	Remnant, regrowth, partly modified tree communities		15	15	0	0	10	10	0	0	10
	Overstorey generally dominated by <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Acacia</i> or <i>Callitris</i>		20	20	0	0	20	20	5	0	5
Average score for 'quality and availability of habitat for shelter and breeding' per site			10	10	2.5	2.5	7.5	7.5	5	0	3.75
Average score for 'quality and availability of habitat for shelter and breeding' per vegetation community			5.63								3.75
Habitat required for mobility	Overstorey generally dominated by <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Acacia</i> or <i>Callitris</i>		20	20	0	0	20	20	5	0	5
	% vegetation cover in the ground layer (>33% unsuitable)		20	20	0	5	20	15	20	10	15
	Remnant, regrowth, partly modified tree communities		15	15	0	0	10	10	0	0	10
Average score for 'habitat required for mobility' per site			18.33	18.33	0	1.67	16.67	15	8.33	3.33	10
Average score for 'habitat required for mobility' per vegetation community			10.21								10
Absence of threats (high score indicates low threat)	Invasive predators (landscape scale)		2	2	2	2	2	2	2	2	2
	Grazing		4	4	4	4	4	4	4	4	4
	Weed incursion		4	4	10	10	6	6	6	8	8
Absence of threats – lowest score per site			2	2	2	2	2	2	2	2	2
Average threats score			4.25								2
Habitat condition score			3.26								2.58

Ornamental snake habitat quality assessment results and scores (2021-2023)

Attribute	Indicator	Habitat condition assessment scores												
		11.3.2			11.3.3			11.3.27	11.4.9					
RE code		H9	H10	H12	BC1	H5	H13	BC8	H3	H7	H1	H2	BC10	BC13
BioCondition Assessment site		OS7	OS8	OS9	OS1	OS6	OS10	OS11	OS5	OS2	OS3	OS4	OS12	OS13
Food and habitat required for foraging	Longevity of surface water	3	5	1	3	3	3	2	1	3	1	1	0	2
	Gilgai present	3	2	1	3	3	2	1	1	4	2	3	0	4
	Evidence of Frogs present	3	5	2	4	1	3	1	1	4	2	2	1	2
Average score for 'food and habitat required for foraging' per site		3.00	4.00	1.33	3.33	2.33	2.67	1.33	1.00	3.67	1.67	2.00	0.33	2.67
Average score for 'food and habitat required for foraging' per RE		2.78			2.78			1.33	1.89					
Quality and availability of habitat for shelter and breeding	Woody debris	2	2	3	2	3	3	1	3	2	3	3	2	1
	Cracking clay soils	3	3	2	3	3	3	0	4	4	4	4	2	5
Average score for 'quality and availability of habitat for shelter and breeding' per site		2.50	2.50	2.50	2.50	3.00	3.00	0.50	3.50	3.00	3.50	3.50	2.00	3.00
Average score for 'quality and availability of habitat for shelter and breeding' per RE		2.50			2.83			0.50	3.08					
Habitat required for mobility	Connectivity – landscape attributes	3	3	3	3	3	3	3	3	3	3	3	3	3
	Connectivity – local attributes	1	2	1	4	2	2	3	1	2	1	1	2	0
Average score for 'habitat required for mobility' per site		2.00	2.50	2.00	3.50	2.50	2.50	3.00	2.00	2.50	2.00	2.00	2.50	1.50
Average score for 'habitat required for mobility' per RE		2.17			2.83			3.00	2.08					
Absence of threats (high score indicates low threat)	Microhabitat destruction scope	2	2	1	3	2	2	2	2	2	2	2	2	2
	Microhabitat destruction severity	2	2	2	2	2	2	2	2	3	2	2	2	1
	Predation from invasive species scope	1	2	1	1	1	1	1	1	1	1	1	1	1
	Predation from invasive species severity	3	3	3	5	3	3	3	3	4	3	3	3	4
	Decrease in available food scope	1	1	1	1	1	1	1	1	1	1	1	1	1
	Decrease in available food severity	3	3	3	3	4	3	3	4	3	4	4	3	3
	Decreased duration of inundation scope	1	1	1	1	1	1	1	1	1	1	1	1	1
Decreased duration of inundation severity	3	3	3	3	3	2	3	3	3	4	4	4	3	
Absence of threats – lowest score per site		3.00	3.00	2.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00
Absence of threats – lowest score per RE		2.67			2.67			3.00	2.83					

Ornamental snake habitat quality assessment results and scores (2025)

Attribute	Indicator	Habitat condition assessment scores								
RE code		Non-remnant								11.3.3
BioCondition Site / Habitat Assessment ID		BC1	BC2	BC3	BC4	BC5	BC6	BC7	BC8	BC9
Food and habitat required for foraging	Longevity of surface water	0	0	0	0	0	10	0	0	10
	Gilgai present	0	0	0	0	0	10	0	0	5
	Evidence of native frog presence	5	5	5	10	10	10	10	5	20
Average score for 'food and habitat required for foraging' per site		1.67	1.67	1.67	3.33	3.33	10.00	3.33	1.67	11.67
Average score for 'food and habitat required for foraging' per vegetation community		3.33								11.67
Quality and availability of habitat for shelter and breeding	Gilgai present (where depression is >1 m ²)	0	0	0	0	0	15	0	0	5
	Woody debris	5	15	5	0	0	5	5	5	5
	Cracking clay soils	5	10	0	0	5	10	5	0	5
Average score for 'quality and availability of habitat for shelter and breeding' per site		3.33	8.33	1.67	0.00	1.67	10.00	3.33	1.67	5.00
Average score for 'quality and availability of habitat for shelter and breeding' per vegetation community		3.75								5.00
Habitat required for mobility	Gilgai present (where depression is >1 m ²)	0	0	0	0	0	15	0	0	5
	Appropriate RE	10	10	0	5	10	20	5	5	20
	Woody debris	5	15	0	0	0	5	5	5	5
	Cracking clay soils	5	10	0	0	5	10	5	0	5
Average score for 'habitat required for mobility' per site		5.00	8.75	0.00	1.25	3.75	12.50	3.75	2.50	8.75
Average score for 'habitat required for mobility' per vegetation community		4.69								8.75
Absence of threats (high score indicates low threat)	Grazing	5	5	5	6	5	5	5	5	5
	Invasive predators (landscape scale)	7	7	7	7	7	7	7	7	7
	Cane toad (landscape scale)	7	7	7	7	7	7	7	7	7
Absence of threats – lowest score per site		5	5	5	6	5	5	5	5	5
Average threats score		3.00								5
Habitat condition score		1.48								2.64



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