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Grenof Water Technologies Pty Ltd

Project Halogen

Preliminary Significant Impact Assessment

November 2025

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Glossary

Acronym	Meaning
ACCC	Australian Competition and Consumer Commission
ASL	above sea-level
CQG	CQ Environmental Pty Ltd T/A CQG Consulting
DBH	Diameter at breast height
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DETSI	Department of Environment, Tourism, Science and Innovation
DNRMMRRD	Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
EDQ	Economic Development Queensland
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
GSDA	Gladstone State Development Area
GWT	Grenof Water Technologies Pty Ltd
ha	Hectares
Impact Area	The area that will be developed as a part of the Project (the development footprint)
km	Kilometres
m	metres
MCU	Material Change of Use
MNES	Matter of National Environmental Significance
MSES	Matters of State Environmental Significance
MTSC	Material Transport and Services Corridor
NCA	*Nature Conservation Act 1992* (Qld)
PMST	Protected Matter Search Tool
Project Area	The wider area of land in which the Project is located and which has been investigated for the purposes of this report
QLD	Queensland
RE	Regional Ecosystem

Acronym	Meaning
RVM	Regulated Vegetation Management
SI	Significant Impact
SIA	Significant Impact Assessment
SRI	Significant Residual Impact
SRIA	Significant Residual Impact Assessment
TEC	Threatened Ecological Community
The Guidelines	*Significant Impact Guidelines 1.1 Matters of National Environmental Significance*
The State Guidelines	*Queensland Environmental Offsets Policy Significant Residual Impact Guideline*
VMA	*Vegetation Management Act 1999* (Qld)
WoNS	Weeds of National Significance
WSAA	Water Services Association of Australia

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Executive Summary

Grenof Water Technologies Pty Ltd (GWT) proposes to develop a chlor-alkali facility (Project Halogen) within the Gladstone State Development Area (GSDA), Central Queensland. The Project is designed to reduce sovereign risk associated with Australia's dependence on imported chlorine and caustic soda, both essential for industrial, economic, and public health sectors. The preferred site (Lot 1 on SP200899 and Lot 1 on MPH32292) was selected due to proximity to transport corridors, industrial customers and the Port of Gladstone.

CQG Consulting (CQG) was engaged to conduct a habitat assessment and Preliminary Significant Impact Assessment (SIA), focusing on Matters of National Environmental Significance (MNES) under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act) and Matters of State Environmental Significance (MSES) under Queensland legislation.

The assessment aimed to:

- Characterise ecological values in the Project Area (21.3 ha, with a 7.65 ha Stage 1 Impact Area);
- Evaluate potential impacts on threatened species, ecological communities, and regulated vegetation; and
- Identify mitigation measures and assess the likelihood of significant residual impacts.

This assessment is preliminary, providing early insights to inform targeted surveys, design refinements and mitigation planning.

The assessment combined:

- Desktop searches of national and state databases (e.g., EPBC PMST, WildNet, regulated vegetation mapping);
- Field habitat surveys (August 2025), including BioCondition assessments, regional ecosystem (RE) verification, and habitat feature mapping;
- A likelihood of occurrence analysis for species identified as potentially present; and
- Significant impact assessment in accordance with Significant Impact Guidelines 1.1 Matters of National Environmental Significance (DoE 2013) and Queensland Environmental Offsets Policy Significant Residual Impact Guideline (DEHP 2014).

Key findings of the assessment included:

- Matters of National Environmental Significance:
    - Threatened species: Koala (*Phascolarctos cinereus*, endangered under EPBC Act) and Squatter pigeon (*Geophaps scripta scripta*, vulnerable under EPBC Act) were assessed as likely to occur. No individuals or evidence were detected, habitat quality is low and the Impact Area is small and sits within an industrialised landscape;
    - Migratory species: Osprey (Pandion haliaetus) is known locally, but no important nesting or foraging habitat exists within the Impact Area; and
    - Threatened Ecological communities: The Subtropical Eucalypt Floodplain Forest and Woodland TEC was identified as potentially occurring but field verification found vegetation did not meet diagnostic thresholds due to poor condition and exotic species dominance.
- Matters of State Environmental Significance:
    - Mapping identified essential habitat for threatened wildlife, and regulated vegetation including endangered and of concern REs. Field surveys confirmed these as degraded regrowth with moderate to low BioCondition scores. Habitat quality is compromised by invasive grasses and past disturbance, reducing ecological value; and
    - Invasive species: Invasive species including Rubber vine (*Cryptostegia grandiflora*) and Lantana (*Lantana camara*) were recorded, alongside evidence of feral pigs, dogs and foxes. A Biosecurity Management Plan is recommended.

Based on current evidence and with effective mitigation and further targeted surveys, the Project is unlikely to cause a significant residual impact on MNES or MSES values due to the Impact Area being small, degraded and isolated from higher-quality habitats.

1 Introduction

1.1 Project Background

Grenof Water Technologies Pty Ltd (GWT) is proposing to develop a chlor-alkali facility (Project Halogen or the Project) in the Gladstone State Development Area (GSDA) to mitigate sovereign risk associated with essential chemicals including chlorine (single domestic producer with aging infrastructure) and caustic soda (reliance on foreign supply), which are vital for Australia's industrial, economic and public health sectors. These products are currently imported into Gladstone for industrial use.

Economic Development Queensland (EDQ) has been assisting GWT with identifying an appropriate location to develop the facility, with Lot 1 on SP200899 and Lot 1 on MPH32292 as the preferred site due to the existing access to suitable transport routes to Gladstone industries and the Port.

This report provides a preliminary assessment of significant impacts resulting from Project Halogen on matters of environmental significance listed under State and Commonwealth legislation.

1.2 Site Description

The 'Project Area '(i.e., the wider area of land in which the Project is located and which has been investigated for the purposes of this report) is comprised of two neighbouring lots (Lot 1 on MPH32292 and Lot 1 on SP200899) located on Landing Road and Fishermans Road in Yarwun within the Gladstone State Development Area (GSDA). The Project Area consists of approximately 21.3 hectares (ha) and is situated approximately 10 kilometres (km) north-west of Gladstone in Central Queensland (refer to Figure 1.1).

The 'Impact Area' (i.e., the footprint of the proposed Stage 1 development) covers 7.65 ha in the northern portion of the Project Area (refer to Figure 1.1).

CQG understands that clearing for the Project will be restricted to the Impact Area for Stage 1 which is subject to a Material Change of Use (MCU) application under the GSDA Planning Scheme.

1.3 Objectives

CQG Consulting (CQG) was engaged by GWT to conduct a habitat assessment and significant impact assessment (SIA) for matters of national environmental significance (MNES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act) and matters of state environmental significance (MSES) listed under Queensland legislation that have been identified as known, likely or as having the potential to occur within the Project Area.

The overarching objective of the habitat assessment and SIA is to determine if the Project is likely to have a significant residual impact (SRI) on MNES or MSES.

This objective will be achieved through the following scope of works:

- Review of existing publicly available information relating to the Impact Area;
- Present the findings of a habitat assessment within the Impact Area;
- Identifying the potential impacts of the proposed action on the MNES and MSES values known, likely or with the potential to occur within the Impact Area;
- Providing recommendations for avoidance and mitigation measures; and
- Preliminary identification of potential residual impacts (if any) against the state and Commonwealth criteria.

As targeted ecological investigations confirming the presence of MNES and MSES have not yet been conducted within the Project Area (i.e., the wider area of land in which the Impact Area is located and which has been investigated for the purposes of this report), this document is presented as a Preliminary SIA.

This Preliminary SIA will allow for early identification of potential impacts, inform the scope of targeted ecological investigations and potential measures that could be implemented as a part of the Project design or construction to avoid significant impacts.



Legend

- Project Area
- Impact Area
- Highway
- Major Road
- Minor Road
- North Coast Rail Line

N

Scale 1:40,000 (A3)

0 600 1,200 1,800

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 1.1

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Project Location

CQG Consulting

180 Quay Street, Rockhampton Q 4700
PO Box 8384, Allenstown 4700
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Project No: 25054
Map No: 25054-07
Revision: RevA
10 November 2025

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2 Methodology

2.1 Desktop Assessment

The following searches of publicly available databases were conducted for the Project Area:

- EPBC Act Protected Matters Search Tool (PMST) (Department of Climate Change, Energy, the Environment and Water (DCCEEW));
- Matters of State Environmental Significance (MSES) (Department of Environment, Tourism, Science and Innovation (DETSI));
- Biodiversity and Conservation Values report (DETSI);
- WildNet database species list request (DETSI); and
- Regulated vegetation management framework report (Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (DNRMMRRD) including:
    - Vegetation Management Property Report (DNRMMRRD) and mapping; and
    - Regional Ecosystems (RE) Report (DETSI) and mapping.

Full desktop results are provided in Appendix A.

2.2 Likelihood of occurrence

A preliminary 'likelihood of occurrence' rating was assigned to any significant species listed under the EPBC Act identified through the database searches in order to inform the scope of ecology investigations. The definitions used to determine the preliminary likelihood of occurrence for species are provided in Table 2.1.

Table 2.1: Likelihood of Occurrence Criteria

Rating	Definition	Code
Known	Listed fauna - Habitat is present in the Impact Area and the species has been recorded in the Impact Area, or in connected habitat adjacent to the Impact Area, in the last 10 years	K
	Threatened flora - Habitat is present in the Impact Area and the species has been recorded in the Impact Area during the last 10 years.	
	Threatened Ecological Community (TEC) - Presence of TEC has been confirmed through groundtruthing during surveys undertaken in the last 2 years.	
Likely	Listed fauna: • Habitat is present in the Impact Area and the species has been recorded in the Impact Area, or in connected habitat adjacent to the Impact Area, in the last 11 to 30 years; OR • Habitat is present in the Impact Area and the species has been recorded within its dispersal range/limit from the Impact Area in the last 11 to 30 years, and there are no significant barriers to movement between the records and the Impact Area.	L
	Threatened flora: • Habitat is present in the Impact Area, and the species has been recorded in the Impact Area in the last 11 to 30 years; OR • Habitat is present in the Impact Area and adequate surveys to determine presence/ absence have not been undertaken, but the vegetation community composition indicates the species is probably present.	

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Rating	Definition	Code
	TEC - The TEC has been identified as potentially present within the Impact Area from desktop search results but has yet to be groundtruthed to confirm presence.	
Potential	Listed fauna • Habitat is present in the Impact Area and the species has been recorded in the Impact Area, or in connected habitat adjacent to the Impact Area, more than 31 years ago; OR • Habitat is in the Impact Area, the Impact Area is within the species modelled distribution range, and the species may use the habitat at least occasionally or opportunistically; OR • Habitat is in the Impact Area and it could be used in the future as climate refugia	P
	Threatened flora • Habitat is present in the Impact Area and the species has been recorded in the Impact Area more than 31 years ago; OR • Habitat is present in the Impact Area, the Impact Area is within the species modelled distribution, and adequate surveys have not been undertaken to prove the species is absent.	
	TEC – The TEC has been identified as potentially present within vegetation immediately adjacent to the Impact Area from desktop search results but has yet to be groundtruthed to confirm presence.	
Unlikely	Listed fauna • Habitat is not present within the Impact Area or adjacent to the Impact Area and the Impact Area is within the species distribution; OR • Habitat is present in the Impact Area and the species has been recorded within its dispersal range/limit from the Impact Area over 30 years ago, and there are no significant barriers to movement between the records and the Impact Area.	U
	Threatened flora - Habitat is not present within or adjacent to the Impact Area and robust targeted surveys have not been undertaken to prove if the species is absent.	
	TEC – Desktop searches do not indicate the likely presence of this TEC	
Confirmed absent	Listed fauna - This likelihood category is not applicable to fauna as it is very difficult to prove absence of a species identified in the PMST report as having the potential to occur.	A
	Threatened flora - Habitat is not within or adjacent to the Impact Area and robust targeted surveys have proven the species to be absent.	
	TEC - Recent ground-truthing of vegetation has determined that that the TEC is not present.	

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2.3 Ecology Investigation (Habitat Assessment)

Rapid ecology survey was undertaken by a CQG senior ecologist and CQG senior environmental scientist on 2 July 2025 to verify vegetation mapping, weeds species and habitat at a high level prior to a planned burn off of the Project Area (email summary provided to Grenof and EDQ on 18 July 2025). This burn off did not occur prior to the habitat assessment.

Habitat assessments were undertaken by a CQG senior ecologist and CQG technical officer on 12 and 13 August 2025 using the following methodology:

- BioCondition surveys according to the *BioCondition Assessment Manual* (Eyre et al 2015) to provide information about habitat including vegetation condition and capacity to support biodiversity values;
- Verification of RE and vegetation communities through both quaternary vegetation surveys for classification and detailed descriptions of REs and vegetation communities within 100 metres (m) x 50 m plots as per *Methodology for surveying and mapping of regional ecosystems and vegetation communities in Queensland, Version 7.0* (Neldner et al 2023);
- Identification of flora species present utilising available keys and reference material; and
- Identification of fauna habitat features present within the Project Area and Impact Area.

BioCondition surveys were undertaken in the northern part of the Site with a focus on the Impact Area, with quaternary surveys undertaken in the southern portion of the Site adjacent to Boat Creek, due to limited mobility and visibility.

Vegetation condition is defined as the relative capacity of a site to support the suite of species expected to occur within the same RE in its reference state (or 'best-on-offer') condition, through metric scoring (Queensland Government 2023). The higher the BioCondition score, the greater the capacity for the RE to support flora and fauna species.

The BioCondition score assigned to the transect indicates the condition relative to the benchmarks set for the RE being assessed (BioCondition class). The BioCondition class is presented on a scale out of 1-4 with 1 being functional and 4 being dysfunctional vegetation with minimal alignment to the benchmarks for that RE (refer to Table 2.2).

Table 2.2: BioCondition Classes

BioCondition class	BioCondition Score (out of 100)
1- Functional	>80
2- Moderately functional	60 - 80
3- Moderately dysfunctional	40 - 59
4- Dysfunctional	<40

In line with the *BioCondition Assessment Manual* (Eyre et al 2015), assessments should be undertaken after summer rainfall growing season when plant diversity is greatest. For areas south of the Tropic of Capricorn the optimal survey timing is May or June.

A random meander style survey was undertaken to identify significant habitat features, such as arboreal hollows or trees that contribute to threatened species presence and utilisation of the landscape.

2.4 Survey Limitations

No trapping or deployment of fauna detection devices including camera traps or Anabat recording devices was undertaken as a part of this scope of work. The scope did not include targeted surveys for fauna species.

Floristic identification is largely seasonal (i.e., flowers, seeds and pods), hence identification of certain seasonal species, which may have been dormant at the time of the survey, was limited. This scope of works did not include protected plant flora surveys, groundwater monitoring or collection of vegetation samples for laboratory analysis.

Similarly, fauna that is cryptic, migratory, seasonal or nocturnal may not have been recorded during the survey effort.

Invasive grass height and cover over much of the Project Area was very high limiting survey capacity and coverage in some locations. Access to the area alongside Boat Creek was impeded due to dense Guinea grass presence.

In line with the BioCondition Assessment Manual (Eyre et al 2015), assessments should ideally be undertaken after summer rainfall growing season when plant diversity is greatest. For areas south of the Tropic of Capricorn the optimal survey timing is May or June. Rainfall had been received in the leadup to the survey and standing water was present across a portion of the site.

3 Results

3.1 Desktop Assessment

Full results for the desktop searches are provided in Appendix A and summarised in the following sections. A map showing environmental constraints identified by the desktop analysis is provided in Figure 3.1, Figure 3.2 and Figure 3.3.

3.1.1 Matters of National Environmental Significance

3.1.1.1 Threatened Ecological Communities

The verified REs 12.3.3 and 12.3.7 are listed as being associated with the TEC 'Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions' in the conservation advice document developed by DCCEEW (2022).

3.1.1.2 Preliminary Likelihood of Occurrence

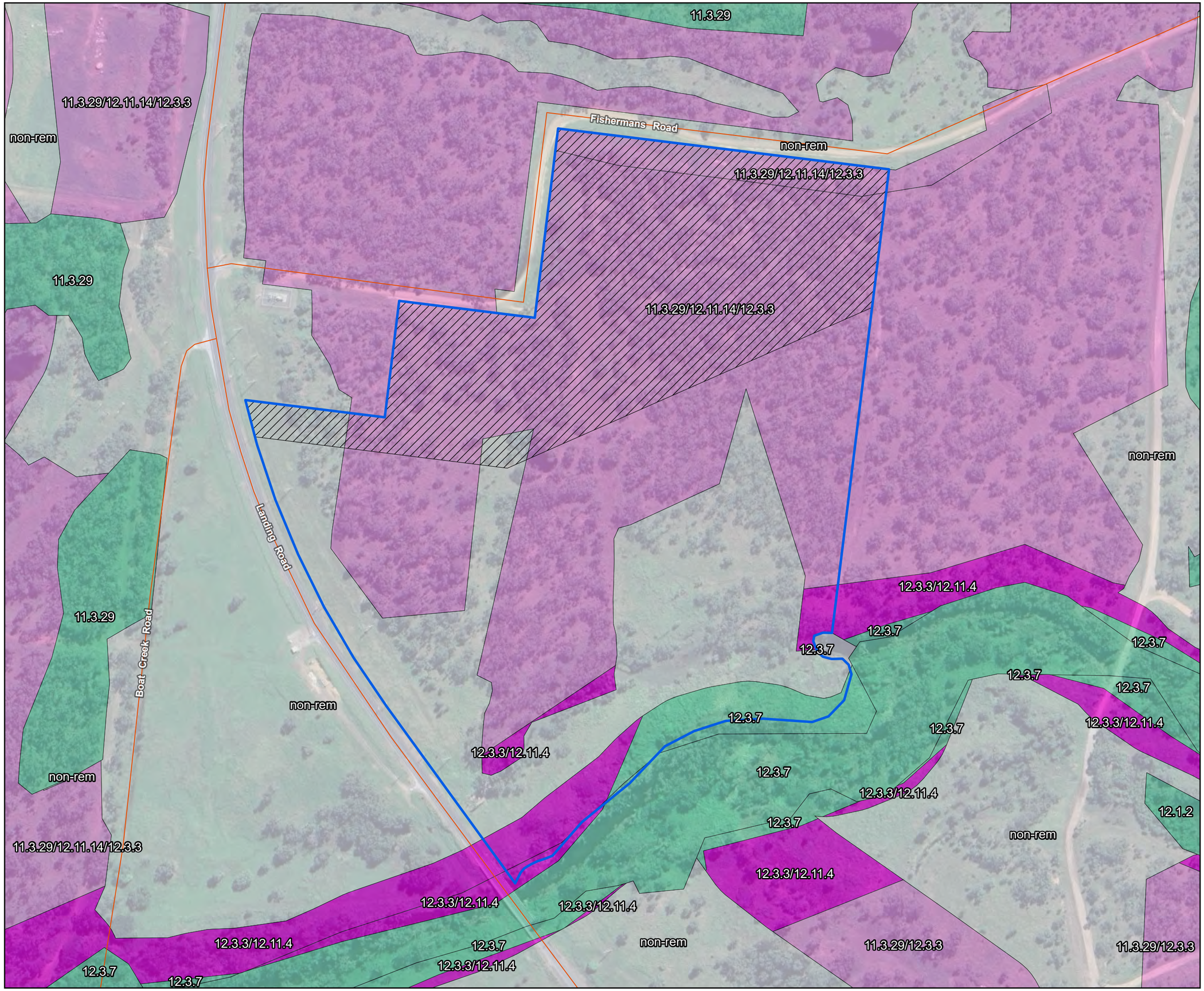
A number of MNES communities and species were identified as likely or known to occur within the Project Area during the desktop likelihood of occurrence assessment including the following, along with their status under the EPBC Act:

- Threatened ecological communities:
  - Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions TEC, endangered.
- Mammals:
  - Greater Glider (southern and central) (*Petauroides volans*), endangered;
  - Yellow-bellied Glider (south-eastern) (Petaurus australis australis), vulnerable; and
  - Koala (*Phascolarctos cinereus*), endangered.
- Birds:
  - Osprey (*Pandion haliaetus*), migratory and marine; and
  - Squatter Pigeon (southern) (*Geophaps scripta scripta*), vulnerable.

3.1.1.3 Invasive Flora and Fauna

There are 78 introduced flora species listed in the WildNet database for the Survey Area, and a one kilometre buffer zone. Three of these species are classed as Weeds of National Significance (WoNS):

- Rubber vine (*Cryptostegia grandiflora*);
- Prickly pear (*Opuntia stricta*); and
- Lantana (*Lantana camara*).



Legend

- Project Area
- Impact Area
- Minor Road

Regional Ecosystem Class

- Non-remnant
- Endangered - Regrowth
- Endangered - Remnant
- Not Of Concern

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.1

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Regional Ecosystem Mapping

CQG Consulting
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Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-08
Revision: RevA
10 November 2025

Layer Credits- © OpenStreetMap (and) contributors, CC-BY-SA; QSpatial; CQG



Legend

- Project Area
- Impact Area
- Minor Road

Regulated Vegetation

- Category A Area
- Category B Area
- Category C Area
- Category R Area
- Water
- Category X Area

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.2

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

RVM Mapping

CQG Consulting

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Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-09
Revision: RevA
10 November 2025

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Legend

- Project Area
- Impact Area
- Essential Habitat (Vegetation Management Act)
- Minor Road

Watercourse Lines

- Minor - perennial
- Minor - non perennial

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.3

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Essential Habitat and Waterway Mapping

CQG Consulting
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Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-10
Revision: RevA
10 November 2025

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3.1.2 Matters of State Environmental Significance

3.1.2.1 Flora and Vegetation Communities

The Queensland Government mapping tool identified the MSES listed in Table 3.1 as being present within Lot 1 on SP200899 and Lot 1 on MPH32292.

Table 3.1: MSES Summary

MSES Summary	Area (ha) Lot 1 on SP200899	Area (ha) Lot 1 on MPH32292	Area Total (ha)
Habitat for threatened (endangered or vulnerable) wildlife	0.00	5.51	5.51
Habitat for special least concern animals	0.00	5.72	5.72
Regulated Vegetation – Endangered/ Of concern in Category B (remnant)	0.00	0.03	0.03
Regulated Vegetation – Category R (GBR riverine regrowth)	0.00	1.07	1.07
Regulated Vegetation – Endangered/ Of concern in Category C (regrowth)	3.07	10.68	13.75
Regulated Vegetation – Essential habitat	0.00	6.22	6.22

The MSES report indicated that suitable habitat for 24 fauna and four flora species listed as either vulnerable, endangered or critically endangered under the *Nature Conservation Act 1992* (Qld) (NCA) exists within the Project Area, all with no records locally.

Local records indicate presence of:

- Eastern curlew (*Numenius madagascariensis*) listed as NCA endangered and *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act) critically endangered;
- Western Alaskan bar-tailed godwit (*Limosa lapponica baueri*) listed NCA and EPBC Act vulnerable;
- Whimbrel (*Numenius phaeopus*) NCA special least concern;
- Common sandpiper (*Actitis hypoleucos*) NCA special least concern; and
- Common greenshank (*Tringa nebularia*) NCA special least concern.

3.1.2.2 Regulated Vegetation and Regional Ecosystems

Regulated vegetation mapping was searched for the Survey Area (refer to Appendix A). The current *Vegetation Management Act 1999* (Qld) (VMA) regulated vegetation mapping shows the site mapped as a mix of Category B (remnant vegetation), Category C (high-value regrowth), Category R (regrowth within 50 m of a watercourse or drainage feature in the Great Barrier Reef catchment) and Category X (non-remnant vegetation) containing an endangered and of concern RE.

Table 3.2, Figure 3.1 and Figure 3.2 summarise the REs and RVM categories mapped within the Project Area.

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Table 3.2: RE and RVM Categories

RE	RVM Category	Description	VMA Status
11.3.29	Category C	*Eucalyptus crebra, E. exserta,* Melaleuca spp. woodland on alluvial plains	Least concern
12.11.14	Category C	*Eucalyptus crebra, E. tereticornis, Corymbia intermedia* woodland on metamorphics +/- interbedded volcanics	Of concern
12.11.4	Category B Category C Category R	Semi-evergreen vine thicket on metamorphics +/- interbedded volcanics	Of concern
12.3.3	Category B Category C Category R	*Eucalyptus tereticornis* woodland on Quaternary alluvium	Endangered
12.3.7	Category B Category C Category R	*Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana* +/- Melaleuca spp. fringing woodland	Least concern
Non-rem	Category X	Non-remnant vegetation	None

3.1.2.3 Invasive Flora and Fauna

There are 78 introduced flora species listed in the WildNet database for the Survey Area, and a one kilometre buffer zone. Four of these species are listed under *Biosecurity Act 2014* (Qld) as restricted and/or classed as WoNS:

- Rubber vine (*Cryptostegia grandiflora*) – WoNS & category 3 restricted invasive *Biosecurity Act 2014* (Qld);
- Prickly pear (*Opuntia stricta*) - WoNS & category 3 restricted invasive *Biosecurity Act 2014* (Qld);
- Lantana (*Lantana camara*) - WoNS & category 3 restricted invasive *Biosecurity Act 2014* (Qld); and
- Creeping lantana (*Lantana montevidensis*) - category 3 restricted invasive *Biosecurity Act 2014* (Qld).

There are six introduced fauna species listed in the WildNet database for the Survey Area, and a one kilometre buffer zone. Those listed under *Biosecurity Act 2014* (Qld) are:

- Mosquito fish *(Gambusia holbrooki*) – restricted noxious fish;
- Feral cat (*Felis catus*) – category 3, 4 and 6 restricted invasive animal; and
- Rabbit (*Oryctolagus cuniculus*) - category 3, 4, 5 and 6 restricted invasive animal.

3.2 Field Results

A random meander was conducted across the two lots, with two BioCondition surveys and two quaternary surveys undertaken. Survey locations are shown on Figure 3.4.

3.2.1 Matters of National Environmental Significance

3.2.1.1 Threatened Ecological Communities

The verified REs 12.3.3 and 12.3.7 are listed as being associated with the TEC 'Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions' in the conservation advice document developed by DCCEEW (2022). These two REs are mapped and were groundtruthed to exist in the riparian vegetation on the northern side of Boat Creek, within the Project Area.

There are a series of key diagnostic characteristics to determine if an ecological community meets the criteria of a TEC. The vegetation present within the Project Area has been assessed against these criteria (refer to Table 3.3).

Table 3.3: TEC Assessment

Key Diagnostic Characteristic	Comment
It occurs in the New South Wales North Coast and South Eastern Queensland Interim Biogeographic Regionalisation for Australia bioregions, and on Curtis Island in the Brigalow Belt North IBRA Bioregion.	Yes, Project Area is located in the South Eastern Queensland Bioregion
It occurs in the catchments of the eastern watershed of the Great Dividing Range, typically in their lower reaches.	Yes, Project Area is within the Great Dividing Range watershed
It occurs at elevations up to 250 m above sea-level (ASL), most typically below 50 m ASL.	Yes, Project Area is approximately 5 m ASL.
It occurs on alluvial landforms including river floodplains, riparian zones (e.g., along riverbanks, lake foreshores and creek lines), the floors of tributary gullies, floodplain pockets, alluvial flats, fans, terraces, and localised colluvial fans; as well as on localised depressions amongst low rises and on associated sites where water can pond.	Yes, occurs on the bank of Boat Creek.
It occurs on alluvial soils of various textures including silts, clay loams, sandy loams, gravel and cobbles.	Yes, clay loam type soil observed.
It does not typically occur on soils that are primarily marine or aeolian sands, but may occur on such substrates after they have been modified by fluvial activity.	Yes
It occurs as a tall closed-forest, tall open-forest, closed forest, open forest, tall woodland, or woodland The canopy has a crown cover of at least 20%	12.3.3 – No, crown cover less than 20%, open woodland. 12.3.7 – Yes, woodland.
It has a canopy dominated by one or a combination of Angophora, Corymbia, Eucalyptus, Lophostemon and/or Syncarpia tree species, but NOT dominated by Eucalyptus robusta (swamp mahogany). Other canopy tree species may be present, and in some area's rainforest trees may be prominent.	12.3.3 – No, few canopy trees present. 12.3.7 – Yes, Blakella (formerly Corymbia) and Eucalyptus dominate canopy.

Key Diagnostic Characteristic	Comment
A mid-layer (including a sub-canopy, and/or shrub-layer) may be present, sparse or absent; and fauna may be abundant or rare.	12.3.3 – No, few mid-layer trees observed. 12.3.7 – No, few mid-layer trees observed.
Patch size is larger than 0.5 ha	12.3.3 – No, patch is under 0.5 ha 12.3.7 – No, patch is under 0.5 ha
Patch breaks are less than 30 m	12.3.3 – No, road reserve approximately 30 m wide. 12.3.7 – No, no other patches nearby.
Introduced species presence	The patches do not meet the nationally protected thresholds due to the dominance of introduced species present.
Outcome	Vegetation present does not meet the key diagnostic characteristics of a TEC

Further to the results in Table 3.3 above, the patches do not meet the nationally protected thresholds due to the dominance of introduced species present.

3.2.1.2 Invasive Flora

Two weeds listed as WoNS were observed within the survey area:

- Rubbervine (*Cryptostegia grandiflora*); and
- Lantana (*Lantana camara*).

3.2.2 Matters of State Environmental Significance

3.2.2.1 Flora and Vegetation Communities

BioCondition surveys were undertaken at two of the four survey sites, both within the Impact Area. Quaternary surveys were undertaken at T3 and T4 due to poor access and mobility in the dense Guinea grass. Full BioCondition score data is collated in Appendix C. Table 3.4 shows the summarised results of the BioCondition assessments. The average score for the Impact Area indicates that vegetation is moderately dysfunctional.



Legend

- Project Area
- Impact Area
- Survey Locations (Points)
- Survey Locations (Lines)
- GPS Tracks
- Minor Road

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.4

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Project Halogen - Special Industry

Survey Locations

CQG Consulting
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PO Box 8384, Allenstown 4700
Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-11
Revision: RevA
10 November 2025

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3.2.2.2 Regulated Vegetation and Regional Ecosystems

The RE's on site were found to be consistent with the mapping. Full RE verification is in Appendix D and species lists in Appendix E. Figure 3.5 shows verified RE mapping.

Table 3.4: Verified Regional Ecosystems

Verified RE	RVM Category	RE Description	VMA Status	Project Area (ha)	Impact Area (ha)
11.3.29	Regrowth	*Eucalyptus crebra, E. exserta,* Melaleuca spp. woodland on alluvial plains.	Least concern	2.6	0.50
11.3.29a	Regrowth	*Eucalyptus crebra* +/- *Corymbia dallachiana* +/- C. *erythrophloia, E. moluccana* woodland. Occurs on broad plains and fans formed from Quaternary alluvium.	Least concern	12.6	6.99
12.3.3	Regrowth	*Eucalyptus tereticornis* woodland on Quaternary alluvium	Endangered	0.8	-
Non-remnant			NA	5.3	0.16
			Total Areas	21.3	7.65

3.2.2.3 Wetlands and watercourses

An unnamed waterway was confirmed to be holding water and aquatic flora in the southern portion of the Project Area. The water way runs adjacent to Boat Creek and appears to join it to the east of the lot boundary. An unmapped dam, holding water, was located along the boundary of the two lots, immediately south of the Project footprint (refer to Figure 3.6).

3.2.2.4 Invasive Flora and Fauna

Evidence of use by feral pigs, dogs and foxes were observed across the Site.

Two weeds listed as restricted invasive species under the *Biosecurity Act 2014* (Qld) were observed within the survey area (refer to Table 3.5).

Table 3.5: Restricted Invasive Species

Scientific name	Common name	*Biosecurity Act 2014* (Qld) Status
Cryptostegia grandiflora	Rubber vine	Restricted, category 3
Lantana camara	Lantana	Restricted, category 3



Legend

- Project Area
- Impact Area
- Minor Road

Verified Regional Ecosystem Mapping

- 11.3.29
- 11.3.29a
- 12.3.3 - TBC

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.5

Grenof Water Technologies Pty Ltd

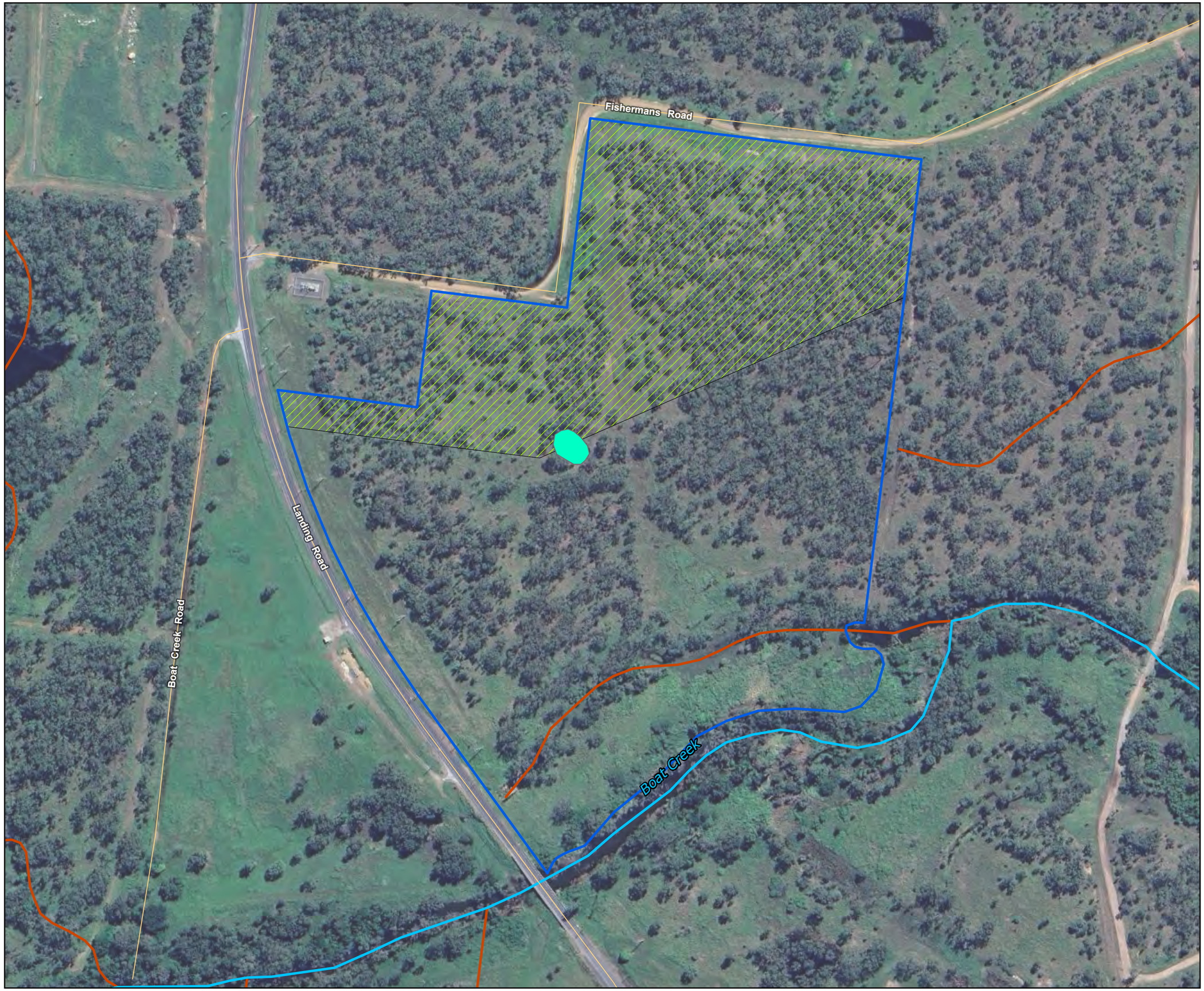
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Verified Regional Ecosystem Mapping

CQG Consulting
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PO Box 8384, Allenstown 4700
Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-12
Revision: RevA
10 November 2025

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Legend

- Project Area
- Impact Area
- Unmapped Dam
- Watercourse [defined by Water Act 2000]
- Drainage feature [defined by Water Act 2000]
- Minor Road

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.6

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Verified Waterways

CQG Consulting
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Project No: 25054
Map No: 25054-14
Revision: RevA
10 November 2025

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3.2.3 Fauna and habitat features

A mixture of habitat features and fauna sign were observed across the Site during the random meanders, see Figure 3.7, Figure 3.8 and Figure 3.9 for locations and Appendix F for details. Koala and glider foraging trees and trees with arboreal hollows visible were measured for DBH and height, with the tallest tree being approximately 30 metres tall and the largest tree at 100 centimetres DBH. The following habitat features were recorded:

- Arboreal hollows (refer to Photograph 3.1);
- Koala & glider foraging trees;
- Stags;
- Scratches on trees (refer to Photograph 3.2);
- Scat (possum, pig, dog and fox);
- Feral pig tracks;
- Bones (likely macropod);
- Arboreal termite mounds;
- Small burrows;
- Small diggings (likely echidna or bandicoot);
- Exfoliating bark;
- Flowering trees (Acacia sp. and Melaleuca sp.);
- Open pipe;
- Standing water; and
- Stick nests.

Trees heights and diameter at breast height (DBH) were measured for the larger trees observed.



Photograph 3.1: Arboreal hollow in *E. tereticornis*



Photograph 3.2: Scratches on *B. dallachiana*

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Legend

- Project Area
- Impact Area
- Minor Road
- Koala and Glider Foraging Trees
- Arboreal Hollows

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.7

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Koala and Glider Foraging Trees and Arboreal Hollows

CQG Consulting
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Project No: 25054
Map No: 25054-15
Revision: RevA
10 November 2025

Layer Credits- © OpenStreetMap (and) contributors, CC-BY-SA; QSpatial; CQG

Fishermans Road

Landing Road

Boat Creek Road

Legend

- Project Area
- Impact Area
- Arboreal Termite Mounds
- Minor Road

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.8

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Arboreal Termite Mounds

CQG Consulting

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Project No: 25054
Map No: 25054-16
Revision: RevA
10 November 2025

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Legend

- Project Area
- Impact Area
- Minor Road

Habitat Features and Fauna Sign

- Burrow
- Dam
- Diggings
- Exfoliating bark
- Flowering trees
- Man-made structure
- Prints
- Scat
- Scratches
- Stag
- Standing water
- Stick nest

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 3.9

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Habitat Features and Fauna Sign

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Project No: 25054
Map No: 25054-17
Revision: RevA
10 November 2025

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4 Verified Likelihood of Occurrence

The preliminary likelihood of occurrence assessment (refer to Section 2.2) was revised based on habitat assessment and field survey results. Table 4.1 summarises the results of the verified likelihood of occurrence assessment with the detailed information provided in Appendix G.

Species considered known or likely based on the habitat assessment include:

- Mammals:
  - Koala (*Phascolarctos cinereus*), endangered.
- Birds:
  - Osprey (*Pandion haliaetus*), migratory and marine; and
  - Squatter Pigeon (southern) (*Geophaps scripta scripta*), vulnerable.

While none of these species were recorded during the habitat assessment or signs of their presence (scats, scratches or tracks), they are considered either known to be present based on previous records immediately adjacent to the Impact Area, or likely to be present based on habitat suitability.

Targeted fauna surveys should be undertaken to confirm presence of these, and any other potential species within the Impact Area.

Table 4.1: Likelihood Assessment Summary

Matter	EPBC Act Status	NCA Status	Description / Habitat	Verified Likelihood of Occurrence Within Impact Area	Likelihood Notes
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	-	The subtropical eucalypt floodplain forest and woodland TEC is a floodplain forest community dominated by eucalyptus and other myrtaceous tree species. This community occurs in the NSW North Coast and SE QLD IBRA bioregions and on Curtis Island in the Brigalow Belt north IBRA Bioregion. It encompasses an area from just north of Newcastle, NSW in the south, to just north of Gladstone in QLD. It occurs as a tall closed-forest, tall open forest, closed forest with a canopy that has at least 20% crown cover. The canopy is dominated by Angophora, Corymbia, Eucalyptus, Lophostemon and/or Syncarpia tree species, but NOT dominated by Eucalyptus robusta.	Absent	Patches do not meet key diagnostic criteria for TEC
Greater Glider (southern and central) *Petauroides volans*	Endangered	Endangered	The southern and central Greater Glider occurs in eastern Australia, where it has a broad distribution from around Proserpine in QLD, south through NSW and the ACT, to Wombat State Forest in central VIC. This species is largely restricted to eucalypt forests and woodlands of eastern Australia. It is typically found in highest abundance in taller, montane, moist eucalypt forests on fertile soils, with relatively old trees and abundance hollows. It is likely that only a proportion of forest in potential habitat areas is suitable for the species, as the structural attributes of the forest overstorey and forage quality it relies on vary considerably across the landscape (TSSC Conservation Advice, 2022).	Potential	Although largely regrowth vegetation is present within the Impact Area, there were a number of older growth hollow-bearing trees within the Impact Area. There is a record for Greater glider within 15 km of the site in Gladstone, however the date and accuracy of this record is unknown. The nearest reliable sightings are approx. 65 km to the south-west in Kroombit Tops National Park and approx. 62 km south-east near Miriam Value. These areas are not connected to the Impact Area.
Koala *Phascolarctos cinereus*	Endangered	Endangered	The Koala is endemic to Australia. The biological species range extends from north-eastern QLD to the south-east corner of SA. Koalas naturally inhabit a range of temperate, subtropical and tropical forests, woodland and semi-arid community's dominated by Eucalyptus species. Their habitat can broadly be defined as any forest or woodland containing species that are a known Koala food tree, or shrubland with emergent food trees (SPRAT 2017).	Likely	Suitable foraging and sheltering trees are present, however there is no records within 10 km.
Yellow-bellied Glider (south-eastern) *Petaurus australis australis*	Vulnerable	Vulnerable	The Yellow-bellied Glider is found in tall mature Eucalypt Forest and they feed on a range of sources including winter-flowering Eucalypts which provide nectar and pollen. They also feed upon the sap of Eucalypts in which they chew V-shaped incisions to collect the sap. Yellow-bellied Gliders den in large tree hollows (NPWS, 2000).	Unlikely	While there are records within 2 km of the Impact Area in large patches of tall remnant forest, the vegetation identified within the Impact Area is unlikely to be suitable (not consistent with tall forest) and no feeding incisions were recorded during the survey.
Osprey *Pandion haliaetus*	Migratory Marine	-	The Osprey is thinly distributed around the coast of Australia where they forage for fish in fresh, brackish, or saline waters of rivers, lakes, estuaries and inshore coastal waters (Schodde and Tidemann, 1993; NPWS, 2000). Nests are usually located near a suitable area of foraging habitat and are a bulky structure made from piled sticks, often positioned in a tall dead tree or artificial structures such as telecommunication towers or poles (Schodde and Tidemann, 1993; NPWS, 2000). Breeding pairs defend breeding territory against other Ospreys, and active nests are usually more than 1 km apart (NPWS, 2005).	Known	There are numerous records for Osprey within the Gladstone region, including within 1 km of the Impact Area. The Impact Area is mapped as regrowth vegetation however there are several larger trees and stags with potential value for nesting. The Impact Area is approx. 1.5 km from foraging habitat.
Squatter Pigeon (southern) *Geophaps scripta scripta*	Vulnerable	Vulnerable	The known distribution of the Squatter Pigeon extends south from the Burdekin-Lynd divide in the southern region of Cape York Peninsula to the border Rivers region of northern NSW, and from the east coast to Hughenden, Longreach and Charleville. Their habitat is generally defined as open-forests to sparse, open woodlands and scrub that are mostly dominated by Eucalypts, Corymbia, Acacia or Callitris species. The habitat is generally remnant, regrowth or partly modified vegetation communities and within 3 km of water bodies or courses. Foraging occurs on well-drained, gravelly or loamy soils which support the open-forest to woodland communities with patchy, tussock-grassy understories (SPRAT, 2015).	Likely	Suitable habitat is present within the Impact Area.

5 Habitat Mapping and Modelling

Habitat criteria for species identified as known of likely based on the desktop assessment and ecology survey was determined through review of guidelines and references, including the following:

- Koala:
  - Conservation Advice for *Phascolarctos cinereus* (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory (Department of Agriculture, Water and the Environment 2022);
  - A review of koala habitat assessment criteria and methods (Youngentob et al 2022); and
  - National Recovery Plan for the Koala *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) (Department of Agriculture, Water and the Environment 2022).
- Squatter pigeon:
  - Approved Conservation Advice for Geophaps scripta scripta (southern squatter pigeon) (Threatened Species Scientific Committee (TSSC) 2015); and
  - Species Profile and Threats Database (SPRAT): Geophaps scripta scripta – southern squatter pigeon (Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2023).
- Osprey:
  - The breeding biology of the Osprey Pandion haliaetus on the north coast of New South Wales, Corella, 30(1), pp. 1–8 (Clancy 2006); and
  - Species Profile: Osprey (Pandion haliaetus cristatus) (Queensland Government (DES) 2020).

These criteria are summarised in Table 5.1.

Habitat for likely species was mapped within the Project Area based on ecology survey data and the criteria in Table 5.1. Maps are provided in Figure 5.1, Figure 5.2 and Figure 5.3.

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Table 5.1: Habitat assessment criteria

Habitat Criteria	Species (EPBC Act Status)		
	Koala (Endangered)	Squatter pigeon (Vulnerable)	Osprey (Migratory, Marine)
General habitat description	Koala habitat includes the total set of attributes required by koalas to meet the needs of individual survival and reproduction, and how those resources are arranged in the landscape to maintain viable metapopulation processes (landscape context dependent).	Prefers open eucalypt woodlands and grassy forests on loamy or sandy soils, often in areas with access to permanent or ephemeral water. Forages on the ground for seeds in sparsely grassed understories, nests in shallow ground scrapes often near cover.	The Osprey is a fish-eating raptor found along coasts, estuaries, large rivers, lakes, and reservoirs. It requires access to shallow open water for hunting and tall trees, cliffs, or artificial structures for nesting. Nests are large stick platforms, often reused and added to annually, reaching >1 m deep and 2 m across. Nest placement usually high in trees (10-30 m), or on artificial structures.
Habitat critical to survival	• Habitat used during periods of stress (examples flood, drought or fire); • Habitat used to meet essential life cycle requirements (e.g. foraging, breeding, social behaviour, dispersal); • The extent to which the habitat is used by important populations; • Whether the habitat is necessary to maintain genetic diversity and long-term evolutionary development; • Whether the habitat is necessary for use as corridors to allow the species to move freely between sites used to meet essential life cycle requirements; • Whether the habitat is necessary to ensure the long-term future of the species or ecological community through reintroduction or re-colonisation; and • Any other way in which habitat may be critical to the survival of a listed threatened species or a listed threatened ecological community (EPBC Act). Assume occupancy where suitable habitat is present or the area is likely used for movement, unless recolonisation is highly unlikely. As the Koala is listed endangered, even small losses of habitat (as little as 1 ha) can be significant depending on context	• Includes areas of intact open woodland with native grass groundcover and nearby water sources (within ~3 km); and • Also includes known breeding sites and foraging grounds within the Brigalow Belt and associated regions of QLD.	• Breeding sites near permanent waterbodies with abundant fish populations are critical; and • Large nest structures are typically built on tall trees, dead snags, cliffs, or increasingly on human-made platforms (e.g., power poles, towers).
Locally important trees[1] / vegetation composition (foraging, denning and/or shelter)	• Region-specific, including non-remnant elements such as roadside/rail vegetation and paddock trees; and • Includes *Eucalyptus tereticornis*, *E. populnea*, *E. crebra*, *E. melanophloia*, *Corymbia citriodora variegata* and *E. platyphylla*, with secondary use of other eucalypts such as *E. drepanophylla* and *E. exserta*.	• Key canopy species include *Eucalyptus crebra* (Narrow-leaved ironbark), *Corymbia citriodora* (Spotted gum), *E. populnea* (Poplar box), *E. melanophloia* (Silver-leaved ironbark); and • Ground layer dominated by native grasses such as Bothriochloa, Chloris, Panicum and Aristida spp.	• Not dependent on specific plant species but requires large trees or snags close to aquatic foraging habitat for nesting; and • In coastal Queensland, Casuarina, Melaleuca, and tall Eucalyptus species are often used.

[1] A tree from a species that is regularly browsed by a threatened scopes in a particular region, such that it could be considered a substantial portion of the animal's diet

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Habitat Criteria	Species (EPBC Act Status)		
	Koala (Endangered)	Squatter pigeon (Vulnerable)	Osprey (Migratory, Marine)
Vegetation condition (intactness, canopy cover, regeneration)	• Adequate canopy cover provides thermal refuge (shade in summer, shelter in storms) and influences microclimate. Higher canopy cover is often linked with greater leaf biomass and higher availability of food trees. Sparse canopy reduces the availability of safe pathways for arboreal movement, forcing Koalas to travel on the ground, which increases mortality risk; and • Recruitment of younger eucalypts ensures long-term habitat persistence as mature feed trees senesce. A regenerating understorey provides successional food resources and ensures continuity of suitable canopy structure. Areas without regeneration may function only in the short term, reducing long-term habitat value and offset suitability.	• Intact groundcover of native grasses for seed foraging; • Low shrub density to maintain open structure; • Canopy condition that provides scattered cover but allows ground movement; and • Areas free of heavy grazing, weeds, or soil compaction.	• Intact riparian or coastal vegetation is important for providing secure nest sites; and • Loss of tall trees through clearing or coastal development reduces nesting opportunities.
Landscape context (patch size, connectivity to other patches, corridors)	• Koalas rely on continuous patches of native eucalypt woodland and forest rather than fragmented or highly disturbed patches. Intact vegetation supports stable food resources, provides shelter from predators and reduces stress from constant ground movement. Fragmented habitat with frequent gaps increases mortality risk (vehicles, predation) and reduces population resilience; and • Koalas, especially subadult males, can disperse 1-3 km or more.	• Requires access to permanent or semi-permanent water (creeks, farm dams, waterholes) within typical daily movement distances (~3 km); • Habitat value is highest in large, contiguous woodland patches with nearby water; • Connectivity between foraging areas and permanent water is critical; and • Road networks and clearing reduce viability.	• Requires a mosaic of aquatic foraging habitats within 5–10 km of nesting sites; and • Sensitive to disturbance during breeding and nest site abandonment can occur if human activity is too close.
Climate refugia	• Drainage lines, riparian strips and other cooler, moister patches that provide resilience during heatwaves/bushfire.	• Likely to persist in riparian corridors, drainage lines, and areas with permanent/semi-permanent water during drought; and • Shaded woodland patches and intact grassland mosaics act as microclimate refuges in hotter, drier conditions.	• Refugia are linked to coastal and estuarine systems with reliable fish stocks; and • Coastal wetlands and river mouths with high fish productivity provide resilience under climate variability.
Evidence of use (scats, scratches, sightings)	• Sightings of individuals in trees (day or night surveys); • Thermal imaging or spotlighting detections during nocturnal surveys; • Acoustic recordings of male bellowing calls (breeding season, typically September–January); • Camera trap detections: Often used along habitat corridors or watering points; • Spot assessment technique (SAT): Standardised method combining tree-based scat searches and habitat scoring (developed by Phillips & Callaghan); • Scat surveys: Often used in conjunction with habitat assessment to confirm use. Scats (faecal pellets) - oval, ~16-20 mm, fibrous texture, characteristic smell of eucalyptus oil, found at the base of feed trees, often in groups beneath favoured resting branches; • Scratch marks on tree trunks - vertical or diagonal parallel claw marks on the bark of eucalypts, best identified on smooth-barked species like *Eucalyptus tereticornis* (forest red gum); • Tracks / footprints - rare but can be detected in soft soil or sandy substrates under trees; • Community reports: Verified local sightings, wildlife care records, or roadkill records; and • Wildlife databases: EPBC Protected Matters Search Tool (PMST) or Queensland WildNet database.	• Direct sightings of birds foraging or drinking; • Ground nests (shallow scrapes with minimal lining, usually in cover of grass tussocks); and • Database records (PMST, WildNet, Atlas of Living Australia) provide supporting presence data.	• Direct observation of foraging flights; • Presence of large stick nests; • Distinctive vocalisations near nest sites; and • Database records (PMST, WildNet, Atlas of Living Australia) provide supporting presence data.

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Legend

- Project Area
- Impact Area
- Minor Road

Koala Habitat (Endangered)

- Potential Dispersal Habitat
- Potential Breeding and Foraging Habitat

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 5.1

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Project Halogen - Special Industry

Koala Habitat (Endangered)

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Project No: 25054
Map No: 25054-18
Revision: RevA
10 November 2025

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Legend

- Project Area
- Impact Area
- Minor Road

Squatter pigeon Habitat (Vulnerable)

- Potential Breeding and Foraging Habitat

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 5.2

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Squatter pigeon Habitat (Vulnerable)

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Project No: 25054
Map No: 25054-19
Revision: RevA
10 November 2025

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Legend

- Project Area
- Impact Area
- Minor Road

Osprey Habitat (Migratory & Marine)

- Potential Nesting Habitat

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure 5.3

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Osprey Habitat (Migratory & Marine)

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Project No: 25054
Map No: 25054-20
Revision: RevA
10 November 2025

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6 Impacts and Mitigation Measures

The Impact Area covers an area of 7.65 ha, most of which contains regrowth and scattered remnant trees. Much of the area within the Impact Area has been subject to historic clearing but may contain regrowth of native vegetation communities which may be of habitat value to threatened species.

Riparian vegetation along watercourses and tributaries within the Project Area is considered to be remnant (although most is mapped as non-remnant by the State).

The key potential impacts associated with the Project stages are outlined in Table 6.1.

Table 6.1: Project activities and potential impacts

Project Stage	Activity	Risk	Potential Impact
Construction	Site establishment and vegetation clearing	Habitat loss, fragmentation and degradation	• Clearing of vegetation and habitat; • Mortality and injury; • Indirect impacts such as noise, dust, vibration or lighting; • Decline of threatened species populations through inappropriate land management practices; • Weed and pest incursion; • Erosion and sedimentation; • Stormwater management; and • Connectivity, fragmentation and barriers to movement.
		Introduction and exacerbation of invasive species	
	Construction activities including vehicular movements	Dust generation	
		Soil erosion and sedimentation	
Operation and maintenance	Project activities	Introduction and exacerbation of invasive species	
Decommissioning	Project conclusion and rehabilitation works	Introduction and exacerbation of invasive species	
		Dust generation	
		Soil erosion and sedimentation	

An overview of the potential impacts associated with the construction, operation or decommissioning of the Project on the relevant MNES is outlined in Table 6.2.

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Table 6.2: Potential impacts and general mitigation measures

Potential Impacts	General Mitigation Measures	Timing
Clearing of vegetation and habitat	• Prior to any vegetation clearing pre-clearance surveys will be undertaken within the Impact Area to inform the micro-siting process to further minimise disturbance to threatened species and their habitat; • 'No-go' areas, including clearing limits will be clearly demarcated including the implementation of signage and fencing to ensure approved clearing limits are not exceeded. Information fact sheets will also be given to applicable land holders. 'No go' areas will include areas adjacent to the Impact Area which contain habitat (known or potential) for threatened species; • Ongoing monitoring will occur within Impact Area and 5 m either side of the Development Footprint to monitor for impacts to threatened species and habitat including the presence of invasive species; • Rehabilitation will be undertaken of disturbed areas no longer required for active use or construction to ensure habitat is restored and does not lead to further degradation; • Personnel will be informed of the known threatened species and habitat within the Project Area, as well as the procedures for minimising Project impacts through site inductions, training, and toolbox talks; • Project vehicles and personnel are to stay on approved tracks to reduce the risk of impacting areas of habitat; • The period between decommissioning activities and rehabilitation of disturbed areas will be kept to a minimum to prevent the establishment of exotic species and loss of soil; • Topsoil and subsoil to be reinstated in the same order as extracted to minimise inversion of sub and topsoils. Topsoil to be replaced to match surrounding ground levels; • Seed mix to contain relevant species, aligned with prior land use. The species that will be used in rehabilitation works will be identified in consultation with the landowners. Where practicable vegetation best aligned with the historic vegetation at the rehabilitation site will be selected. All rehabilitation activities adjacent to remnant areas to consist only of native species; • Where rock was naturally occurring on the ground surface, the surface rock will be replaced as part of rehabilitation works; • All waste materials and equipment to be removed from the Development Footprint area once decommissioning and rehabilitation works are completed; • Any temporary access roads not required for operation and maintenance, or that are not going to be retained by the landowner are to be closed and reinstated to a condition comparable with the surrounding land use; and • All work areas, temporary access tracks and other areas that have been compacted by construction activities are to be ripped to relieve compaction and to trap water and seed, where practical.	Pre-construction, construction and decommissioning
Mortality and injury	Mortality and injury to threatened species may result during construction and operation, most likely during vegetation clearing and vehicle strike as animals' traverse areas on the ground. This is particularly likely during the breeding seasons of arboreal and nesting species. Traffic volumes associated with the Project are not likely to be significant and night-time traffic is unlikely. To minimise the potential direct mortality of fauna, a project-specific Environmental Management Plan (EMP) will be implemented to include practical measures to be implemented prior to and during construction, including: • Delineation of clearing boundaries and no-go zones; • Spotter/Catcher oversight of all clearing activities; • Pre-clearance surveys to locate active fauna breeding sites; • A sequential clearing plan which affords fauna the opportunity to relocate away from the work front; • Enforcement of vehicular speed limits within work areas; and • Daily inspection of any open excavations to remove inadvertently trapped fauna.	At all times throughout the life of the Project

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Potential Impacts	General Mitigation Measures	Timing
Indirect impacts such as noise, dust, vibration or lighting	Excessive noise, vibration and dust deposition can cause impacts to vegetation and fauna, including (but not limited to) the following: • Increased dust from vegetation clearing, earthworks and vehicle movements during construction has the potential to temporarily and locally impact flora and fauna values in the vicinity of the Impact Area. Dust is expected to only be a potential issue during vegetation clearing, construction and demolition and will be mitigated by routine environmental management measures; • Noise may adversely affect fauna by interfering with communication (e.g. territorial bird song), masking the sound of predators and prey, causing avoidance reactions and displacement from habitat. Construction noise will be generated by the Project through the use of machinery, plant and vehicles, and will vary from short intermittent noise from plant and equipment to more persistent noise from generators. Individuals that occur within the Impact Area may be deterred from habitat. Project construction works and therefore potential noise impacts will be temporary; • Vibration from vehicles and equipment may cause temporary disturbance to fauna, and displacement or structural damage to habitat for fauna; • Artificial lighting from infrastructure and machinery may impact fauna within the Project Area during construction. Artificial lighting can have a range of impacts which vary between species. Artificial light can disrupt patterns of both nocturnal and diurnal species by eliciting responses. Some species may avoid brightly lit areas, potentially due to the perception of being increased risk of predation. Conversely, some species such as nocturnal reptiles, frogs and bats may congregate at artificial light sources to feed on insects attracted to light. Other potential adverse impacts include disruption of breeding and migratory patterns, disorientation and potential collision with structures; and • Indirect impacts to breeding places also need to be considered, including noise and dust generated during construction.	At all times throughout the life of the Project
Decline of threatened species populations through inappropriate land management practices	Inappropriate land management practices including bushfire management can result in loss or decline of threatened species populations. Mitigation measures include: • Implement bushfire management measures in accordance with the Project Bushfire Management Plan; and • Following agreement with the landholder any additional access tracks within the Project Area that are required for construction only and will not be used during operation, will be decommissioned or made inaccessible (subject to agreement with landholder) to minimise direct or indirect impacts to threatened species populations.	Pre-construction and construction
Weed and pest incursion	The presence and abundance of feral animal and weed species adversely effects native species through increased predation, competition for resources, introduction of disease, reduced ecosystem function and habitat degradation. Vegetation clearing, fragmentation and opening up areas through clearing allows invasive species access to previously unoccupied areas, although it is noted that due to previous disturbance invasive species are widespread and well established within the Impact Area. Mitigation measures include: • A Biosecurity Management Plan to be developed for the Project; • Material imported into the Study Area (i.e., for use as fill etc.) will be obtained from an appropriately licensed source where the source location is deemed 'weed clean'. Evidence will be obtained from the provider prior to importation of material to the Project site. Imported fill (rocks/screenings) shall be free of contamination from mud clumps and weed seeds; • Use only native or certified weed free seeds in all rehabilitation works, including hydro mulch; • No viable weed species (declared or otherwise) are to be mulched or chipped in rehabilitation works; • All personnel are to be trained in the identification of key weed species during general induction and toolbox talks. Known weed species on the site are to be displayed on posters on the HSE board and any other suitable locations around the Project site; • Site vehicles (mobile plant including light vehicles) and equipment are to arrive on site 'clean' of weed seeds and other organic matter. Site vehicles are to be inspected and recorded with documented evidence, via a washdown register or weed and seed certificate, prior to entering the Project Area; • Progressive rehabilitation of bare/ disturbed areas will be completed as soon as the area is no longer needed for construction; • Monitoring and Management of weed species within areas disturbed as part of decommissioning (including rehabilitation areas) will continue for up to two years post-works; and • Site vehicles (mobile plant including light vehicles) will be driven to conditions and remain on approved access tracks to avoid mud, organic matter and weed seeds becoming stuck or caught on the vehicle. Offroad driving will be minimised to avoid contamination.	At all times throughout the life of the Project
Erosion and sedimentation	An Erosion and Sediment Control Plan (ESCP) is to be prepared by a Certified Professional in Erosion and Sediment Control. The plan will be developed in accordance with the Best Practice Erosion and Sediment Control guideline (IECA, 2008), which specifies sediment and erosion control requirements based on assessed erosion risk and estimated soil loss. Mitigation measures include: • Progressive rehabilitation of bare/ disturbed areas will be completed as soon as the area is no longer needed for construction; • Areas of bare earth will be limited to essential areas needed for the construction of Project infrastructure. Vegetation cover, mulch and other suitable methods to prevent dust generation will be adopted, where practicable; • Stockpiles (topsoil and subsoil) will be maintained to prevent windblown dust generation, especially during dry and/or windy conditions. This will include watering or covering of material as per the ESCP;	At all times throughout the life of the Project

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Potential Impacts	General Mitigation Measures	Timing
	• Maximum speed limits will be in place as applicable within the Study Area to avoid excessive dust generation. Speeds on public roads are to be observed as per road signage; • Restrict vehicles to approved access tracks (where constructed, or where approval for use exists with the landowner) and only vehicles required for the safe and essential construction activities will be allowed in work areas; • A construction water cart will be used to suppress dust during earthworks. Where watering is used, ensure that there is no surface ponding/pooling of water as per the ESCP; and • Promptly clean up spilled materials on traffic areas where the disturbance of the spilled material will generate harm/excessive dust.	
Stormwater Management	A Stormwater Management Plan is to be prepared for the Project. Additionally, the ESCP and the project-specific EMP will outline measures and controls to minimise potential impacts from chemical spills/leaks and from discharge of treated or untreated wastewater. Measures will include: • Safe storage of chemicals away from watercourses to ensure any spillages are contained; • Revegetation of soil to stabilise the land, reduce peak stormwater flows and reduce sediment discharge via stormwater runoff; • Use of non-residual and non-persistent herbicides to manage weeds onsite, to minimise the potential risk of harmful herbicide by-products entering the surface water receiving environment; • Installation and operation of a septic tank to service the operations and maintenance building will be designed and operated in accordance with relevant statutory requirements and Australian Standards. Regulated wastes will be removed from site and disposed in a suitable facility by a licensed operator; and • Increases in impervious areas will be limited to the footprint of buildings and infrastructure including carparks and internal access roads.	At all times throughout the life of the Project
Connectivity, fragmentation and barriers to movement	Connectivity is a linkage of landscapes that provides suitable habitat connections for fauna between two or more areas with suitable habitat. Connectivity is critical for maintaining healthy populations of organisms by promoting biological diversity through reproduction and allowing fauna to respond to environmental changes. Fragmentation and degradation of remnant vegetation can, in turn, disrupt essential ecosystems processes such as pollination, seed dispersal and regeneration. Smaller fragments of remnant vegetation are also vulnerable to invasive species, fire and other 'edge effects'. Mitigation measures to be implemented include: • Retention of riparian and remnant vegetation corridors that occur within the Project Area and allowing for regeneration along these corridors; and • Design of fencing to facilitate movement of fauna through the Impact Area where practicable and safe and so as not to impede movement within the wider Project Area.	Pre-construction, construction and decommissioning

7 Significant Impact Assessment

A Significant Impact Assessment has been undertaken to identify any residual impacts after the implementation of mitigation measures, with a focus on the Impact Area.

7.1 Legislative Requirements

Legislation considered for this SIA focusses on the EPBC Act, the Environmental Offsets Policy and relevant State legislation as outlined in Table 7.1.

Table 7.1: Relevant Environmental Legislation and Offset Framework

Framework	Summary
Commonwealth	
Environment Protection and Biodiversity Conservation Act 1999	• Protects and manages nationally significant matters and conservation of Australian biodiversity; • Provides national environmental assessment and approvals process; • Promotes ecologically sustainable development; and • Recognises the role of Indigenous people in conservation and ecological sustainability.
Environmental Offsets Policy 2023	• Provides guidance on the role of offsets in environmental impact assessments; and • Improves environmental outcomes through best practice offset principles.
MNES Significant Impact Guidelines 1.1	• Provides guidance on determining whether an action is likely to have a significant impact on a matter protected under the EPBC Act.
Offsets assessment guide	• Allows for quantification of impacts and offsets where the impacted protected matter is a threatened species or ecological community (not used as part of this assessment).
State	
Environmental Offsets Act 2014 (Qld)	• Outlines the offsets framework in Queensland; • Specifies the delivery of environmental offsets across jurisdictions; and • Provides a single point-of-truth for offsets in Queensland.
Environmental Offsets Regulation 2014	• Lists the MNES regulated under the *Environmental Offsets Act 2014* (Qld); and • Specifies prescribed activities.
Queensland Environmental Offsets Policy Version 1.10	• Details how offset proposals are assessed to ensure they meet the requirements of the *Environmental Offsets Act 2014* (Qld).
Significant Residual Impact Guideline	• Applied to assist in determining whether or not the Project will, or is likely to have a SRI on the MSES identified within the disturbance footprint; and • Includes Landscape Fragmentation and Connectivity Tool.

7.2 Matters of National Environmental Significance

Only MNES considered likely or known to occur within the Project Area have been included in the assessment i.e., the threatened species as outlined in Section 4. The assessments undertaken area based on MNES significant impact criteria as in *Significant Impact Guidelines 1.1 Matters of National Environmental Significance* (DoE 2013) (the Guidelines) and other relevant EPBC Act guidelines as references throughout this section.

7.2.1 Listed Threatened Species

7.2.1.1 Endangered Species

The Koala (*Phascolarctos cinereus*) (listed as endangered under the EPBC Act) is considered likely to occur in the Impact Area (Section 4 and Appendix G).

No Koala or evidence of their presence was recorded within the Impact Area during the habitat assessment, however a number of foraging and sheltering trees were identified.

Based on the absence of a local Koala population, the small Impact Area (7.65 ha), the industrialised context and proposed mitigation measures, the action is unlikely to have a significant impact on the Koala under the EPBC Act guidelines as identified in the Guidelines in Table 7.2.

7.2.1.2 Vulnerable Species

Although not observed during the habitat assessment surveys, the Squatter Pigeon (southern) (*Geophaps scripta scripta*) (listed as vulnerable under the EPBC Act) is considered likely to occur in the Impact Area (Section 4 and Appendix G):

The vulnerable species criteria in the Guidelines focusses on an 'important population of species' defined as a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- Key source populations either for breeding or dispersal;
- Populations that are necessary for maintain genetic diversity; and/or
- Populations that are near the limit for the species range.

Based on the small and degraded footprint (7.65 ha), absence of important populations in the area, availability of higher-quality habitat nearby and proposed mitigation measures, the action is unlikely to have a significant impact on the southern Squatter Pigeon under the EPBC Act guidelines. Refer to the SIA in Table 7.3 for more information.

7.2.2 Listed Migratory Species

The Osprey (*Pandion haliaetus*) (listed as migratory and marine under the EPBC Act), is considered likely to occur in the likelihood of occurrence assessment (Section 3.1.1.2 and Appendix G):

Given the marginal habitat within the small Impact Area (7.65 ha), the availability of higher-quality foraging and nesting habitat nearby, and proposed mitigation measures, the action is unlikely to result in a significant impact on the Osprey under the EPBC Act. Refer to the SIA in Table 7.4 for more information.

Table 7.2: SIA for EPBC Act listed Critically Endangered and Endangered Species Considered Likely to Occur Within Project Footprint

Criteria	Assessment of Nature and Extent of Impacts
Koala (*Phascolarctos cinereus)*	
Possibility that the action will lead to a long-term decrease in the size of the population	Unlikely Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Qld, NSW and ACT (DAWE 2022) defines an important population of Koala as those that: • Have the potential to act as source populations to adjacent areas of suitable, or potentially suitable, habitat; • Exist in areas of climatically suitable refugia during periods of environmental stress including droughts, heatwaves, and long-term climate change; • Are genetically diverse; • Are disease free and/or exhibit low rates of infection with important pathogens; • Contain genes which may confer adaptation to current and future environmental stressors; and • Are geographical or environmental outliers within the species range. No Koalas were sighted or signs of their presence recorded during the habitat assessment surveys. Suitable foraging and potential dispersal habitat are present, however there are no records within 10 km. The Project footprint has been designed and revised to avoid and minimise impact to areas of higher habitat value to Koala while allowing for enhancement and protection of riparian corridors associated with Boat Creek adjacent to the Impact Area. Given the lack of evidence of a local population within the Project Area, and the relatively small size of the Impact Area (7.65 ha) it is considered unlikely that the Project would lead to a long-term decrease in the size of a population.
Possibility that the action will reduce the area of occupancy of the species	Unlikely No Koalas were sighted or signs of their presence recorded during the habitat assessment surveys. Suitable foraging and potential dispersal habitat are present, however there are no records within 10 km. The Impact Area is within an industrialised landscape with low quality habitat and provides negligible value as a refugia during times of stress. While the wider Project Area and the adjacent Boat Creek riparian area may provide value as potential corridors to allow movement of the species, the Impact Area is unlikely to be

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Criteria	Assessment of Nature and Extent of Impacts
	necessary for these processes. Given the long term disturbance from adjacent industry and future proposed projects, it is considered unlikely that the Impact Area would be recolonised. Indirect impacts (through land and water contamination) are a potential due to the nature of the action, however mitigation measures will be put in place to avoid this, therefore it is unlikely to action will reduce the area of occupancy of the species.
Possibility that the action will fragment an existing population into two or more populations	Unlikely Given the small size of the Impact Area (7.65 ha) and that it will not fragment existing habitat or movement corridors, it is considered unlikely that the action will result in fragmentation of existing populations.
Possibility that the action will adversely affect habitat critical to the survival of species	Unlikely Critical habitat for the Koala includes the following attributes necessary for survival of the species: • Food trees: Presence of preferred species such as Eucalyptus, Corymbia, Angophora – Eucalyptus and Corymbia/Blakella species are present within the Impact Area • Connectivity: Well-connected landscapes that support breeding and movement – the Impact Area does not create fragmentation of surround potential habitat and allows for connectivity between adjacent areas (for example, along Boat Creek). • Proximity to known populations or likelihood of recolonization – there are no known populations of Koala in the area surrounding the Impact Area. There are no records of Koala within 10 km. Given eh industrialised landscape it is unlikely the species would recolonise the area. • Landscape context: Includes refugia and metapopulation-supporting landscapes – no known metapopulations are present within the area surrounding the Impact Area. The Impact Area is within an industrialised landscape with low quality habitat and provides negligible value as a refugia during times of stress. The action is unlikely to adversely affect habitat critical to the survival of the Koala.
Possibility that the action will lead disrupt the breeding cycle of a population	Unlikely It is unlikely the activity will disrupt the breeding cycle of a population due to the small size of the Impact Area and the availability of breeding habitat in adjacent areas.

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Criteria	Assessment of Nature and Extent of Impacts
Possibility that the action will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely The Impact Area is within an industrialised landscape with low quality habitat and provides negligible value as a refugia during times of stress. While the wider Project Area and the adjacent Boat Creek riparian area may provide higher value as potential habitat to allow movement of the species, the Impact Area is unlikely to be necessary for these processes. Given the long term disturbance from adjacent industry and future proposed projects, it is unlikely that the Impact Area would modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
Possibility that the action will result in invasive species that are harmful to critically endangered or endangered species' habitat	Unlikely Appropriate mitigation and management actions, including the development of a project-specific biosecurity management plan should be implemented. With such management in place, it is unlikely the action will result in the introduction or spread of weeds, such as rubber vine, that may cause the species to decline above that which the species would already normally be exposed to.
Possibility that the action will introduce disease that may cause the species to decline	Unlikely Appropriate mitigation and management actions, including the development of a project-specific biosecurity management plan should be implemented. With such management in place, it is unlikely the action will result in the introduction of a disease that may cause the species to decline above that which the species would already normally be exposed to.
Possibility that the action will interfere with the recovery of the species	Unlikely While short term, localised impacts on the koala may occur, it is unlikely that the action will result in interference with the recovery of the species as per the recovery objectives (e.g., maintaining habitat connectivity, disease management, climate resilience) outlined in the National Recovery Plan for the Koala (DAWE 2022).
Outcome	The Action is not expected to result a significant impact on the population of the Koala.

Table 7.3: SIA for EPBC Act listed Vulnerable Considered Likely to Occur Within the Project Footprint

Criteria	Assessment of Nature and Extent of Impacts
Squatter Pigeon (southern) (*Geophaps scripta scripta)*	
Possibility the action will lead to a long-term decrease in the size of an important population of a species	Unlikely The southern boundary (Border Rivers of northern NSW) of the known distribution of the Squatter pigeon is contracting northwards (DCCEEW 2023). Therefore, all 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. This includes, but is not limited to: • The population occurring in the Condamine River Catchment and Darling Downs of southern Queensland; and • The population known to occur in southern Queensland; and any population potentially occurring in northern NSW. Given that the Project Area is located to the north-east of the Carnarvon Ranges, populations likely to be present within the Project Area do not meet this definition. It is therefore unlikely that the Project will lead to a long-term decrease in the size of an important population.
Possibility the action will reduce the area of occupancy of an important population	Unlikely In 2000, the area of occupancy for the Squatter pigeon was considered to be 10,000 km^2 (DCCEEW 2023). The Project will result negligible impacts to available breeding, foraging and dispersal habitat for this species, no important populations have been identified within the Impact Area and it is therefore it is unlikely that the Project will reduce the area of occupancy of an important population.
Possibility the action will fragment an existing important population into two or more populations	Unlikely As discussed above, the potential population of Squatter pigeons likely to occur within the Impact Area is not considered an important population. The species is likely to be found in low densities. The species is able to move freely within the surrounding landscape and co-exists with the current land use. The impacts associated with the Project are unlikely to have an impact on the population and individuals can continue to disperse across the landscape and around the Project infrastructure.

Criteria	Assessment of Nature and Extent of Impacts
	It is unlikely that the construction and ongoing operation of the Project will fragment any existing populations into two or more populations.
Possibility the action will adversely affect habitat critical to the survival of a species	Unlikely Whilst there is no current critical habitat identified for the survival of the species, key habitat values for the Squatter pigeon are generally defined as the following: • Open forests to sparse open woodlands and scrub that are mostly dominated in the overstory by Eucalyptus, Corymbia, Acacia or Callitris species; • Remnant, regrowth or partly modified vegetation communities; and • Within 3 km of water bodies or water courses. The Impact Area consists of regrowth vegetation that fits the definition of partly modified vegetation communities as described in the species profile (DCCEEW 2025). Impacts to these habitat values are not considered to be significant for several reasons including but not limited to: • The construction and ongoing operation of the Project will not require the removal or modification of any farm dams or watercourses that currently provide habitat value to Squatter pigeon; and • Natural regeneration of the adjacent riparian corridors which will increase the availability of foraging and roosting habitats in proximity to potential water resources. As the broader region contains habitat of higher quality and supports water features, the Project is unlikely to have a significant impact on habitat critical to the survival of the species.
Possibility the action will disrupt the breeding cycle of an important population	Unlikely Squatter pigeons are capable of breeding through the year when suitable resources and breeding habitats are available (DoE 2025). The Impact Area contains relatively small (7.65 ha), marginal breeding habitat. Considering that the suitable breeding habitat is available in the broader region, and no important populations have been identified within the Project Area, it is unlikely that the Project will disrupt the breeding cycle of an important population.
Possibility the action will modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely

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Criteria	Assessment of Nature and Extent of Impacts
	Well-draining, gravelly, sandy or loam soils landscapes are often good indicators of natural foraging and breeding habitat for the Squatter pigeon. Open forest to woodland communities with patchy tussock-grassy understories support foraging and breeding requirements. There is an abundance of dense exotic grasses (Guinea grass) which dominate much of the non-remnant vegetation on site, lowering the habitat quality for Squatter pigeons within these habitats (TSSC 2015). With vegetation already modified within the Impact Area, the availability of abundance habitat in the wider area and the small size of the Impact Area, it is unlikely that the Project will negatively affect the availability or quality of habitat for the Squatter pigeon to the extent that the species is likely to decline.
Possibility the action will result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Unlikely Invasive flora and fauna species are prevalent within the Project Area. These include weed species that develop dense ground cover and predators including feral pigs. The Project will implement a Biosecurity Management Plan to mitigate the risk of further weed species introduction and also manage the invasive fauna species present on site. As such it is unlikely that the Project will result in new invasive species becoming established within or around the Project Area, nor will it result in an increase in the distribution or abundance of existing invasive species.
Possibility the action will introduce disease that may cause the species to decline	Unlikely Diseases that may impact the population of Squatter pigeon are poorly known. No species which may carry novel diseases will be introduced to the Impact Area as a result of the Project. It is unlikely that a disease may be introduced to the Impact Area that may cause the species to decline.
Possibility the action will interfere substantially with the recovery of the species.	Unlikely The Project infrastructure is concentrated within largely non-remnant vegetation which has dense coverage of introduced grasses which may impede the ability of Squatter pigeons to utilise the habitat. While there is no recovery plan for this species, the Conservation Advice (2015) was reviewed to identify threats to the species. Based on this review it is unlikely that the Project will interfere substantially with the recovery of the species.
Outcome	The Action is not expected to result a significant impact on the population of the Squatter pigeon.

Table 7.4: SIA for EPBC Act listed Migratory Species Considered Likely to Occur Within the Project Footprint

Criteria	Assessment of Nature and Extent of Impacts
Osprey (*Pandion haliaetus)*	
Possibility the action will substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrogeological cycles), destroy or isolate an area of important habitat for migratory species	Unlikely Whilst habitat suitable for the osprey is present in the southern part of the Project Area, that habitat is not likely to be reduced by works within the Impact Area. It is considered unlikely that the activity will substantially modify, destroy or isolate an area of important habitat for the osprey.
Possibility the action will result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	Unlikely Invasive flora and fauna species are prevalent within the Project Area. These include weed species that develop dense ground cover and predators including feral pigs. The Project will implement a Biosecurity Management Plan to mitigate the risk of further weed species introduction and also manage the invasive fauna species present on site. As such it is considered unlikely that the Project will result in new invasive species becoming established within or around the Project Area, nor will it result in an increase in the distribution or abundance of existing invasive species.
Possibility the action will seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species	Unlikely Osprey typically breed from June through to September, with young fledging by October / November. The Impact Area contains relatively small (7.65 ha), marginal nesting and breeding habitat. Considering that the suitable breeding habitat is available in the broader region, and no ecologically significant proportion of the population has been identified within the Project Area, it is considered unlikely that the Project will disrupt the breeding cycle of an important population
Outcome	The Action is not expected to result a significant impact on the population of the Osprey

7.3 Matters of State Environmental Significance

Only MSES that were triggered in the environmental constraint's desktop assessment for the Impact Area and verified during site surveys (refer to Section 3.2.2) have been included in this assessment.

The assessment undertaken is based on the MSES significant residual impact (SRI) criteria in *Queensland Environmental Offsets Policy Significant Residual Impact Guideline* (DEHP 2014) (the State Guidelines). The MSES SRI criteria assessed are outlined in Table 7.5.

Table 7.5: MSES SRI Assessment Requirements

MSES SRI Criteria	Description	MSES SRI Assessment Required
Regulated vegetation	The Impact Area is mapped as Category C regrowth vegetation. Category R (regrowth within 50 m of a watercourse or drainage feature in the Great Barrier Reef catchment) endangered RE 12.3.3 Eucalyptus tereticornis woodland on Quaternary alluvium verified within the Project Area, but outside of the Impact Area. Vegetation clearing within the Gladstone State Development Area is managed under the MCU application process.	No
Connectivity areas	Landscape fragmentation and connectivity tool test results indicate the impact on connectivity areas is not significant.	No
Wetlands and watercourses	No wetlands or watercourses within the Impact Area.	No
Protected wildlife habitat	Habitat for threatened (endangered or vulnerable) wildlife and 5.72 ha of habitat for special least concern animals mapped across the two lots.	Yes (refer to Section 7.3.1)
Koala habitat in South- East Queensland	The Impact Area is outside of the South- East Queensland Koala district.	No
Protected areas	The Impact Area is not within a protected area	No
Fish habitat area and highly protected zones of State marine parks	No fish habitat areas mapped within the Impact Area.	No
Waterway providing for fish passage	No waterways within the Impact Area.	No
Marine plants	No marine environments or marine plants recorded within the Impact Area.	No
Legally secured offsets area	The Impact Area is not within a legally secured offset area	No

7.3.1 Protected wildlife habitat

7.3.1.1 Endangered and vulnerable wildlife habitat

Essential habitat is mapped for two endangered and one vulnerable species under the VMA (refer to Appendix A) as follows:

- Eastern Curlew (*Numenius madagascariensis)* - Endangered*;*
- Koala (*Phascolarctos cinereus)* - Endangered; and
- Western Alaskan bar-tailed godwit (*Limosa lapponica baueri)* - Vulnerable.

Of these, the verified likelihood of occurrence assessment (refer to Section 4) identified the Koala as being likely to occur within the Impact Area.

These species have been assessed against the significant residual impact criteria identified in the State Guidelines in Table 7.6.

Table 7.6: SRI Assessment for NCA listed Endangered or Vulnerable Species

Criteria	Response
The action is likely to lead to a long-term decrease in the size of local population	Unlikely None of the identified species were sighted, nor were signs of their presence recorded, during habitat assessment surveys. Suitable foraging and potential dispersal habitat are present for the Koala, but there are no records within 10 km. No intertidal or coastal roosting/foraging habitat is present within or adjacent to the Impact Area. The Project footprint (7.65 ha) has been designed to avoid and minimise impact to areas of higher habitat value, while protecting riparian corridors (Boat Creek). Given the absence of evidence for a local population and the small scale of impact, a long-term population decrease is not expected.
The action is likely to reduce the extent of occurrence of the species	Unlikely No Koalas, Eastern curlews, or Bar-tailed godwits were detected during surveys. The Impact Area is an industrialised landscape with low-quality vegetation and negligible refugia value. Migratory shorebirds depend on intertidal habitats, which are absent from the Impact Area. With mitigation for indirect risks (e.g. water quality protection), the action is not expected to reduce extent of occurrence.
The action is likely to fragment existing population	Unlikely The small size of the Impact Area (7.65 ha) means it will not fragment Koala habitat or disrupt movement corridors. For migratory shorebirds, fragmentation is not relevant due to the absence of intertidal or roosting habitat.
The action is likely to result in genetically distinct populations forming as a result of habitat isolation	Unlikely For Koala, given the absence of a local population and the marginal value of habitat, the action will not result in genetic isolation. For Eastern Curlew and Bar-tailed Godwit, this criterion is not applicable given their migratory ecology.

Criteria	Response
The action is likely to result in invasive species that are harmful to an endangered or vulnerable species becoming established in the endangered or vulnerable species habitat	Unlikely Invasive flora and fauna species (e.g. dense groundcover weeds, feral pigs) are already present in the Project Area. A Biosecurity Management Plan will mitigate further introductions and manage existing pests. There is no risk to intertidal habitats used by shorebirds, as these are not present within or adjacent to the Impact Area.
The action is likely to introduce disease that may cause the population to decline	Unlikely With implementation of a project-specific Biosecurity Management Plan, it is unlikely the action would introduce novel diseases that may cause species decline.
The action is likely to interfere with the recovery of the species	Unlikely While short-term, localised impacts may occur, they will not interfere with Koala recovery objectives given the absence of a local population. Eastern Curlew and Bar-tailed Godwit recovery actions focus on intertidal habitat protection, which is not affected by this Project.
The action is likely to cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species.	Unlikely The Impact Area contains marginal terrestrial habitat only. No intertidal, coastal roosting or breeding sites used by Eastern Curlew or Bar-tailed Godwit occur within or near the Project Area. The Project is therefore unlikely to disrupt ecologically significant locations.
Outcome	The action is not expected to result in a significant residual impact on essential habitat for the Koala, Eastern Curlew or Western Alaskan bar-tailed godwit.

7.4 Summary

The results of the SIA assessment indicate that due to the marginal habitat within the small Impact Area (7.65 ha), the availability of higher-quality foraging and nesting habitat nearby, and proposed mitigation measures, the action is unlikely to result in a significant impact to MNES or to MSES is considered likely to occur as a result of the action.

Table 7.7 provide a summary of the outcomes of the SIA for species that are considered known or likely to be present within the Impact Area, including species with mapped essential habitat under the VMA.

Table 7.7: Summary of SIA

Matter	Findings	Outcome
MNES		
Threatened fauna	Two threatened species (Koala and Squatter Pigeon) are likely to occur within the Project Area. However, the Impact Area (7.65 ha) supports only low-quality, fragmented habitat with minimal connectivity. No records occur within or immediately adjacent to the Impact Area.	No significant residual impact likely
Migratory and marine fauna	The Osprey (Pandion haliaetus) are known to occur in the Project Area. No important nesting, roosting or foraging habitats are present within the Impact Area.	No significant residual impact likely

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Matter	Findings	Outcome
MSES		
Protected wildlife habitat	Mapped habitat for threatened wildlife overlaps the Project Area. Field surveys confirmed habitat is degraded and dominated by regrowth or exotic species, with negligible value for supporting threatened wildlife populations. Eastern Curlew (Numenius madagascariensis) and Western Alaskan Bar-tailed Godwit (Limosa lapponica baueri) were considered. No important nesting, roosting or foraging habitats are present within the Impact Area. Intertidal habitats required by shorebirds are absent.	No significant residual impact likely

8 Conclusion

This Preliminary Significant Impact Assessment has evaluated the potential impacts of Project Halogen on MNES and MSES within the proposed Impact Area at Yarwun, Gladstone. The assessment has drawn upon a combination of desktop review, field-based habitat surveys and verification of regional ecosystems to identify environmental values and inform potential risks.

The Impact Area is comprised largely of regrowth vegetation with scattered remnant trees, reflecting a history of disturbance within an industrialised landscape. While suitable foraging and shelter habitat for threatened fauna such as the Koala (*Phascolarctos cinereus*), Squatter Pigeon (*Geophaps scripta scripta*) and Osprey (*Pandion haliaetus*) was identified, no direct observations of these species were recorded during surveys.

The vegetation present does not meet the diagnostic criteria for a Threatened Ecological Community. BioCondition scores for the site indicate moderately dysfunctional regrowth communities, though patches of remnant riparian vegetation adjacent to Boat Creek (and outside of the Impact Area) provide higher relative habitat values and ecological connectivity.

When assessed against the Commonwealth's *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* and the Queensland *Environmental Offsets Policy Significant Residual Impact Guideline*, it is considered unlikely that the Project will result in a significant residual impact on MNES or MSES. Potential risks such as habitat loss, fragmentation, mortality of fauna, spread of invasive species, and indirect impacts (e.g. noise, dust, lighting, and stormwater management) can be effectively avoided, mitigated or managed through the application of targeted measures, including pre-clearance surveys, delineation of no-go zones, implementation of fauna spotter/catchers, progressive rehabilitation, erosion and sediment control, and biosecurity management planning.

Overall, the findings of this preliminary assessment indicate that, with appropriate avoidance and mitigation strategies, the Project is not expected to significantly impact threatened species, migratory species or other matters protected under State and Commonwealth legislation.

8.1 Recommendations

The following recommendations are provided:

- Targeted fauna surveys should be undertaken to refine species-specific habitat use, confirm the presence or absence of MNES within the Project Area, and ensure ongoing compliance with legislative requirements; and
- A project-specific Environmental Management Plan should be developed taking into consideration the Mitigation measures provided in Section 6, to include a biosecurity management plan, bushfire management plan, stormwater management plan and erosion and sediment control plan.

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Limitations

This report has been prepared for the use of the client, Grenof Water Technologies Pty Ltd, for the purpose of this commission only.

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This report does not provide a complete assessment of the environmental status of the site but is limited to the scope defined herein.

Should further information become available regarding the conditions of the Study Area, CQG reserves the right to review the report in the context of the additional information.

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[2] *CQ Environmental Pty Ltd (ABN 61 107 574 514) trading as CQG Consulting (CQG)*

APPENDIX A:

Desktop Searches

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: 24-Jun-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:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	63
Listed Migratory Species:	55

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:	99
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	1

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:	1
EPBC Act Referrals:	25
Key Ecological Features (Marine):	None
Biologically Important Areas:	5
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [Resource Information]

Name	State	Legal Status	Buffer Status
Great Barrier Reef	QLD	Declared property	In buffer area only

National Heritage Places [Resource Information]

Name	State	Legal Status	Buffer Status
Natural			
Great Barrier Reef	QLD	Listed place	In buffer area only

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
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In feature area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area	In buffer area only
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area
Weeping Myall Woodlands	Endangered	Community may occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Epthianura crocea macgregori Capricorn Yellow Chat, Yellow Chat (Dawson) [67090]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Pluvialis squatarola](#) Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Pterodroma neglecta neglecta](#) Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In buffer area only
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
[Sternula albifrons](#) Little Tern [82849]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Thalassarche impavida](#) Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
[Turnix melanogaster](#) Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Xenus cinereus](#) Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
MAMMAL			
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may 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 likely to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In feature area
Sousa sahulensis Australian Humpback Dolphin [87942]	Vulnerable	Breeding known to occur within area	In buffer area only
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat known to occur within area	In feature area
PLANT			
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cossinia australiana Cossinia [3066]	Endangered	Species or species habitat may occur within area	In feature area
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cycas megacarpa [55794]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cycas ophiolitica [55797]	Endangered	Species or species habitat may occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	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			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

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
Lepidochelys olivacea			
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
SHARK			
Carcharias taurus (east coast population)			
Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Carcharodon carcharias			
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pristis zijsron			
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding may occur within area	In buffer area only
Rhincodon typus			
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sphyrna lewini			
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus			
Common Noddy [825]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
[Fregata ariel](#) Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only
[Fregata minor](#) Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area	In buffer area only
[Macronectes giganteus](#) Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
[Phaethon lepturus](#) White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
[Sternula albifrons](#) Little Tern [82849]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Thalassarche impavida](#) Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Marine Species			
[Anoxypristis cuspidata](#) Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	In buffer area only
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
[Carcharhinus longimanus](#) Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Carcharias taurus](#) Grey Nurse Shark [64469]		Foraging, feeding or related behaviour may occur within area	In buffer area only
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area	In buffer area only
[Dugong dugon](#) Dugong [28]		Species or species habitat known to occur within area	In buffer area only
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Lamna nasus](#) Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In buffer area only
[Lepidochelys olivacea](#) Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat likely to occur within area	In buffer area only
[Megaptera novaeangliae](#) Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Mobula alfredi as Manta alfredi			
Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris			
Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Orcaella heinsohni			
Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Orcinus orca			
Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Pristis zijsron			
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding may occur within area	In buffer area only
Rhincodon typus			
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sousa sahulensis as Sousa chinensis			
Australian Humpback Dolphin [87942]	Vulnerable	Breeding known to occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Arenaria interpres](#) Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Calidris canutus](#) Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Calidris ruficollis](#) Red-necked Stint [860]		Species or species habitat known to occur within area	In buffer area only
[Calidris tenuirostris](#) Great Knot [862]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Charadrius mongolus](#) Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Limnodromus semipalmatus](#) Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus Common Noddy [825]		Species or species habitat known to 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
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
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
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
[Calidris ruficollis](#) Red-necked Stint [860]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Calidris tenuirostris](#) Great Knot [862]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Charadrius mongolus](#) Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Charadrius ruficapillus](#) Red-capped Plover [881]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Fregata ariel](#) Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only
[Fregata minor](#) Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area	In buffer area only
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In feature area
Thalassarche impavida			
Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tringa brevipes as Heteroscelus brevipes			
Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis			
Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Xenus cinereus			
Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Fish			
Acentronura tentaculata			
Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In buffer area only
Campichthys tryoni			
Tryon's Pipefish [66193]		Species or species habitat may occur within area	In buffer area only
Choeroichthys brachysoma			
Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	In buffer area only
Corythoichthys amplexus			
Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area	In buffer area only
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area	In buffer area only
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area	In buffer area only
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area	In buffer area only
Corythoichthys paxtoni Paxton's Pipefish [66204]		Species or species habitat may occur within area	In buffer area only
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area	In buffer area only
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area	In buffer area only
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In buffer area only
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In buffer area only
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area	In buffer area only
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area	In buffer area only
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	In buffer area only
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area	In buffer area only
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area	In buffer area only
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In buffer area only
Hippocampus bargibanti Pygmy Seahorse [66721]		Species or species habitat may occur within area	In buffer area only
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area	In buffer area only
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area	In buffer area only
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area	In buffer area only
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In buffer area only
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area	In buffer area only
Nannocampus pictus Painted Pipefish, Reef Pipefish [66263]		Species or species habitat may occur within area	In buffer area only
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area	In buffer area only
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In buffer area only
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In buffer area only
Mammal			
Dugong dugon Dugong [28]		Species or species habitat known to occur within area	In buffer area only
Reptile			
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area	In buffer area only
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area	In buffer area only
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	In buffer area only
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area	In buffer area only
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area	In buffer area only
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area	In buffer area only
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area	In buffer area only
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area	In buffer area only
Laticauda colubrina Yellow-lipped Sea Krait [1092]		Species or species habitat may occur within area	In buffer area only
Laticauda laticaudata a sea krait [1093]		Species or species habitat may occur within area	In buffer area only
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Whales and Other Cetaceans			[Resource Information]
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Sousa sahulensis Australian Humpback Dolphin [87942]	Vulnerable	Breeding known to occur within area	In buffer area only
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Habitat Critical to the Survival of Marine Turtles			[Resource Information]
Scientific Name	Behaviour	Presence	Buffer Status
All year (Jun - Aug)			
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur	In buffer area only

Extra Information

Nationally Important Wetlands [Resource Information]

Wetland Name	State	Buffer Status
Port Curtis	QLD	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
CQ-H2 Surplus Industrial Water Pipeline (SIWP) Project	2024/09935		Assessment	In buffer area only
Renewable Diesel and Sustainable Aviation Fuel Project	2022/09369		Completed	In buffer area only
Controlled action				
Blackwater to Gladstone Gas Pipeline Project	2011/6034	Controlled Action	Completed	In feature area
Clinton Vessel Interaction Project - Clinton Widening, Qld	2017/7976	Controlled Action	Post-Approval	In buffer area only
Construct and operate 447km high pressure gas transmission pipeline	2009/4976	Controlled Action	Post-Approval	In feature area
Construction of a Chlor-Alkali/Ethylene Di-Chlorid	2003/922	Controlled Action	Completed	In buffer area only
Construction of a Chlor-Alkali-Ethylene Di-Chloride (CA/EDC) Plant at the Gladst	2002/764	Controlled Action	Completed	In feature area
Construction of a high pressure buried gas pipeline, Kogan to Gladstone, QLD	2009/5029	Controlled Action	Post-Approval	In buffer area only
Development of the Yarwun Coal Terminal	2012/6348	Controlled Action	Completed	In buffer area only
Gas Pipeline with Alternative Pipleine to Supply Natural Gas Liquefaction Park	2008/4096	Controlled Action	Post-Approval	In buffer area only
Gladstone New Fuels Development Project - stage 2A	2014/7241	Controlled Action	Completed	In buffer area only
H2-Hub??? Gladstone - Export-class Green Hydrogen and Ammonia Complex	2021/9049	Controlled Action	Referral Decision	In feature area
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
LNG Plant and Ancillary onshore and marine facilities	2009/4977	Controlled Action	Post-Approval	In buffer area only
Queensland Curtis LNG Project - LNG Marine Facilities	2008/4401	Controlled Action	Post-Approval	In feature area
Queensland Curtis LNG Project - Pipeline Network	2008/4399	Controlled Action	Post-Approval	In buffer area only
Talisman Saber 2005 Military Exercise	2004/1819	Controlled Action	Post-Approval	In buffer area only
The Arrow Gas Transmission Pipeline, Gladstone to Curtis Island	2009/5008	Controlled Action	Post-Approval	In feature area
Not controlled action				
Calcining Plant	2001/193	Not Controlled Action	Completed	In buffer area only
Fishermans Landing site conversion for Lime Kiln	2002/740	Not Controlled Action	Completed	In buffer area only
Gladstone Energy and Ammonia Project, Qld	2018/8305	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
Project Sun Liquefied Natural Gas Plant and Pipeline	2008/3994	Not Controlled Action	Completed	In feature area
Replacement of Existing Processing Plant with a smaller Technology Demonstration Plant	2009/5064	Not Controlled Action	Completed	In buffer area only
Referral decision				
Gas Transmission Pipeline to supply Natural Gas Liquefaction Park	2008/4061	Referral Decision	Completed	In buffer area only

Biologically Important Areas			[Resource Information]
Scientific Name	Behaviour	Presence	Buffer Status
Dolphins			
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur	In buffer area only
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur	In buffer area only
Seabirds			

Scientific Name	Behaviour	Presence	Buffer Status
Ardenna pacifica			
Wedge-tailed Shearwater [84292]	Foraging	Likely to occur	In buffer area only
Sharks			
Carcharias taurus			
Grey Nurse Shark [64469]	Foraging	Known to occur	In buffer area only
Whales			
Megaptera novaeangliae			
Humpback Whale [38]	Breeding and calving	Known to occur	In buffer area only

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Biodiversity and Conservation Values

Biodiversity Planning Assessments and Aquatic Conservation Assessments

For the selected area of interest

Lot: 1 Plan: MPH32292

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 co-ordinates" option, the resulting assessment area encompasses an area extending from 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 field survey may be required to validate values on the ground.

Please direct queries about these reports to: biodiversity.planning@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

Tables 1 to 8 provide an overview of the AOI with respect to selected topographic and environmental values.

Table 1: Details for area of interest: Lot: 1 Plan: MPH32292, with area 15.49 ha

Local Government(s)	
Gladstone Regional	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges
Catchment(s)	
Calliope	

The following table identifies available Biodiversity Planning Assessments (BPAs) and Aquatic Conservation Assessments (ACAs) with respect to the AOI.

Table 2: Available Biodiversity Planning and Aquatic Conservation Assessments

Biodiversity Planning Assessment(s)	Aquatic Conservation Assessment(s) (riverine)	Aquatic Conservation Assessment(s) (non-riverine)
Southeast Queensland v4.1	Great Barrier Reef Catchments v1.1	Great Barrier Reef Catchments v.1.3

Table 3: Remnant regional ecosystems within the AOI as per the Qld Herbarium's 'biodiversity status'

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.02	0.13
Of concern	0.02	0.16
No concern at present	0.00	0.00

The following table identifies the extent and proportion of the user specified area of interest (AOI) which is mapped as being of "State", "Regional" or "Local" significance via application of the Queensland Department of the Environment, Tourism, Science and Innovation's *Biodiversity Assessment and Mapping Methodology* (BAMM).

Table 4: Summary table, biodiversity significance

Biodiversity Status	Area (Ha)	% of AOI
State	0.04	0.29

Table 5: Non-riverine wetlands intersecting the AOI

(No Records)

NB. The figures presented in the table above are derived from the relevant non-riverine Aquatic Conservation Assessment(s). Later releases of wetland mapping produced via the Queensland Wetland Mapping Program may provide more recent information in regards to wetland extent.

Table 6: Named waterways intersecting the AOI

Name	Permanency
SANDY CREEK	Non-perennial

Refer to **Map 1** for general locality information.

The following two tables identify the extent and proportion of the user specified AOI which is mapped as being of "Very High", "High", "Medium", "Low", or "Very Low" aquatic conservation value for riverine and non-riverine wetlands via application of the Queensland Department of the Environment, Tourism, Science and Innovation's *Aquatic Biodiversity Assessment and Mapping Method* (AquaBAMM).

Table 7: Summary table, aquatic conservation significance (riverine)

Aquatic conservation significance (riverine wetlands)	Area (Ha)	% of AOI
High	15.49	99.98

Table 8: Summary table, aquatic conservation significance (non-riverine)

(No Records)

Biodiversity Planning Assessments

Introduction

The Department of the Environment, Tourism, Science and Innovation (DETSI) attributes biodiversity significance on a bioregional scale through a Biodiversity Planning Assessment (BPA). A BPA involves the integration of ecological criteria using the *Biodiversity assessment and Mapping Methodology* (BAMM) and is developed in two stages: 1) **diagnostic criteria**, and 2) **expert panel criteria**. The diagnostic criteria are based on existing data which is reliable and uniformly available across a bioregion, while the expert panel criteria allows for the refinement of the mapped information from the diagnostic output by incorporating local knowledge and expert opinion.

The BAMM methodology has application for identifying areas with various levels of significance solely for biodiversity reasons. These include threatened ecosystems or taxa, large tracts of habitat in good condition, ecosystem diversity, landscape context and connection, and buffers to wetlands or other types of habitat important for the maintenance of biodiversity or ecological processes. While natural resource values such as dryland salinity, soil erosion potential or land capability are not dealt with explicitly, they are included to some extent within the biodiversity status of regional ecosystems recognised by the DETSI. Biodiversity Planning Assessments (BPAs) assign three levels of overall biodiversity significance.

- **State significance** - areas assessed as being significant for biodiversity at the bioregional or state scales. They also include areas assessed by other studies/processes as being significant at national or international scales. In addition, areas flagged as being of State significance due to the presence of endangered, vulnerable and/or near threatened taxa, are identified as "State Habitat for EVNT taxa".
- **Regional significance** - areas assessed as being significant for biodiversity at the subregional scale. These areas have lower significance for biodiversity than areas assessed as being of State significance.
- **Local significance and/or other values** - areas assessed as not being significant for biodiversity at state or regional scales. Local values are of significance at the local government scale.

For further information on released BPAs and a copy of the underlying methodology, go to:

http://www.qld.gov.au/environment/plants-animals/biodiversity/planning/

The GIS results can be downloaded from the Queensland Spatial Catalogue at:

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

The following table identifies the extent and proportion of the user specified AOI which is mapped as being of "State", "Regional" or "Local" significance via application of the BAMM.

Table 9: Summary table, biodiversity significance

Biodiversity Status	Area (Ha)	% of AOI
State	0.04	0.29

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

Diagnostic Criteria

Diagnostic criteria are based on existing data which is reliable and uniformly available across a bioregion. These criteria are diagnostic in that they are used to filter the available data and provide a "first-cut" or initial determination of biodiversity significance. This initial assessment is then combined through a second group of other essential criteria.

A description of the individual diagnostic criteria is provided in the following sections.

Criteria A. Habitat for EVNT taxa: Classifies areas according to their significance based on the presence of endangered, vulnerable and/or rare (EVNT) taxa. EVNT taxa are those scheduled under the *Nature Conservation Act 1992* and/or the *Environment Protection and Biodiversity Conservation Act 1999*. It excludes highly mobile fauna taxa which are instead considered in Criterion H and brings together information on EVNT taxa using buffering of recorded sites or habitat suitability models (HSM) where available.

Criteria B. Ecosystem value: Classifies on the basis of biodiversity status of regional ecosystems, their extent in protected areas (presence of poorly conserved regional ecosystems), the presence of significant wetlands; and areas of national importance such as the presence of Threatened Ecological Communities, World Heritage areas and Ramsar

sites. Ecosystem value is applied at a bioregional (**B1**) and regional (**B2**) scale.

Criteria C. Tract size: Measures the relative size of tracts of vegetation in the landscape. The size of any tract is a major indicator of ecological significance, and is also strongly correlated with the long-term viability of biodiversity values. Larger tracts are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller tracts.

Criteria D. Relative size of regional ecosystems: Classifies the relative size of each regional ecosystem unit within its bioregion (**D1**) and its subregion (**D2**). Remnant units are compared with all other occurrences with the same regional ecosystem. Large examples of a regional ecosystem are more significant than smaller examples of the same regional ecosystem because they are more representative of the biodiversity values particular to the regional ecosystem, are more resilient to the effects of disturbance, and constitute a significant proportion of the total area of the regional ecosystem.

Criteria F. Ecosystem diversity: Is an indicator of the number of regional ecosystems occurring within an area. An area with high ecosystem diversity will have many regional ecosystems and ecotones relative to other areas within the bioregion.

Criteria G. Context and connection: Represents the extent to which a remnant unit incorporates, borders or buffers areas such as significant wetlands, endangered ecosystems; and the degree to which it is connected to other vegetation.

A summary of the biodiversity status based upon the diagnostic criteria is provided in the following table.

Table 10: Summary of biodiversity significance based upon diagnostic criteria with respect to the AOI

Biodiversity significance	Description	Area (Ha)	% of AOI
Regional	Remnant contains at least 1 Vulnerable or Near Threatened species (A)	0.04	0.29

Assessment of diagnostic criteria with respect to the AOI

The following table reflects an assessment of the individual diagnostic criteria noted above in regards to the AOI.

Table 11: Assessment of individual diagnostic criteria with respect to the AOI

Diagnostic Criteria	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
A: Habitat for EVNT Taxa	0.00	0.00	0.04	0.29	0.00	0.00	0.00	0.00
B1: Ecosystem Value (Bioregion)	0.00	0.00	0.00	0.00	0.04	0.29	0.00	0.00
B2: Ecosystem Value (Subregion)	0.00	0.00	0.00	0.00	0.04	0.29	0.00	0.00
C: Tract Size	0.00	0.00	0.04	0.29	0.00	0.00	0.00	0.00
D1: Relative RE Size (Bioregion)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.29
D2: Relative RE Size (Subregion)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.29
F: Ecosystem Diversity	0.00	0.00	0.04	0.29	0.00	0.00	0.00	0.00
G: Context and Connection	0.04	0.29	0.00	0.00	0.00	0.00	0.00	0.00

Other Essential Criteria

Other essential criteria (also known as expert panel criteria) are based on non-uniform information sources and which may rely more upon expert opinion than on quantitative data. These criteria are used to provide a "second-cut" determination of biodiversity significance, which is then combined with the diagnostic criteria for an overall assessment of relative biodiversity significance. A summary of the biodiversity status based upon the other essential criteria is provided in the following table.

Table 12: Summary of biodiversity significance based upon other essential criteria with respect to the AOI

Biodiversity significance	Description	Area (Ha)	% of AOI
State	Remnant contains Core Habitat for Priority Taxa (H) & Remnant contains Special Biodiversity Values (view Expert Panel data for further information) (I) & Remnant forms part of a bioregional corridor (J)	0.04	0.29

A description of each of the other essential criteria and associated assessment in regards to the AOI is provided in the following sections.

Criteria H. Essential and general habitat for priority taxa: Priority taxa are those which are at risk or of management concern, taxa of scientific interest as relictual (ancient or primitive), endemic taxa or locally significant populations (such as a flying fox camp or heronry), highly specialised taxa whose habitat requirements are complex and distributions are not well correlated with any particular regional ecosystem, taxa important for maintaining genetic diversity (such as complex spatial patterns of genetic variation, geographic range limits, highly disjunct populations), taxa critical for management or monitoring of biodiversity (functionally important or ecological indicators), or economic and culturally important taxa.

Criteria I. Special biodiversity values: areas with special biodiversity values are important because they contain multiple taxa in a unique ecological and often highly biodiverse environment. Areas with special biodiversity values can include the following:

- Ia - centres of endemism - areas where concentrations of taxa are endemic to a bioregion or subregion are found.
- Ib - wildlife refugia (Morton *et al*. 1995), for example, islands, mound springs, caves, wetlands, gorges, mountain ranges and topographic isolates, ecological refuges, refuges from exotic animals, and refuges from clearing. The latter may include large areas that are not suitable for clearing because of land suitability/capability.
- Ic - areas with concentrations of disjunct populations.
- Id - areas with concentrations of taxa at the limits of their geographic ranges.
- Ie - areas with high species richness.
- If - areas with concentrations of relictual populations (ancient and primitive taxa).
- Ig - areas containing REs with distinct variation in species composition associated with geomorphology and other environmental variables.
- Ih - an artificial waterbody or managed/manipulated wetland considered by the panel/s to be of ecological significance.
- Ii - areas with a high density of hollow-bearing trees that provide habitat for animals.
- Ij - breeding or roosting sites used by a significant number of individuals.
- Ik - climate change refuge.

The following table identifies the value and extent area of the Other Essential Criteria H and I within the AOI.

Table 13: Relative importance of expert panel criteria (H and I) used to access overall biodiversity significance with respect to the AOI

Expert Panel	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
H: Core Habitat Priority Taxa	0.04	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Ia: Centres of Endemism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ib: Wildlife Refugia	0.04	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Ic: Disjunct Populations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Expert Panel	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
Id: Limits of Geographic Ranges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ie: High Species Richness	0.00	0.00	0.04	0.29	0.00	0.00	0.00	0.00
If: Relictual Populations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ig: Variation in Species Composition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ih: Artificial Wetland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ii: Hollow Bearing Trees	0.04	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Ij: Breeding or Roosting Site	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ik: Climate Refugia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NB. Whilst biodiversity values associated with Criteria I may be present within the site (refer to tables 12 and 15), for the New England Tableland and Central Queensland Coast BPAs, area and % area figures associated with Criteria Ia through to Ij cannot be listed in the table above (due to slight variations in data formats between BPAs).

Criteria J. Corridors: areas identified under this criterion qualify either because they are existing vegetated corridors important for contiguity, or cleared areas that could serve this purpose if revegetated. Some examples of corridors include riparian habitats, transport corridors and "stepping stones".

Bioregional and subregional conservation corridors have been identified in the more developed bioregions of Queensland through the BPAs, using an intensive process involving expert panels. Map 3 displays the location of corridors as identified under the Statewide Corridor network. The Statewide Corridor network incorporates BPA derived corridors and for bioregions where no BPA has been assessed yet, corridors derived under other planning processes. *Note: as a result of updating and developing a statewide network, the alignment of corridors may differ slightly in some instances when compared to those used in individual BPAs.*

The functions of these corridors are:

- **Terrestrial** Bioregional corridors, in conjunction with large tracts of remnant vegetation, maintain ecological and evolutionary processes at a landscape scale, by:

  - Maintaining long term evolutionary/genetic processes that allow the natural change in distributions of species and connectivity between populations of species over long periods of time;
  - Maintaining landscape/ecosystems processes associated with geological, altitudinal and climatic gradients, to allow for ecological responses to climate change;
  - Maintaining large scale seasonal/migratory species processes and movement of fauna;
  - Maximising connectivity between large tracts/patches of remnant vegetation;
  - Identifying key areas for rehabilitation and offsets; and

- **Riparian** Bioregional Corridors also maintain and encourage connectivity of riparian and associated ecosystems.

The location of the corridors is determined by the following principles:

- Terrestrial

  - Complement riparian landscape corridors (i.e. minimise overlap and maximise connectivity);
  - Follow major watershed/catchment and/or coastal boundaries;
  - Incorporate major altitudinal/geological/climatic gradients;

- Include and maximise connectivity between large tracts/patches of remnant vegetation;
- Include and maximise connectivity between remnant vegetation in good condition; and

- Riparian

- Located on the major river or creek systems within the bioregion in question.

The total extent of remnant vegetation triggered as being of "State", "Regional" or "Local" significance due to the presence of an overlying BPA derived terrestrial or riparian corridor within the AOI, is provided in the following table. For further information on how remnant vegetation is triggered due to the presence of an overlying BPA derived corridor, refer to the relevant landscape BPA expert panel report(s).

Table 14: Extent of triggered remnant vegetation due to the presence of BPA derived corridors with respect to the AOI

Biodiversity Significance	Area (Ha)	% of AOI
State	0.04	0.29

NB: area figures associated with the extent of corridor triggered remnant vegetation are only available for those bioregions where a BPA has been undertaken.

Refer to **Map 3** for further information.

Threatening process/condition (Criteria K) - areas identified by experts under this criterion may be used to amend (upgrade or downgrade) biodiversity significance arising from the "first-cut" analysis. The condition of remnant vegetation is affected by threatening processes such as weeds, ferals, grazing and burning regime, selective timber harvesting/removal, salinity, soil erosion, and climate change.

Assessment of Criteria K with respect to the AOI is not currently included in the "Biodiversity and Conservation Values" report, as it has not been applied to the majority of Queensland due to data/information limitations and availability.

Special Area Decisions

Expert panel derived "Special Area Decisions" are used to assign values to Other Essential Criteria. The specific decisions which relate to the AOI in question are listed in the table below.

Table 15: Expert panel decisions for assigning levels of biodiversity significance with respect to the AOI

Decision Number	Description	Panel Recommended Significance	Criteria Values
seqn_l_01	Terrestrial bioregional corridors	State or Regional	Criterion J
seqn_l_50	Riparian lowland forest systems (other than riparian/gallery rainforests systems)	Regional	Ib (wildlife refugia): VERY HIGH Ie (high species richness: HIGH Ii (hollow bearing trees): VERY HIGH

Expert panel decision descriptions:

Decision Number	Description
seqn_l_01	The expert panel reviewed the existing bioregional corridors for northern SEQ. Corridors were assigned as being of State or Regional significance. For further information, refer to sections 2.3.2 and 3.2 of this report.

Decision Number	Description
seqn_l_50	Riparian lowland forest ecosystems are important components of the lowland landscape, frequently exhibiting higher species richness and abundance than surrounding habitats. They act as movement pathways along riparian systems for a number of species, especially aves. They also often provide critical resources for many species in terms of food, shelter and nesting site. For example, the seasonal flowering of melaleuca is important for species of honeyeaters, whilst narrow bands of flooded gum along watercourses are significant habitat for koalas *Phascolarctos cinereus*, especially in times of drought. Large trees in these systems also act as a source of nest hollows for many species of birds, bats and arboreal mammals (Lovett & Price 2007). Due to historical and preferential clearing in SEQ, remaining systems are often heavily fragmented and have undergone a substantial reduction in their extent. In many areas, condition is often poor and subject to substantial weed problems. Wildlife refugia (Criterion Ib). High species richness (Criterion Ie). Larger trees in such systems are often a significant source of nest hollows (Criterion Ii). Note - for the same decision relevant to the southern portion of the SEQ bioregion refer to seqs_l_57.

Aquatic Conservation Assessments

Introduction

The Aquatic Biodiversity Assessment and Mapping Method or AquaBAMM (Clayton *et al.* 2006), was developed to assess conservation values of wetlands in queensland, and may also have application in broader geographical contexts. It is a comprehensive method that uses available data, including data resulting from expert opinion, to identify relative wetland conservation/ecological values within a specified study area (usually a catchment). The product of applying this method is an Aquatic Conservation Assessment (ACA) for the study area.

An ACA using AquaBAMM is non-social, non-economic and identifies the conservation/ecological values of wetlands at a user-defined scale. It provides a robust and objective conservation assessment using criteria, indicators and measures that are founded upon a large body of national and international literature. The criteria, each of which may have variable numbers of indicators and measures, are naturalness (aquatic), naturalness (catchment), diversity and richness, threatened species and ecosystems, priority species and ecosystems, special features, connectivity and representativeness. An ACA using AquaBAMM is a powerful decision support tool that is easily updated and simply interrogated through a geographic information system (GIS).

Where they have been conducted, ACAs can provide a source of baseline wetland conservation/ecological information to support natural resource management and planning processes. They are useful as an independent product or as an important foundation upon which a variety of additional environmental and socio-economic elements can be added and considered (i.e. an early input to broader 'triple-bottom-line' decision-making processes). An ACA can have application in:

- determining priorities for protection, regulation or rehabilitation of wetlands and other aquatic ecosystems
- on-ground investment in wetlands and other aquatic ecosystems
- contributing to impact assessment of large-scale development (e.g. dams)
- water resource and strategic regional planning prcesses

For a detailed explanation of the methodology please refer to the summary and expert panel reports relevant to the ACA utilised in this assessment. These reports can be accessed at Wetland *Info*:

http://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca

The GIS results can be downloaded from the Queensland Spatial Catalogue at:

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

Explanation of Criteria

Under the AquaBAMM, eight criteria are assessed to derive an overall conservation value. Similar to the Biodiversity Assessment and Mapping Methodology, the criteria may be primarily diagnostic (quantitative) or primarily expert opinion (qualitative) in nature. The following sections provide a brief description of each of the 8 criteria.

Criteria 1. Naturalness - Aquatic: This attribute reflects the extent to which a wetland's (riverine, non-riverine, estuarine) aquatic state of naturalness is affected through relevant influencing indicators which include: presence of exotic flora and fauna; presence of aquatic communities; degree of habitat modification and degree of hydrological modification.

Criteria 2. Naturalness - Catchment: The naturalness of the terrestrial systems of a catchment can have an influence on many wetland characteristics including: natural ecological processes e.g. nutrient cycling, riparian vegetation, water chemistry, and flow. The indicators utilised to assess this criterion include: presence of exotic flora and/or fauna; riparian, catchment and flow modification.

Criteria 3. Naturalness - Diversity and Richness: This criterion is common to many ecological assessment methods and can include both physical and biological features. It includes such indicators as species richness, riparian ecosystem richness and geomorphological diversity.

Criteria 4. Threatened Species and Ecosystems: This criterion evaluates ecological rarity characteristics of a wetland. This includes both species rarity and rarity of communities / assemblages. The communities and assemblages are best represented by regional ecosystems. Species rarity is determined by NCA and EPBC status with Endangered, Vulnerable or Near-threatened species being included in the evaluation. Ecosystem rarity is determined by regional ecosystem biodiversity status i.e. Endangered, Of Concern, or Not of Concern.

Criteria 5. Priority Species and Ecosystems: Priority flora and fauna species lists are expert panel derived. These are aquatic, semi-aquatic and riparian species which exhibit at least 1 particular trait in order to be eligible for consideration. For flora species the traits included:

- It forms significant macrophyte beds (in shallow or deep water).
- It is an important food source.
- It is important/critical habitat.
- It is implicated in spawning or reproduction for other fauna and/or flora species.
- It is at its distributional limit or is a disjunct population.
- It provides stream bank or bed stabilisation or has soil binding properties.
- It is a small population and subject to threatening processes.

Fauna species are included if they meet at least one of the following traits:

- It is endemic to the study area (>75 per cent of its distribution is in the study area/catchment).
- It has experienced, or is suspected of experiencing, a serious population decline.
- It has experienced a significant reduction in its distribution and has a naturally restricted distribution in the study area/catchment.
- It is currently a small population and threatened by loss of habitat.
- It is a significant disjunct population.
- It is a migratory species (other than birds).
- A significant proportion of the breeding population (>one per cent for waterbirds, >75 per cent other species) occurs in the waterbody (see Ramsar criterion 6 for waterbirds).
- Limit of species range.

See the individual expert panel reports for the priority species traits specific to an ACA.

Criteria 6. Special Features: Special features are areas identified by flora, fauna and ecology expert panels which exhibit characteristics beyond those identified in other criteria and which the expert panels consider to be of the highest ecological importance. Special feature traits can relate to, but are not solely restricted to geomorphic features, unique ecological processes, presence of unique or distinct habitat, presence of unique or special hydrological regimes e.g. spring-fed streams. Special features are rated on a 1 - 4 scale (4 being the highest).

Criteria 7. Connectivity: This criterion is based on the concept that appropriately connected aquatic ecosystems are healthy and resilient, with maximum potential biodiversity and delivery of ecosystem services.

Criteria 8. Representativeness: This criterion applies primarily to non-riverine assessments, evaluates the rarity and uniqueness of a wetland type in relation to specific geographic areas. Rarity is determined by the degree of wetland protection within "protected Areas" estate or within an area subject to the *Fisheries Act 1994*, *Coastal Protection and Management Act 1995*, or *Marine Parks Act 2004*. Wetland uniqueness evaluates the relative abundance and size of a wetland or wetland management group within geographic areas such as catchment and subcatchment.

Riverine Wetlands

Riverine wetlands are all wetlands and deepwater habitats within a channel. The channels are naturally or artificially created, periodically or continuously contain moving water, or connecting two bodies of standing water. AquaBAMM, when applied to riverine wetlands uses a discrete spatial unit termed subsections. A subsection can be considered as an area which encompasses discrete homogeneous stream sections in terms of their natural attributes (i.e. physical, chemical, biological and utilitarian values) and natural resources. Thus in an ACA, an aquatic conservation significance score is calculated for each subsection and applies to all streams within a subsection, rather than individual streams as such.

Please note, the area figures provided in Tables 16 and 17, are derived using the extent of riverine subsections within the AOI. Refer to **Map 5** for further information. A summary of the conservation significance of riverine wetlands within the AOI is provided in the following table.

Table 16: Overall level/s of riverine aquatic conservation significance

Aquatic conservation significance (riverine wetlands)	Area (Ha)	% of AOI
High	15.49	99.98

The individual aquatic conservation criteria ratings for riverine wetlands within the AOI are listed below.

Table 17: Level/s of riverine aquatic conservation significance based on selected criteria

Criteria	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
1. Naturalness aquatic	0.00	0.00	0.00	0.00	0.00	0.00	15.49	99.98
2. Naturalness catchment	0.00	0.00	15.49	99.98	0.00	0.00	0.00	0.00
3. Diversity and richness	0.00	0.00	15.49	99.98	0.00	0.00	0.00	0.00
4. Threatened species and ecosystems	0.00	0.00	15.49	99.98	0.00	0.00	0.00	0.00
5. Priority species and ecosystems	15.49	99.98	0.00	0.00	0.00	0.00	0.00	0.00
6. Special features	0.00	0.00	15.49	99.98	0.00	0.00	0.00	0.00
7. Connectivity	0.00	0.00	0.00	0.00	0.00	0.00	15.49	99.98
8. Representativeness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The table below lists and describes the relevant expert panel decisions used to assign conservation significance values to riverine wetlands within the AOI.

Table 18: Expert panel decisions for assigning overall levels of riverine aquatic conservation significance

Decision number	Special feature	Catchment	Criteria/Indicator/Measure	Conservation rating (1-4)
ca_r_fl_01	Creeks flowing off Mt Larcom	Calliope	6.3.1	3
ca_r_fl_02	Regional ecosystem 12.3.7	Calliope	5.2.1	4

4 is the highest rating/value

Expert panel decision descriptions:

Decision number	Description
ca_r_fl_01	Cherry Creek contains rare and threatened species including *Actephila sessilifolia, Atalaya rigida, Cupaniopsis shirleyana* and also has patches of rainforest dominated by Mueller's redheart (*Dissiliaria muelleri*). Mueller's redheart (*Dissiliaria muelleri*) is not currently listed as rare or threatened but has a very restricted distribution. The vegetation along these creeks is part of a large remnant area that contains significant patches of dry rainforest as well as the rocky outcrops of Mt Larcom that are habitat to rare and endemic species. This area was previously a national park proposal and is currently under threat from industrial development and lack of appropriate ecological management.
ca_r_fl_02	Regional ecosystem 12.3.7 is the southeast Queensland bioregion equivalent of 11.3.25 and 8.3.3. That is, it is one of the only ecosystems where you can find black ironbox (*Eucalyptus raveretiana*) providing important habitat for many fauna species.

Non-riverine Wetlands

Non-riverine wetlands include both lacustrine and palustrine wetlands, however, do not currently incorporate estuarine, marine or subterranean wetland types. A summary of the conservation significance of non-riverine wetlands within the AOI is provided in the following table. Refer to **Map 6** for further information.

Table 19: Overall level/s of non-riverine aquatic conservation significance

(No Records)

The following table provides an assessment of non-riverine wetlands within the AOI and associated aquatic conservation criteria values.

Table 20: Level/s of non-riverine aquatic conservation significance based on selected criteria

Criteria	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
1. Naturalness aquatic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. Naturalness catchment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Diversity and richness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. Threatened species and ecosystems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Priority species and ecosystems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. Special features	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7. Connectivity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. Representativeness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The table below lists and describes the relevant expert panel decisions used to assign conservation significance values to non-riverine wetlands within the AOI.

Table 21: Expert panel decisions for assigning overall levels of non-riverine aquatic conservation significance.

Decision number	Special feature	Catchment	Criteria/Indicator/ Measure	Conservation rating (1-4)
(No Records)				

4 is the highest rating/value

Expert panel decision descriptions:

Decision number	Description
(No Records)	

Threatened and Priority Species

Introduction

This chapter contains a list of threatened and priority flora and/or fauna species that have been recorded on, or within 4km of the Assessment Area.

The information presented in this chapter with respect to species presence is derived from compiled databases developed primarily for the purpose of BPAs and ACAs. Data is collated from a number of sources and is updated periodically.

It is important to note that the list of species provided in this report, may differ when compared to other reports generated from other sources such as the State government's WildNet, Herbrecs or the federal government's EPBC database for a number of reasons.

Records for threatened and priority species are filtered and checked based on a number of rules including:

- Taxonomic nomenclature - current scientific names and status,
- Location - cross-check co-ordinates with location description,
- Taxon by location - requires good knowledge of the taxon and history of the record,
- Duplicate records - identify and remove,
- Expert panels - check records and provide new records,
- Flora cultivated records excluded,
- Use precise records less than or equal to 2000m,
- Use recent records greater than or equal to 1975 animals, greater than or equal to 1950 plants.

Threatened Species

Threatened species are those species classified as "Endangered" or "Vulnerable" under the *Environment Protection and Biodiversity Conservation Act 1999* or "Endangered", "Vulnerable" or "Near threatened" under the *Nature Conservation Act 1992*.

The following threatened species have been recorded on, or within approximately 4km of the AOI.

Table 22: Threatened species recorded on, or within 4km of the AOI

Species	Common name	NCA status	EPBC status	Migratory species*	Wetland species**	Identified flora/fauna
Aceratium sericoleopsis	silky aceratium	NT				FL
Bosistoa transversa	three-leaved bosistoa	C	V			FL
Calidris acuminata	sharp-tailed sandpiper	SL	V	Y	I	FA
Calidris ferruginea	curlew sandpiper	CR	CE	Y	I	FA
Charadrius mongolus	lesser sand plover	E	E	Y	I	FA
Cycas megacarpa		E	E			FL
Dugong dugon	dugong	V		Y	I	FA
Geophaps scripta scripta	squatter pigeon (southern subspecies)	V	V			FA
Hernandia bivalvis	cudgerie	NT				FL
Limnodromus semipalmatus	Asian dowitcher	SL	V	Y	I	FA

Species	Common name	NCA status	EPBC status	Migratory species*	Wetland species**	Identified flora/fauna
Limosa lapponica baueri	Western Alaskan bar-tailed godwit	V	E	Y	I	FA
Ninox strenua	powerful owl	V				FA
Numenius madagascariensis	eastern curlew	E	CE	Y	I	FA
Petauroides volans volans	southern greater glider	E	E			FA
Petaurus australis australis	yellow-bellied glider (southern subspecies)	V	V			FA
Phascolarctos cinereus	koala	E	E			FA
Pluvialis squatarola	grey plover	SL	V	Y	I	FA
Pteropus poliocephalus	grey-headed flying-fox	C	V			FA
Taphozous australis	coastal sheathtail bat	NT				FA
Tringa nebularia	common greenshank	SL	E	Y	I	FA
Xenus cinereus	terek sandpiper	SL	V	Y	I	FA
Xeromys myoides	water mouse	V	V		I	FA

NB. Please note that the threatened species listed in this section are based upon the most recently compiled DETSI internal state-wide threatened species dataset. This dataset may contain additional records that were not originally available for inclusion in the relevant individual BPAs and ACAs.

**JAMBA - Japan-Australia Migratory Bird Agreement; CAMBA - China-Australia Migratory Bird Agreement; ROKAMBA - Republic of Korea-Australia Migratory Bird Agreement; CMS - Convention on the Conservation of Migratory Species.*

***I - wetland indicator species; D - wetland dependent species.*

BPA Priority Species

A list of BPA priority species that have been recorded on, or within approximately 4km of the AOI is contained in the following table.

Table 23: Priority species recorded on, or within 4km of the AOI

Species	Common name	Identified flora/fauna
Chlamydosaurus kingii	frilled lizard	FA
Kuhlia rupestris	jungle perch	FA
Lampropholis adonis	diamond-shielded sunskink	FA
Melaleuca nervosa		FL
Melaleuca viridiflora		FL
Mogurnda adspersa	southern purplespotted gudgeon	FA

Species	Common name	Identified flora/fauna
Mormopterus norfolkensis	east coast freetail bat	FA
Mugil cephalus	sea mullet	FA
Ninox connivens	barking owl	FA
Notamacropus agilis	agile wallaby	FA
Notamacropus dorsalis	black-striped wallaby	FA
Petaurus australis australis	yellow-bellied glider (southern subspecies)	FA
Petrogale herberti	Herbert's rock-wallaby	FA
Pomatostomus temporalis	grey-crowned babbler	FA
Pteropus alecto	black flying-fox	FA
Scagacola cavernula	Rockhampton Carnivorous Snail	FA
Scoteanax rueppellii	greater broad-nosed bat	FA
Varanus semiremex	rusty monitor	FA
Varanus varius	lace monitor	FA

NB. Please note that the list of priority species is based on those species identified in the BPAs, however records for these species may be more recent than the originals used. furthermore, the BPA priority species databases are updated from time to time. At each update, the taxonomic details for all species are amended as necessary to reflect current taxonomic name and/or status changes.

ACA Priority Species

A list of ACA priority species used in riverine and non-riverine ACAs that have been recorded on, or within approximately 4km of the AOI are contained in the following tables.

Table 24: Priority species recorded on, or within 4 km of the AOI - riverine

Species	Common name	Identified flora/fauna
Ardea alba modesta	Eastern Great Egret	FA
Casuarina cunninghamiana		FL
Eucalyptus tereticornis		FL
Kuhlia rupestris	Jungle Perch	FA
Lates calcarifer	Barramundi	FA
Lomandra longifolia		FL
Megalops cyprinoides	Oxeye Herring/Tarpon	FA
Melaleuca leucadendra	broad-leaved tea-tree	FL
Melaleuca viminalis		FL
Mugil cephalus	Sea Mullet	FA
Nymphoides indica	water snowflake	FL

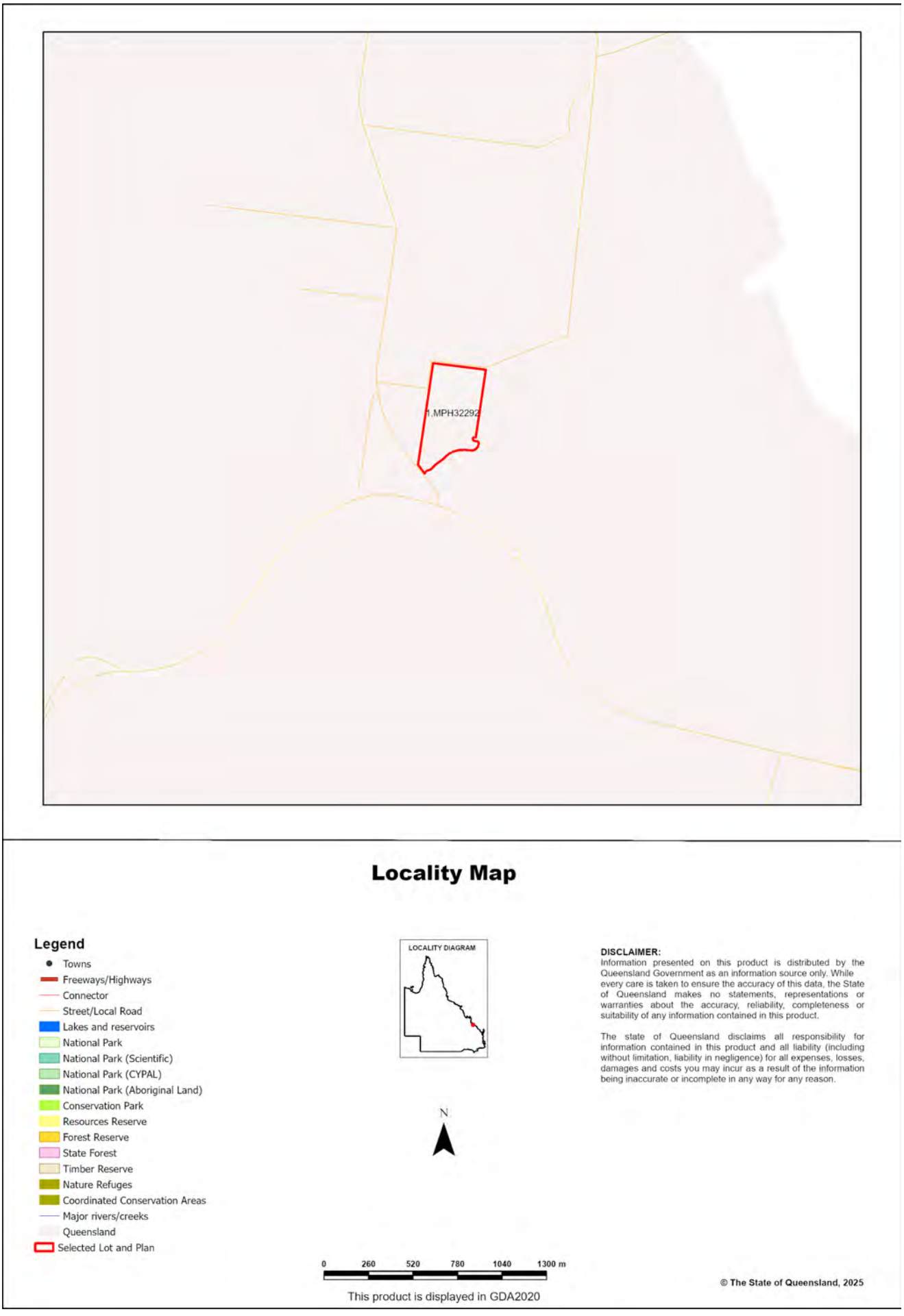
Table 25: Priority species recorded on, or within 4 km of the AOI - non-riverine

Species	Common name	Identified flora/fauna
Ardea alba modesta	Eastern Great Egret	FA
Cyperus exaltatus	tall flatsedge	FL
Eucalyptus tereticornis		FL
Lates calcarifer	Barramundi	FA
Machaerina articulata	jointed twigrush	FL
Megalops cyprinoides	Oxeye Herring/Tarpon	FA
Melaleuca leucadendra	broad-leaved tea-tree	FL
Melaleuca viminalis		FL
Mugil cephalus	Sea Mullet	FA
Nymphoides indica	water snowflake	FL

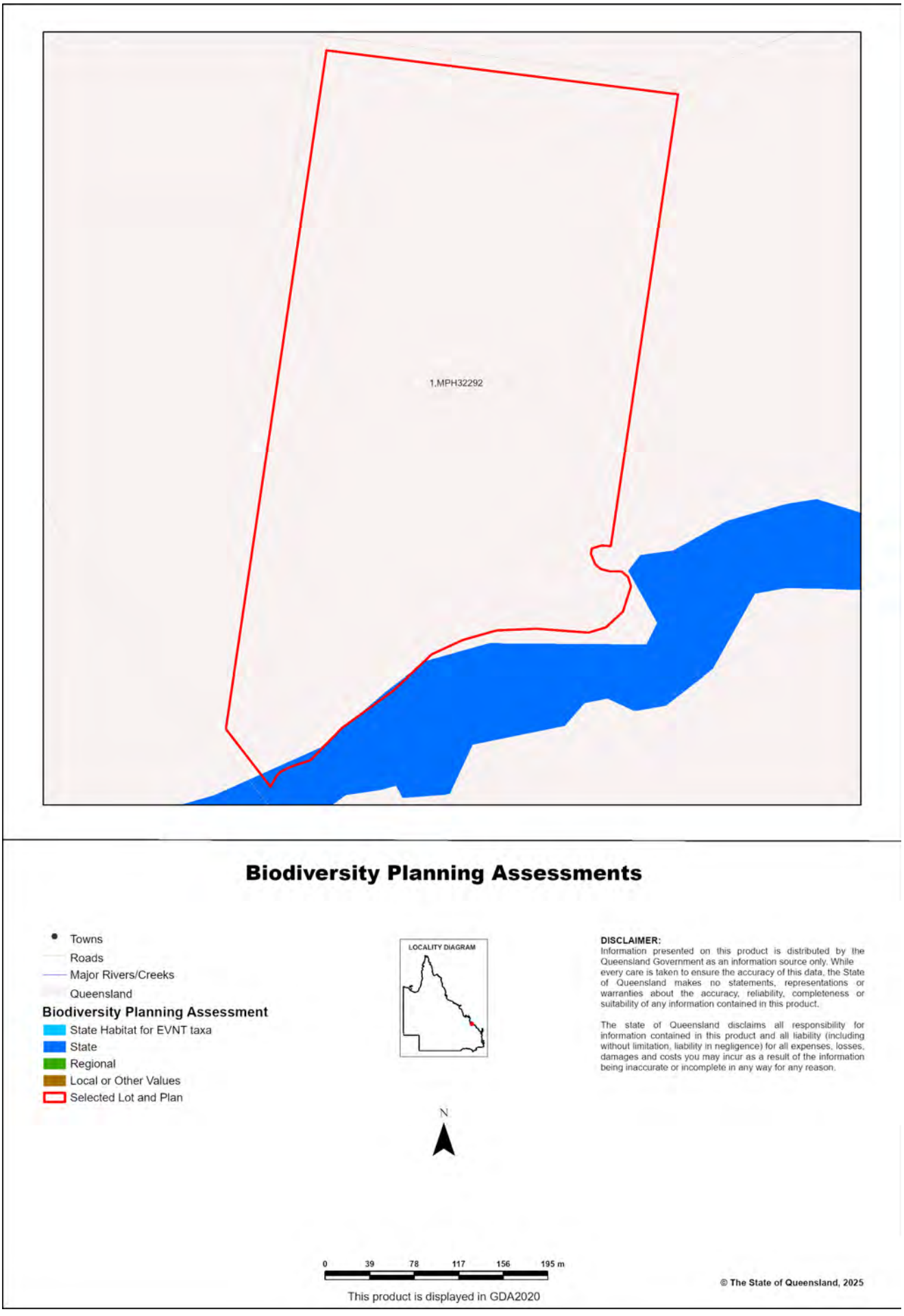
NB. Please note that the priority species records used in the above two tables are comprised of those adopted for the released individual ACAs. The ACA riverine and non-riverine priority species databases are updated from time to time to reflect new release of ACAs. At each update, the taxonomic details for all ACAs records are amended as necessary to reflect current taxonomic name and/or status changes.

Maps

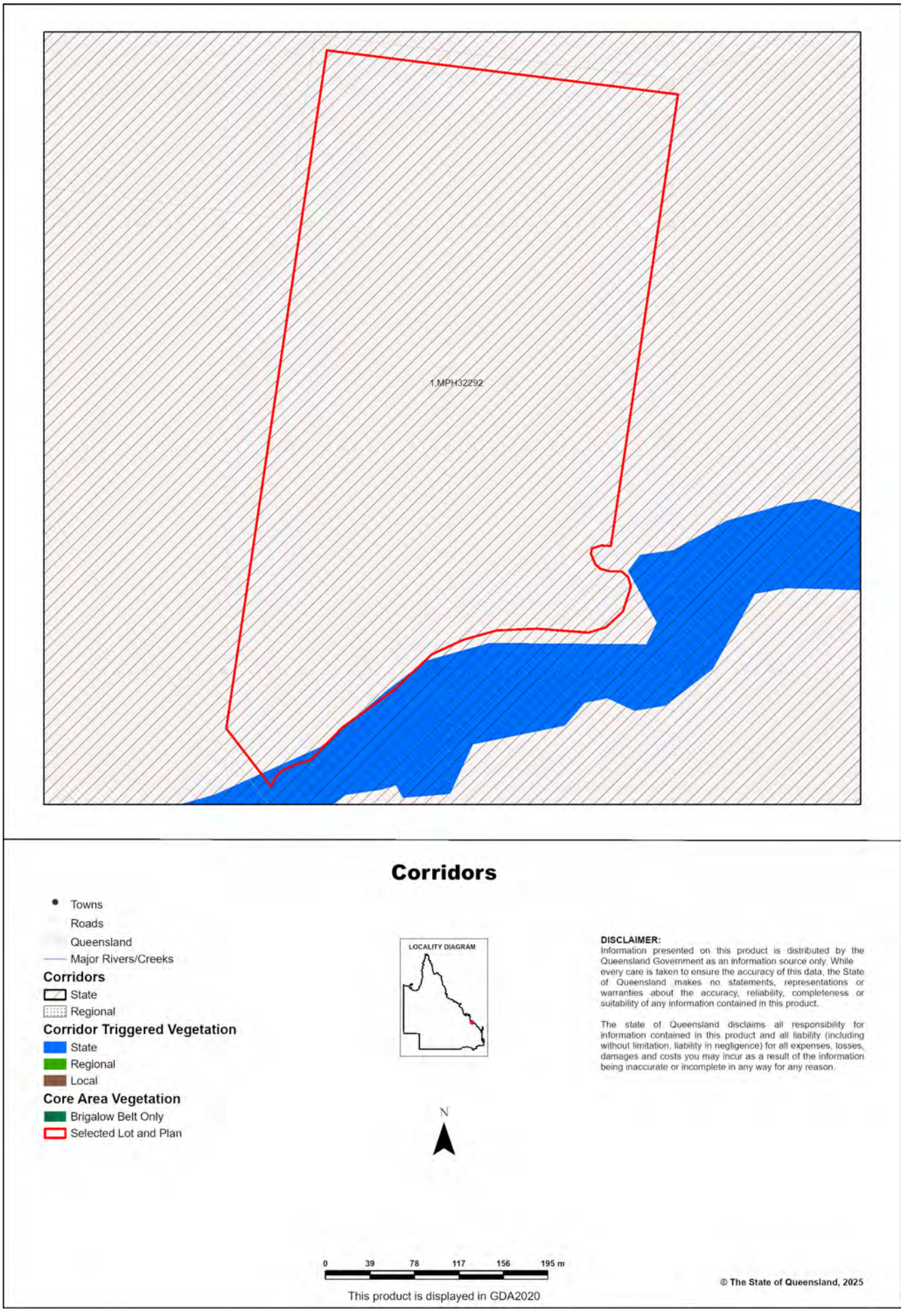
Map 1 - Locality Map



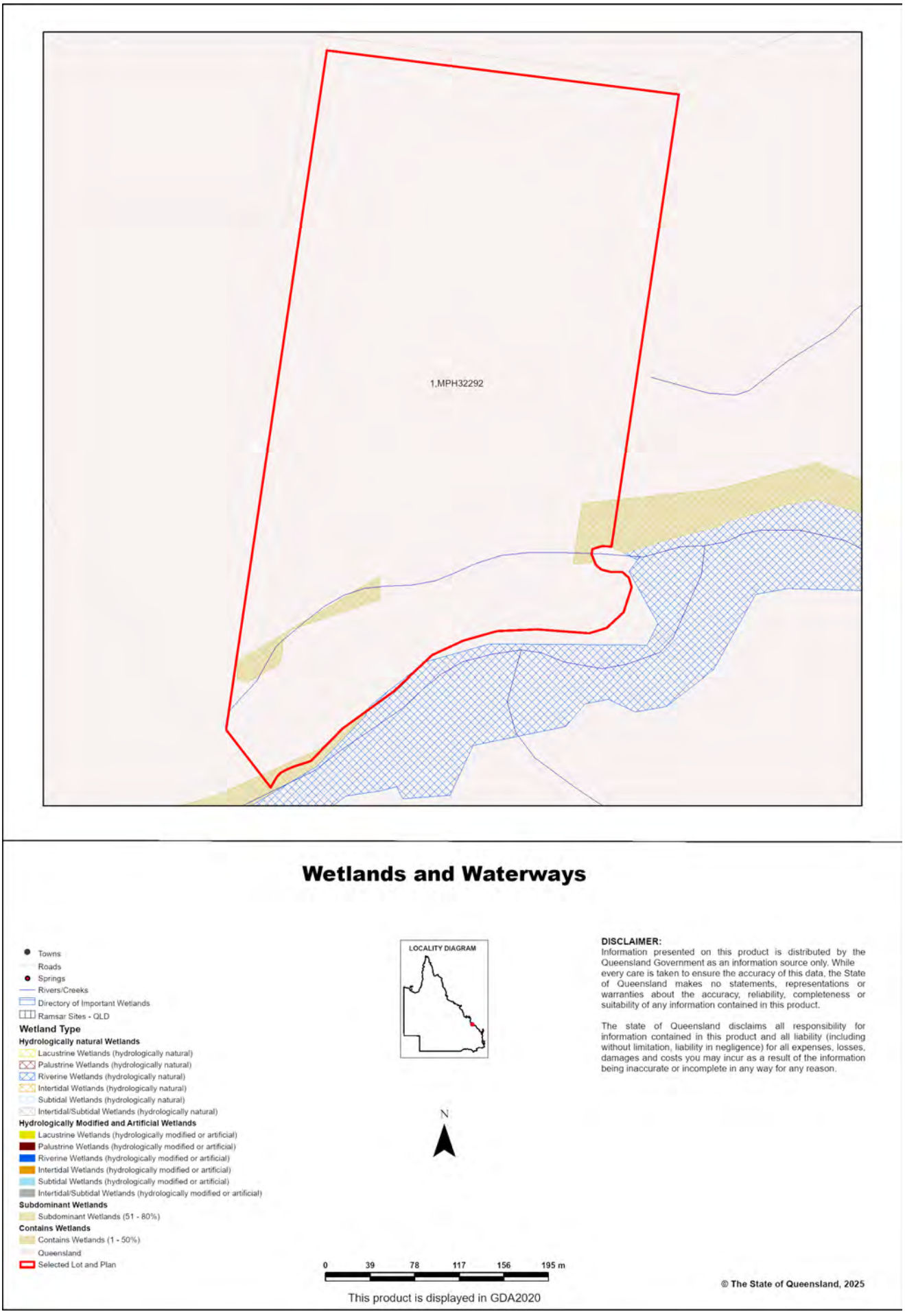
Map 2 - Biodiversity Planning Assessment (BPA)



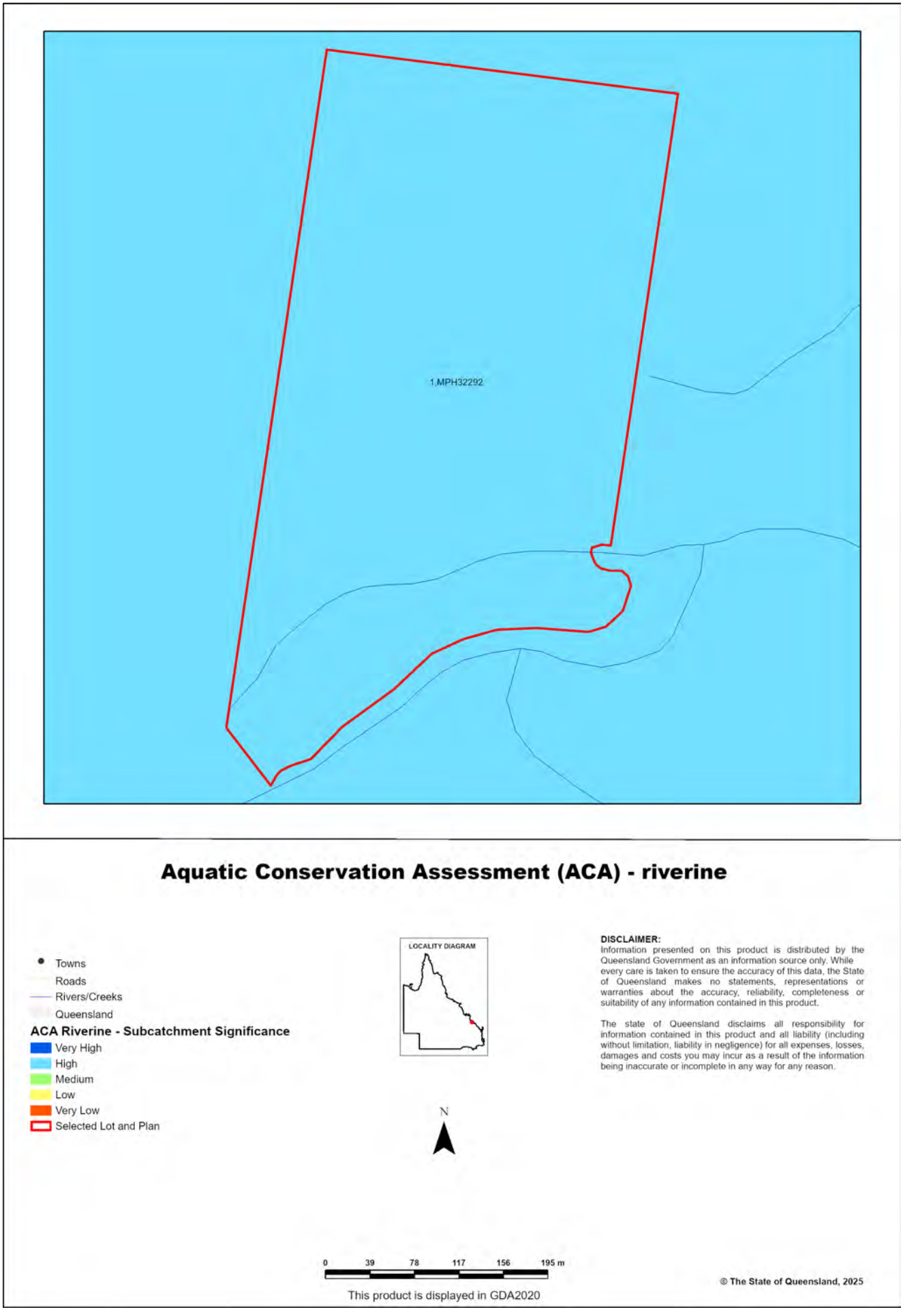
Map 3 - Corridors



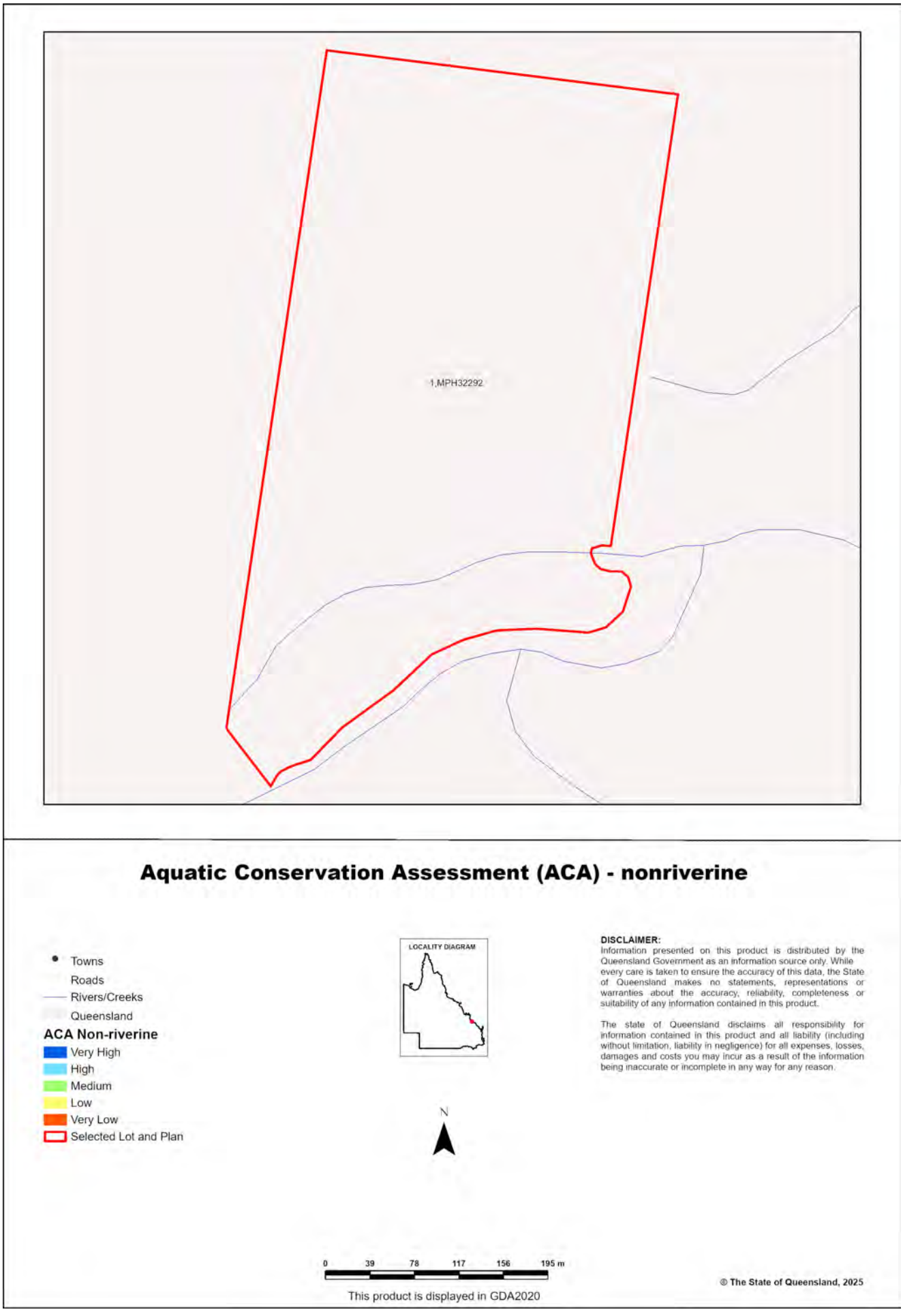
Map 4 - Wetlands and waterways



Map 5 - Aquatic Conservation Assessment (ACA) - riverine



Map 6 - Aquatic Conservation Assessment (ACA) - non-riverine



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Appendices

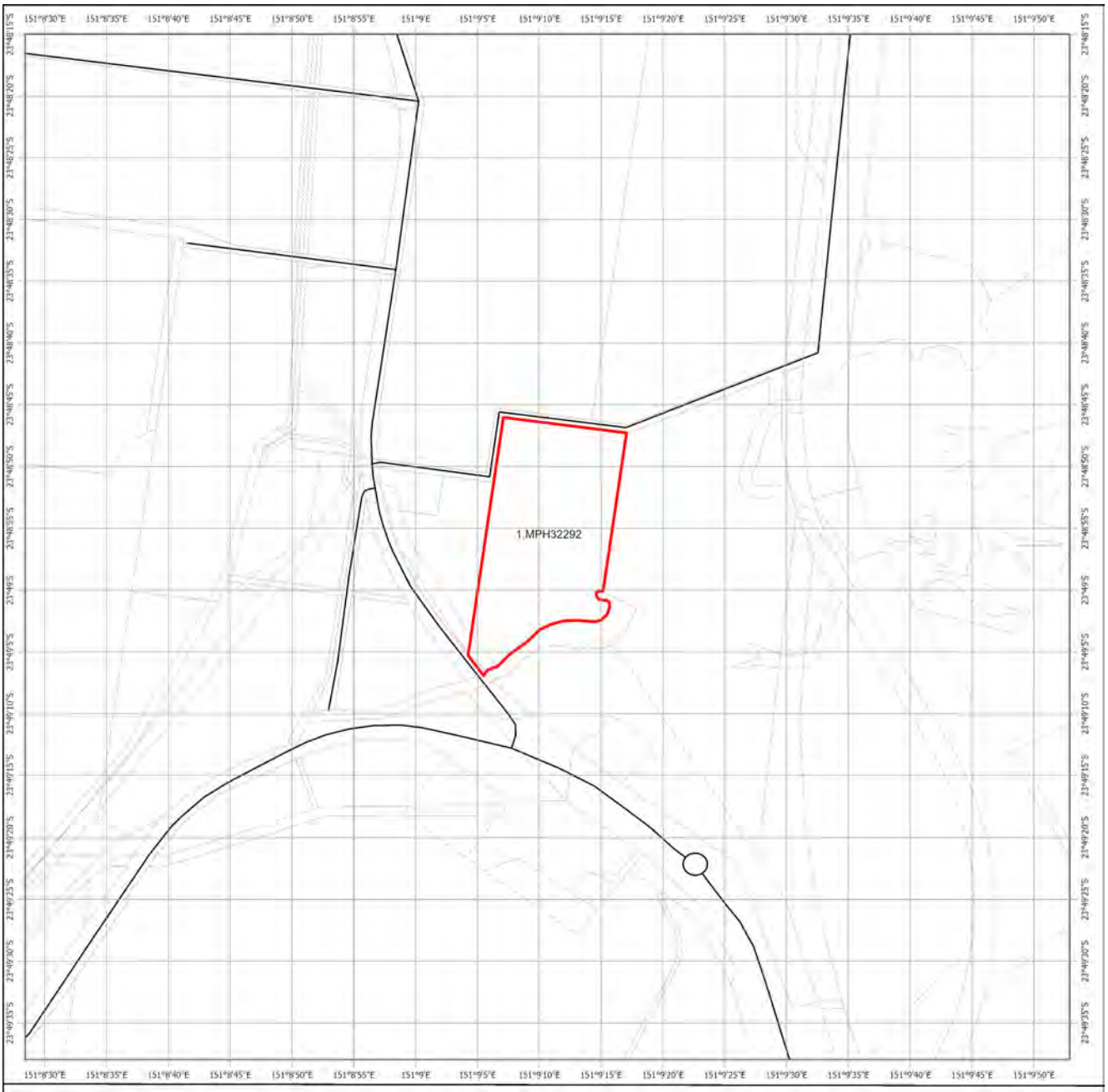
Appendix 1 - Source Data

Theme	Datasets
Aquatic Conservation Assessments Non-riverine*	Combination of the following datasets: Cape York Peninsula Non-riverine v1.1 Eastern Gulf of Carpentaria v1.1 Great Barrier Reef Catchment Non-riverine v1.3 Lake Eyre and Bulloo Basins v1.1 QMDBB Non-riverine ACA v2.1 Southeast Queensland ACA v1.1 WBB Non-riverine ACA v1.1 Southern Gulf Catchments Non-riverine ACA v1.1 WBBGBRCC Non-riverine ACA v2.1
Aquatic Conservation Assessments Riverine*	Combination of the following datasets: Cape York Peninsula Riverine v1.1 Eastern Gulf of Carpentaria v1.1 Great Barrier Reef Catchment Riverine v1.1 Lake Eyre and Bulloo Basins v1.1 QMDBB Riverine ACA v2.1 Southeast Queensland ACA v1.1 WBB Riverine ACA v1.1 Southern Gulf Catchments Riverine ACA v1.1 WBBGBRCC Riverine ACA v2.1
Biodiversity Planning Assessments*	Combination of the following datasets: Brigalow Belt BPA v2.1 Cape York Peninsula BPA v1.1 Central Queensland Coast BPA v1.3 Channel Country BPA v1.1 Desert Uplands BPA v1.3 Einasleigh Uplands BPA v1.1 Gulf Plains BPA v1.1 Mitchell Grass Downs BPA v1.1 Mulga Lands BPA v1.4 New England Tableland v3.1 Northwest Highlands v1.1 Southeast Queensland v4.1 Wet Tropics v1.1
Statewide BPA Corridors*	Statewide corridors v1.7
Threatened Species	An internal DETSI database compiled from Wildnet, Herbrecs, Corveg, the QLD Museum, as well as other incidental sources.
BPA Priority Species	An internal DETSI database compiled from Wildnet, Herbrecs, Corveg, the QLD Museum, as well as other incidental sources.
ACA Priority Species	An internal DETSI database compiled from Wildnet, Herbrecs, Corveg, the QLD Museum, as well as other incidental sources.

These datasets are available at:
http://dds.information.qld.gov.au/DDS

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
ACA	- Aquatic Conservation Assessment
AQUABAMM	- Aquatic Biodiversity Assessment and Mapping Methodology
BAMM	- Biodiversity Assessment and Mapping Methodology
BoT	- Back on Track
BPA	- Biodiversity Planning Assessment
CAMBA	- China-Australia Migratory Bird Agreement
DETSI	- Department of the Environment, Tourism, Science and Innovation
EPBC	- *Environment Protection and Biodiversity Conservation Act 1999*
EVNT	- Endangered, Vulnerable, Near Threatened
GDA2020	- Geocentric Datum of Australia 2020
GIS	- Geographic Information System
JAMBA	- Japan-Australia Migratory Bird Agreement
NCA	- *Nature Conservation Act 1992*
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
ROKAMBA	- Republic of Korea-Australia Migratory Bird Agreement



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of the Environment, Tourism, Science and Innovation at palm@des.qld.gov.au

N

0 100 200 300 400 500 m

This product is displayed in: GDA2020

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

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Protected plants flora survey trigger map

The protected plants flora survey trigger map identifies 'high risk areas' where endangered, vulnerable or near threatened plants are known to exist or are likely to exist. Under the *Nature Conservation Act 1992* (the Act) it is an offence to clear protected plants that are 'in the wild' unless you are authorised or the clearing is exempt, for more information see section 89 of the Act.

Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for information on what exemptions may apply in your circumstances, whether you may need to undertake a flora survey, and whether you may need a protected plants clearing permit.

Updates to the data informing the flora survey trigger map
The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of the Environment, Tourism, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for more information.

Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 1 Plan: MPH32292

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

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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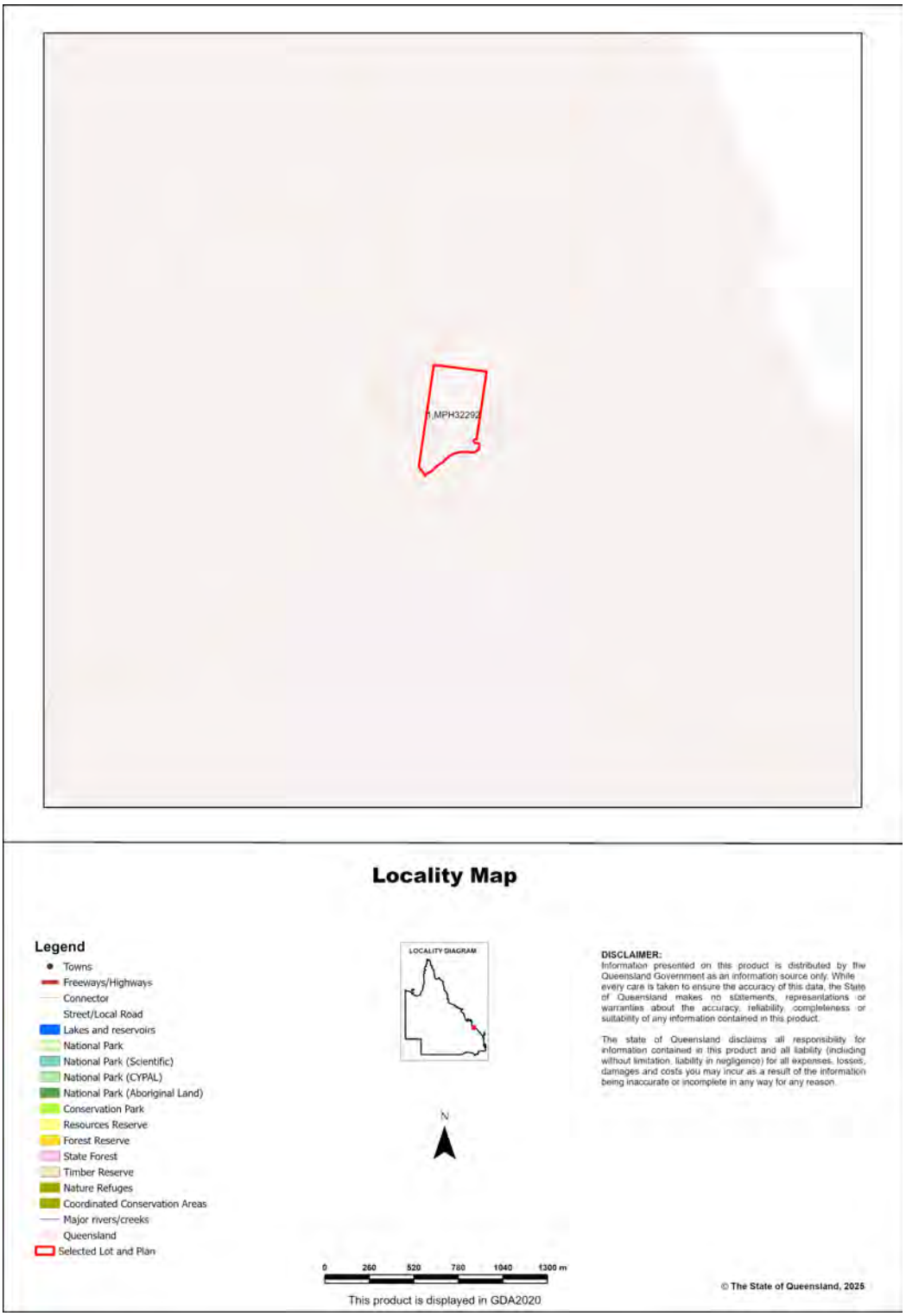
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Assessment Area Details

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

Table 1: Summary table, details for AOI: Lot: 1 Plan: MPH32292, with area 15.49 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Gladstone Regional	Calliope	Southeast Queensland	Burnett - Curtis Hills and Ranges



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	5.51 ha	35.6%
7b Special least concern animals	5.72 ha	36.9%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	0.03 ha	0.2%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	10.68 ha	68.9%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	1.07 ha	6.9%
8d Regulated Vegetation - Essential habitat	6.22 ha	40.2%
8e Regulated Vegetation - intersecting a watercourse	0 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
Boronia keysii	Keys boronia	V	None
Calyptorhynchus lathami	Glossy black cockatoo	V	None
Casuarius casuarius johnsonii	Sthn population cassowary	E	None
Crinia tinnula	Wallum froglet	V	None
Denisonia maculata	Ornamental snake	V	None
Euastacus bindal	Mount Elliot crayfish	CR	None
Euastacus binzayedi		CR	None
Euastacus eungella		E	None
Euastacus hystricosus		E	None
Euastacus jagara	Jagara hairy crayfish	CR	None
Euastacus maidae		CR	None
Euastacus monteithorum		E	None
Euastacus robertsi		E	None
Taudactylus pleione	Kroombit tinkerfrog	E	None
Litoria freycineti	Wallum rocketfrog	V	None
Litoria olongburensis	Wallum sedgefrog	V	None
Macadamia integrifolia		V	None
Melaleuca irbyana	swamp tea-tree	E	None
Macadamia ternifolia		V	None
Macadamia tetraphylla	bopple nut	V	None
Petrogale penicillata	brush-tailed rock-wallaby	V	None
Petrogale coenensis	Cape York rock-wallaby	E	None
Petrogale purpureicollis	purple-necked rock-wallaby	V	None
Petrogale sharmani	Sharmans rock-wallaby	V	None
Petrogale xanthopus celeris	yellow-footed rock-wallaby (Qld subspecies)	V	None
Petaurus gracilis	Mahogany Glider	E	None
Petrogale persephone	Proserpine rock-wallaby	E	None
Phascolarctos cinereus	Koala - outside SEQ*	E	Core
Pezoporus wallicus wallicus	Eastern ground parrot	V	None
Xeromys myoides	Water Mouse	V	None

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

Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
Numenius madagascariensis	eastern curlew	E	CE	M-C/J/R/B/E
Limosa lapponica baueri	Western Alaskan bar-tailed godwit	V	V	M-C/J/R/B/E

Special least concern animal species records

Scientific name	Common name	Migratory status
Numenius phaeopus	whimbrel	M-C/J/R/B/E
Actitis hypoleucos	common sandpiper	M-C/J/R/B/E
Tringa nebularia	common greenshank	M-C/J/R/B/E

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
12.3.3/12.11.4	E-dom	rem_end

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

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.29/12.11.14/12.3.3	E-subdom	hvr_end
12.3.3/12.11.4	E-dom	hvr_end

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

Regulated vegetation map category	Map number
R	9150

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

Not applicable

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

Not applicable

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

MSES - Offsets

9a. Legally secured offset areas - offset register areas

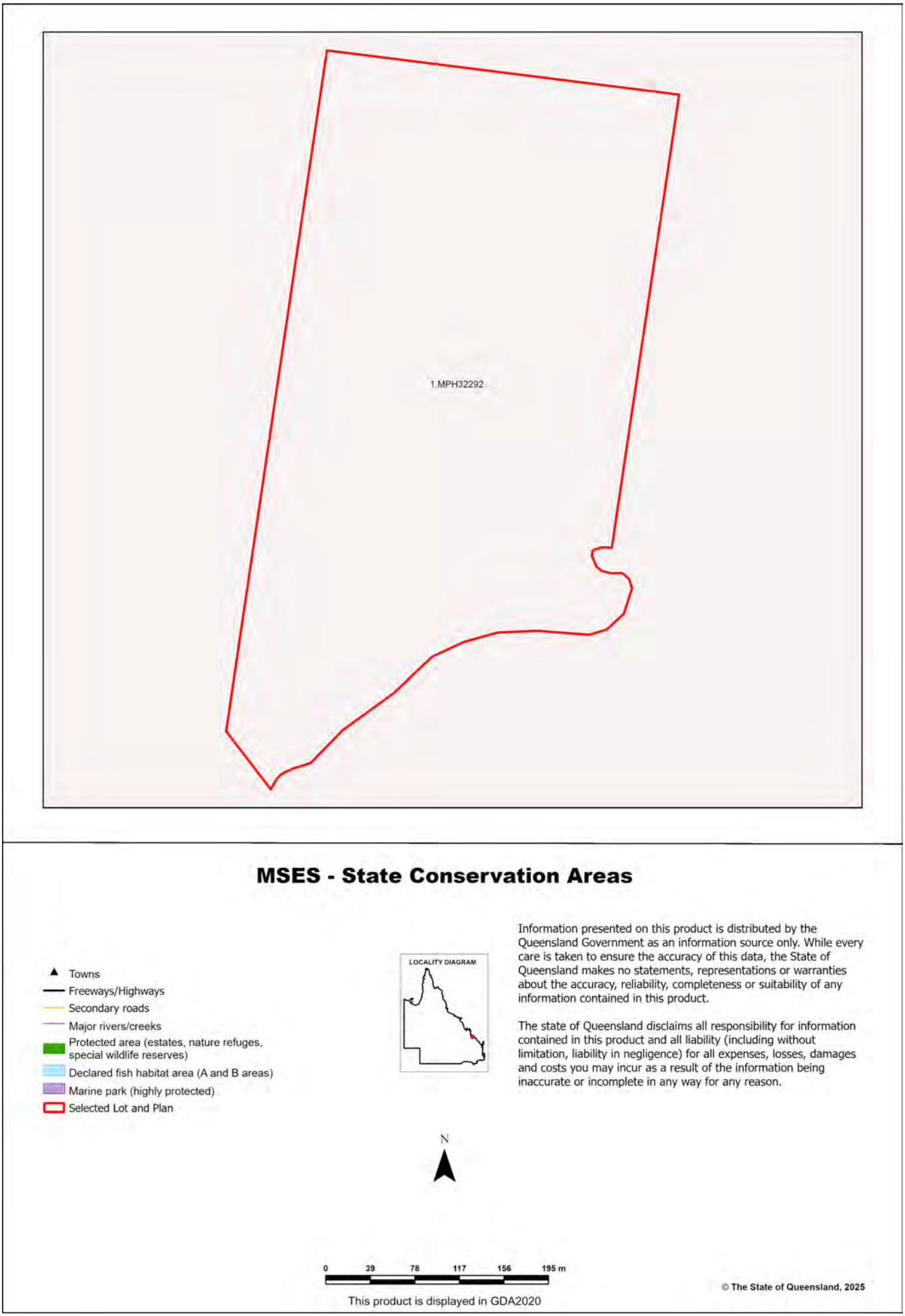
(No results)

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

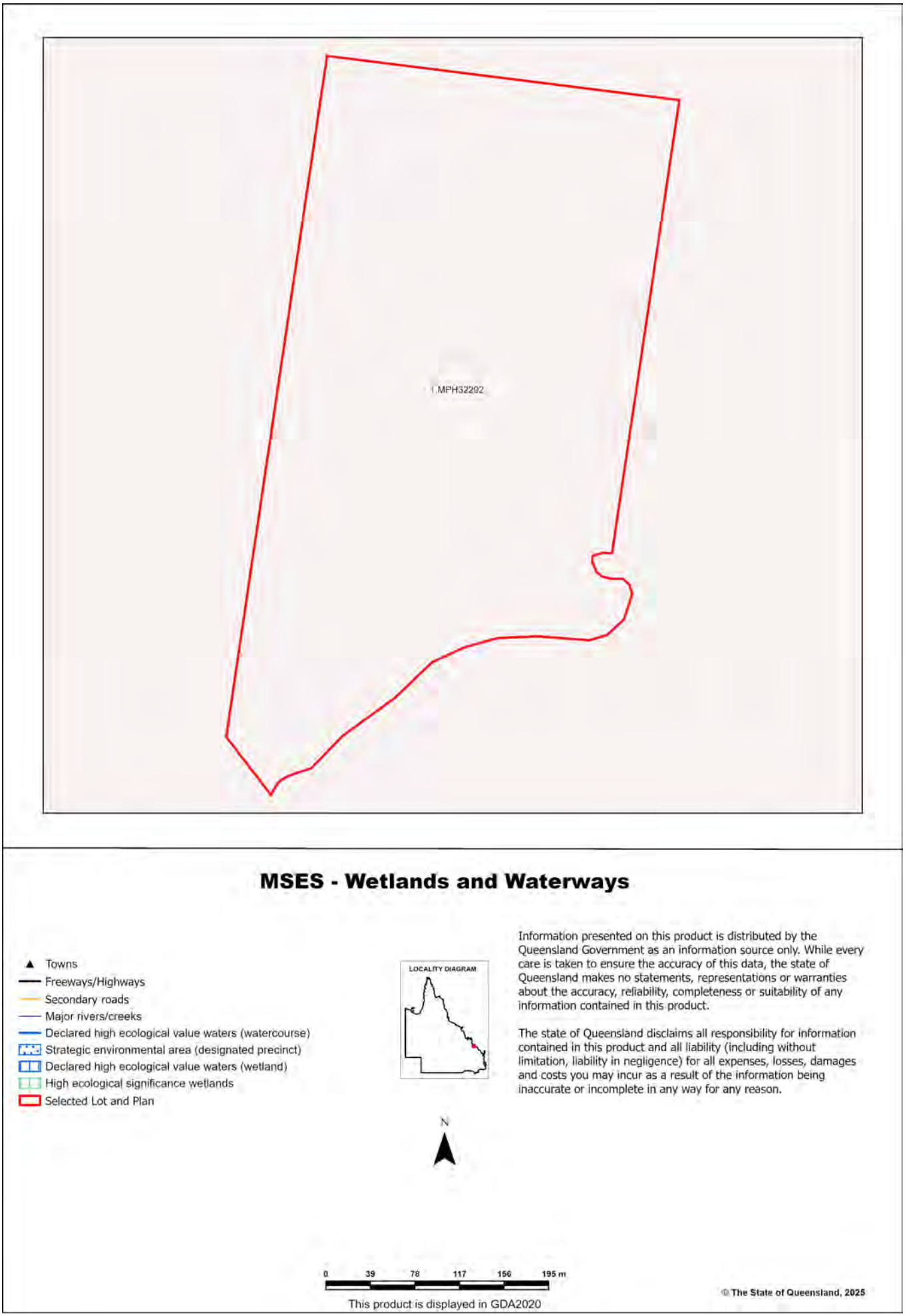
(No results)

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

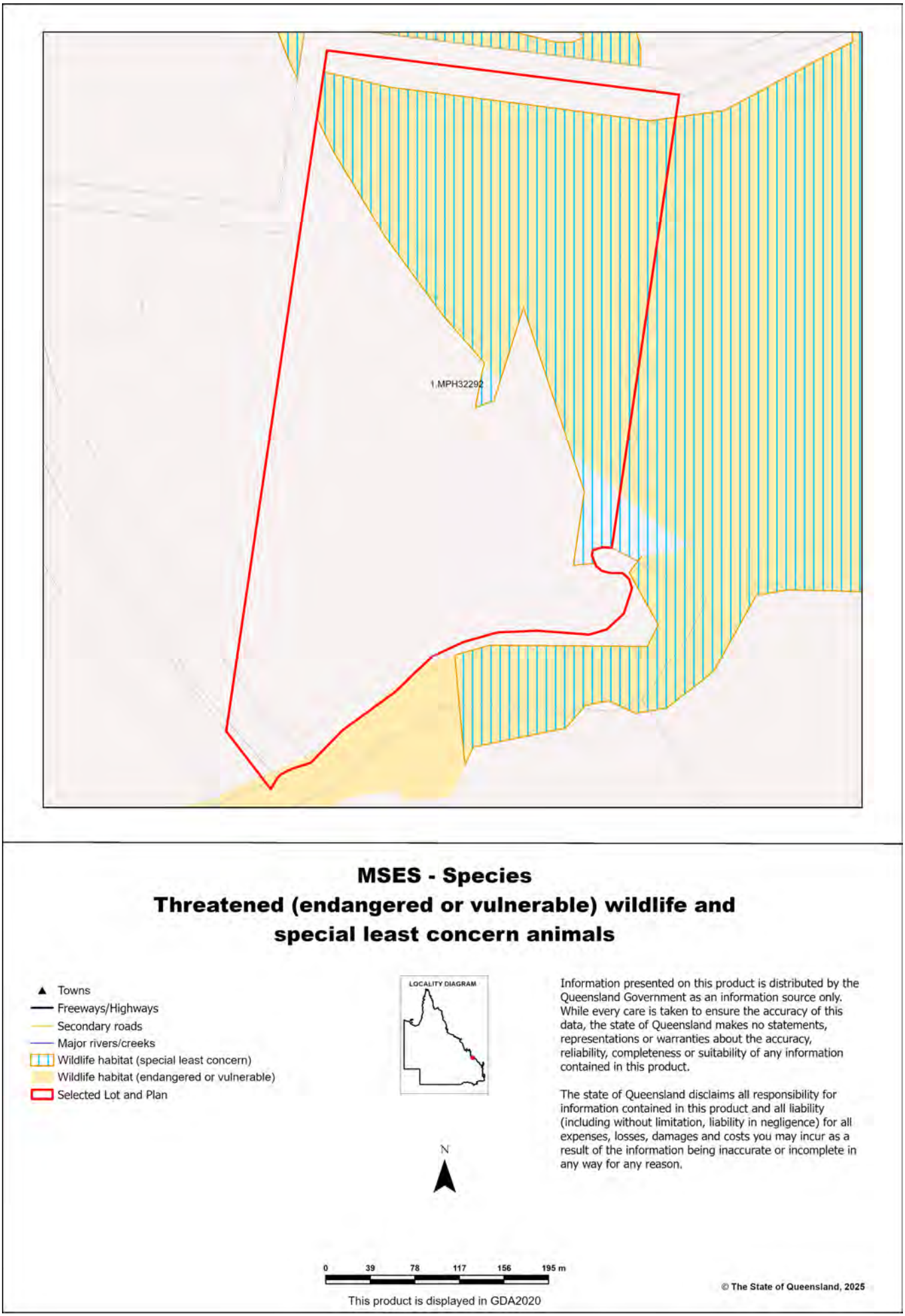
Map 1 - MSES - State Conservation Areas



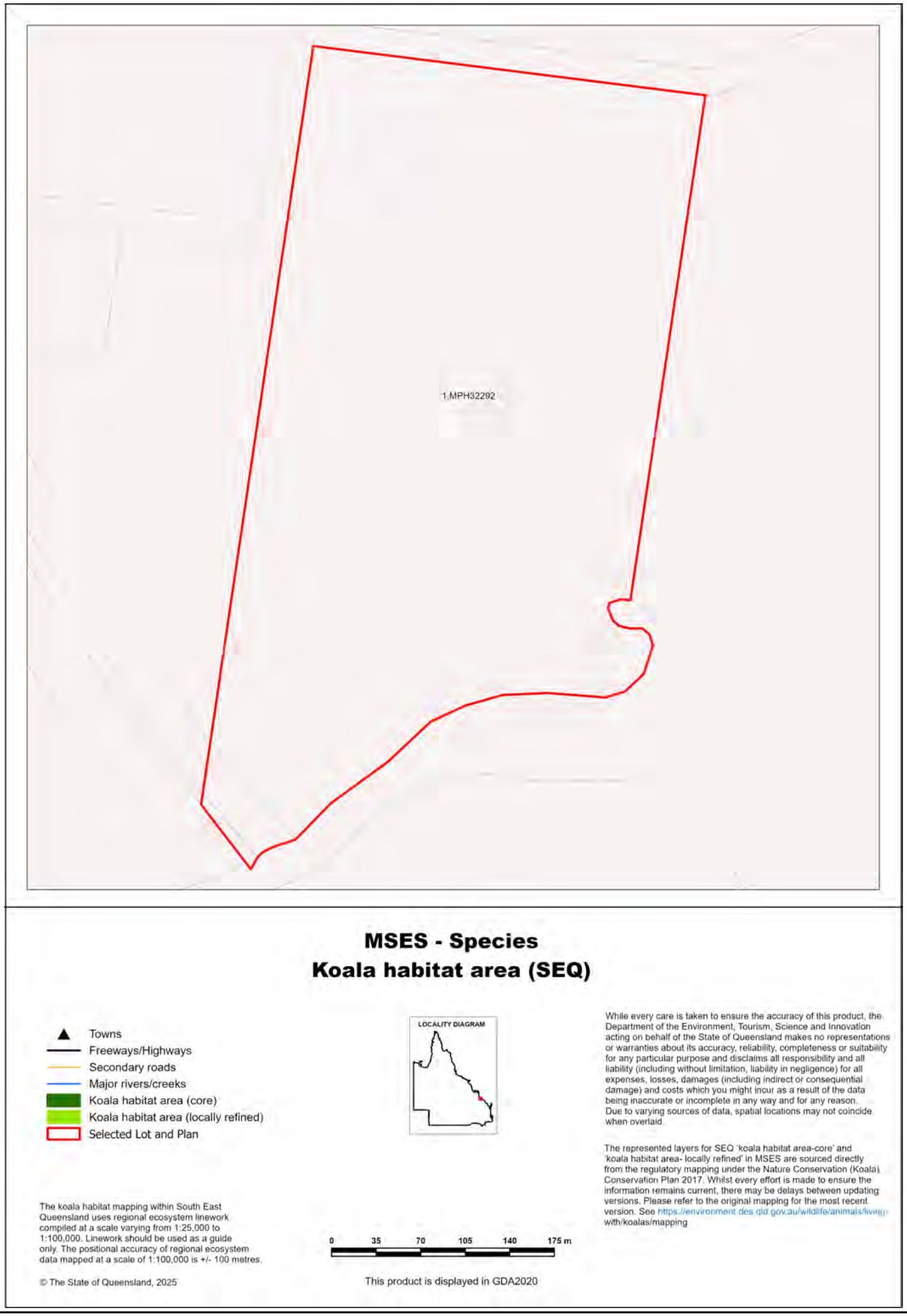
Map 2 - MSES - Wetlands and Waterways



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



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



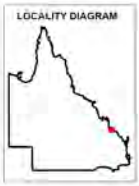
Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



MSES - Wildlife habitat (sea turtle nesting areas)

Towns
Freeways/Highways
Secondary roads
Major rivers/creeks
Wildlife habitat (sea turtle nesting areas)
Selected Lot and Plan

LOCALITY DIAGRAM



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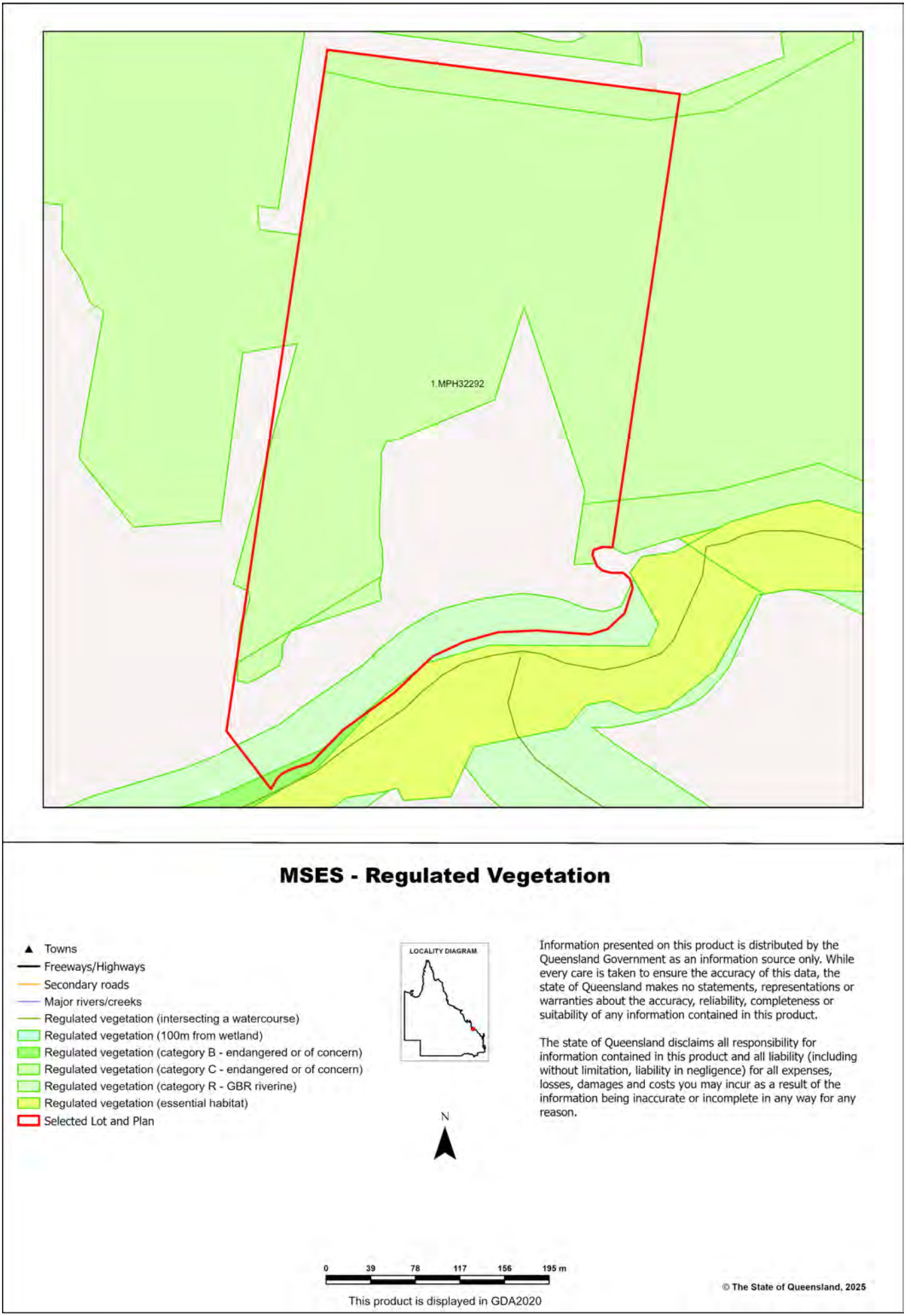
MSES mapping of sea turtle nesting areas identifies beaches where the recorded number of turtle nests are over 1% of the turtle species or genetic stock. The linework is also deliberately extended along nearby rocky coastlines and headlands to recognise that significant numbers of nesting adults and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

0 35 70 105 140 175 m

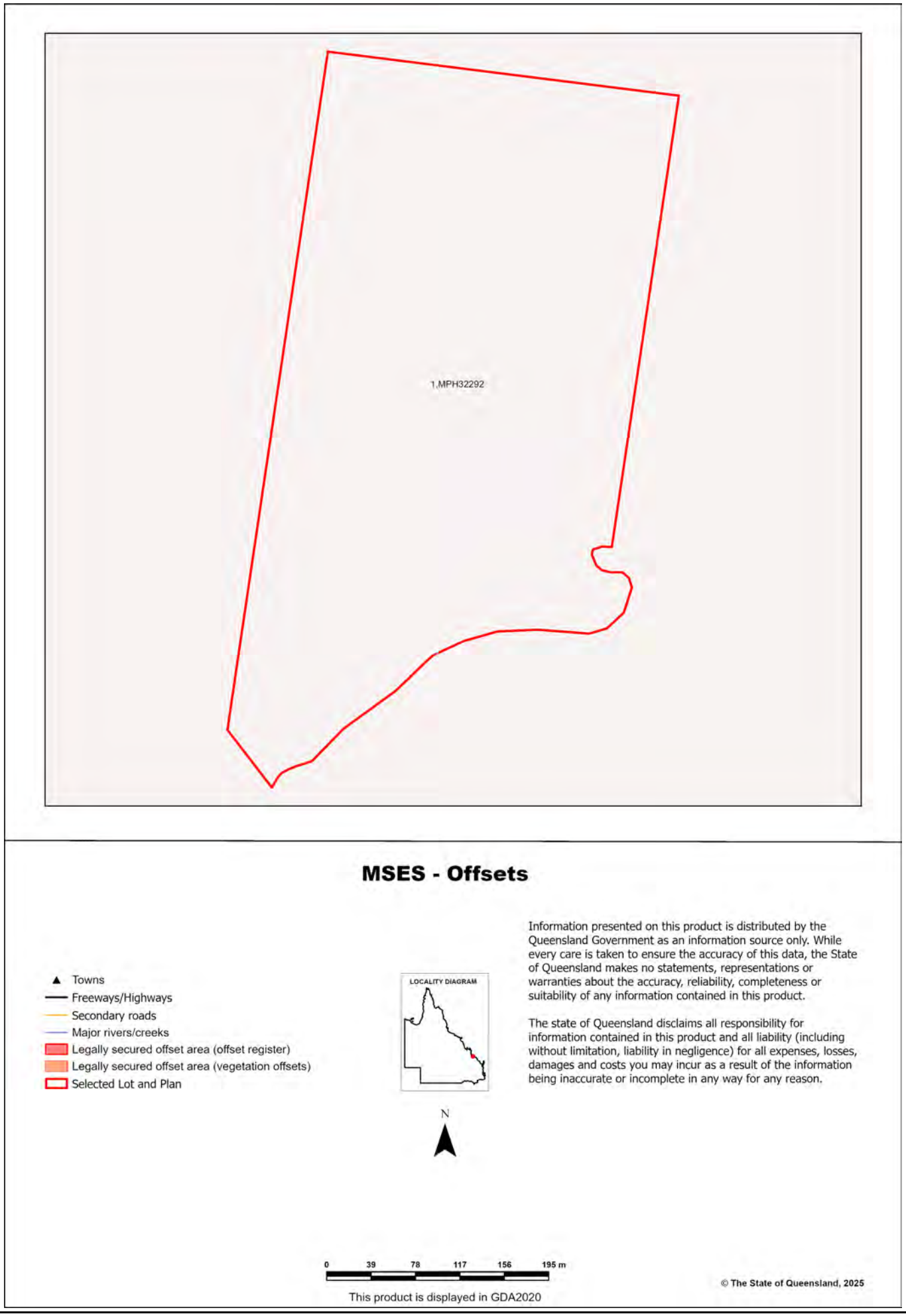
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This product is displayed in GDA2020

Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



Appendices

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

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

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

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

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

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

Appendix 2 - Source Data

The datasets listed below are available on request from:

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

- Matters of State environmental significance

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

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

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

Appendix 3 - Acronyms and Abbreviations

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

Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest
Lot: 1 Plan: MPH32292

Environmental Reports - General Information

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

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

Figures in tables may be affected by rounding.

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

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

Important Note to User

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

For matters relevant to vegetation management under the VMA, please refer to the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development website https://www.nrmmrrd.qld.gov.au/

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

Disclaimer

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Summary Information

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

Table 1: Details for area of interest:
Lot: 1 Plan: MPH32292, with area 15.49 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Gladstone Regional	Calliope	Southeast Queensland	Burnett - Curtis Hills and Ranges

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

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

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.02	0.13
Of concern	0.02	0.16
No concern at present	0.00	0.00
Total remnant vegetation	0.04	0.29

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

Regional Ecosystems

1. Introduction

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

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

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

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

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

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

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

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

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

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

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

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

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

2. Remnant Regional Ecosystems

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

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

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
12.11.4	Semi-evergreen vine thicket on metamorphics +/- interbedded volcanics	Of concern	0.01	0.09
12.3.3	Eucalyptus tereticornis woodland on Quaternary alluvium	Endangered	0.02	0.13
12.3.7	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp. fringing woodland	Of concern	0.01	0.07
non-remnant	None	None	15.44	99.70

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

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

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

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
12.11.4	Pre-clearing 4000 ha; Remnant 2021 3000 ha	7a	Contains Palustrine	High
12.3.3	Pre-clearing 437000 ha; Remnant 2021 38000 ha	16c	Not a Wetland	Low
12.3.7	Pre-clearing 124000 ha; Remnant 2021 68000 ha	16a	Riverine	Low
non-remnant	None	None	None	None

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

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

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

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

Regional Ecosystem	Special Values
12.11.4	12.11.4: Habitat for threatened flora species including Rhodamnia angustifolia and Fontainea venosa.
12.3.3	12.3.3: Habitat for threatened plant species including Rhaponticum australe. This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus). 12.3.3a: Habitat for threatened plant species including occasional Rhaponticum australe. This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus). 12.3.3b: Habitat for threatened flora species including Melaleuca irbyana. 12.3.3c: Habitat for threatened flora species including Melaleuca irbyana and Marsdenia coronata. 12.3.3d: Habitat for threatened plant species including Rhaponticum australe. This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus).
12.3.7	12.3.7: Habitat for an extensive range of aquatic flora and fauna. This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus). 12.3.7a: This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus). 12.3.7c: This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus). 12.3.7d: This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus).
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

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

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

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

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

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	15.44	99.70
16a	Open forest and woodlands dominated by Eucalyptus camaldulensis (river red gum) (or E. tereticornis (blue gum)) and/or E. coolabah (coolabah) (or E. microtheca (coolabah)) fringing drainage lines. Associated species may include Melaleuca spp., Corymbia tessellaris (carbeen), Angophora spp., Casuarina cunninghamiana (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	0.01	0.07

BVG (1 Million)	Description	Area (Ha)	% of AOI
16c	Woodlands and open woodlands dominated by Eucalyptus coolabah (coolabah) or E. microtheca (coolabah) or E. largiflorens (black box) or E. tereticornis (blue gum) or E. chlorophylla on floodplains. Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	0.02	0.13
7a	Semi-evergreen vine thickets on wide range of substrates.	0.01	0.09

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

4. Technical and BioCondition Benchmark Descriptions

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

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

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

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

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

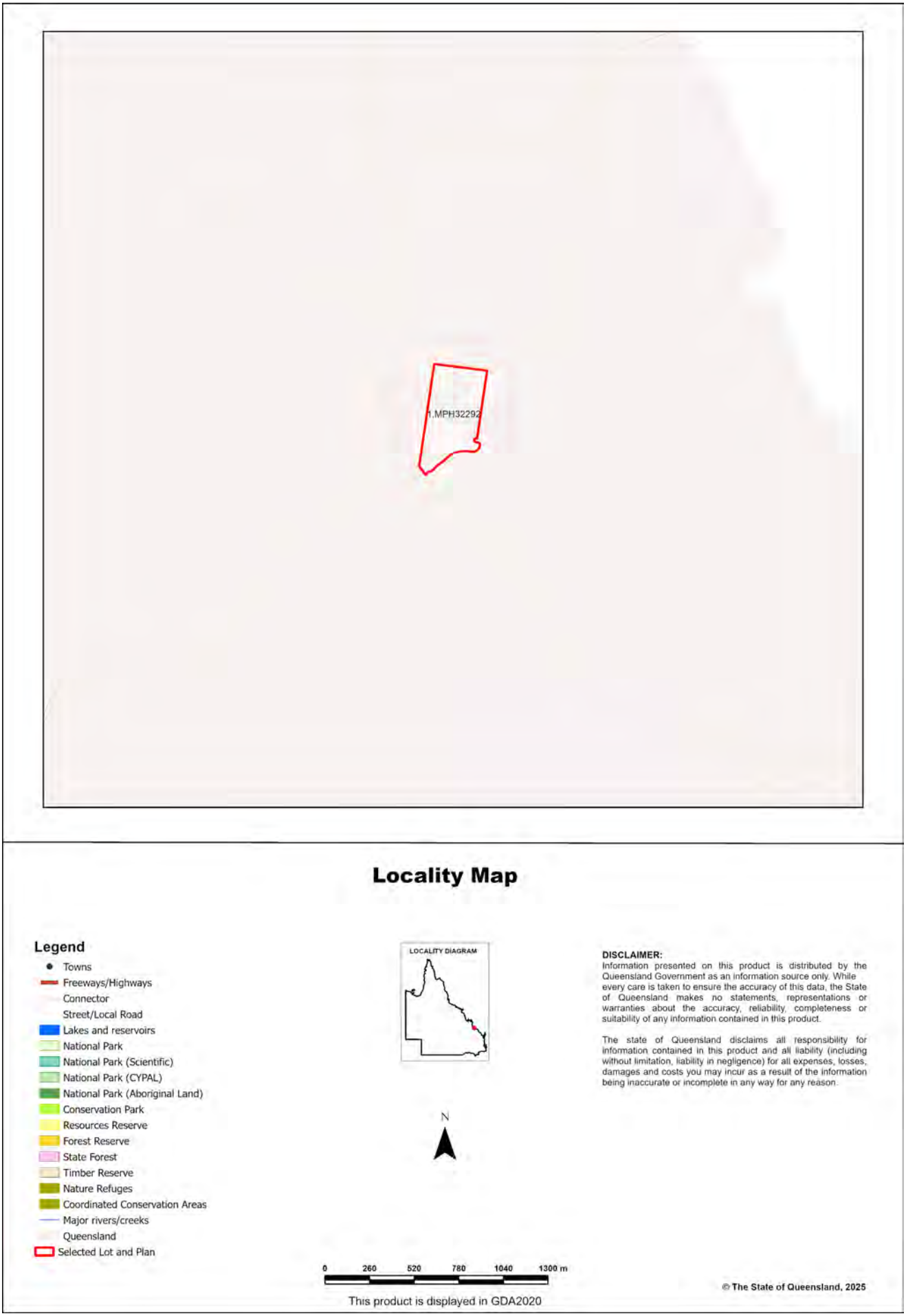
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance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

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

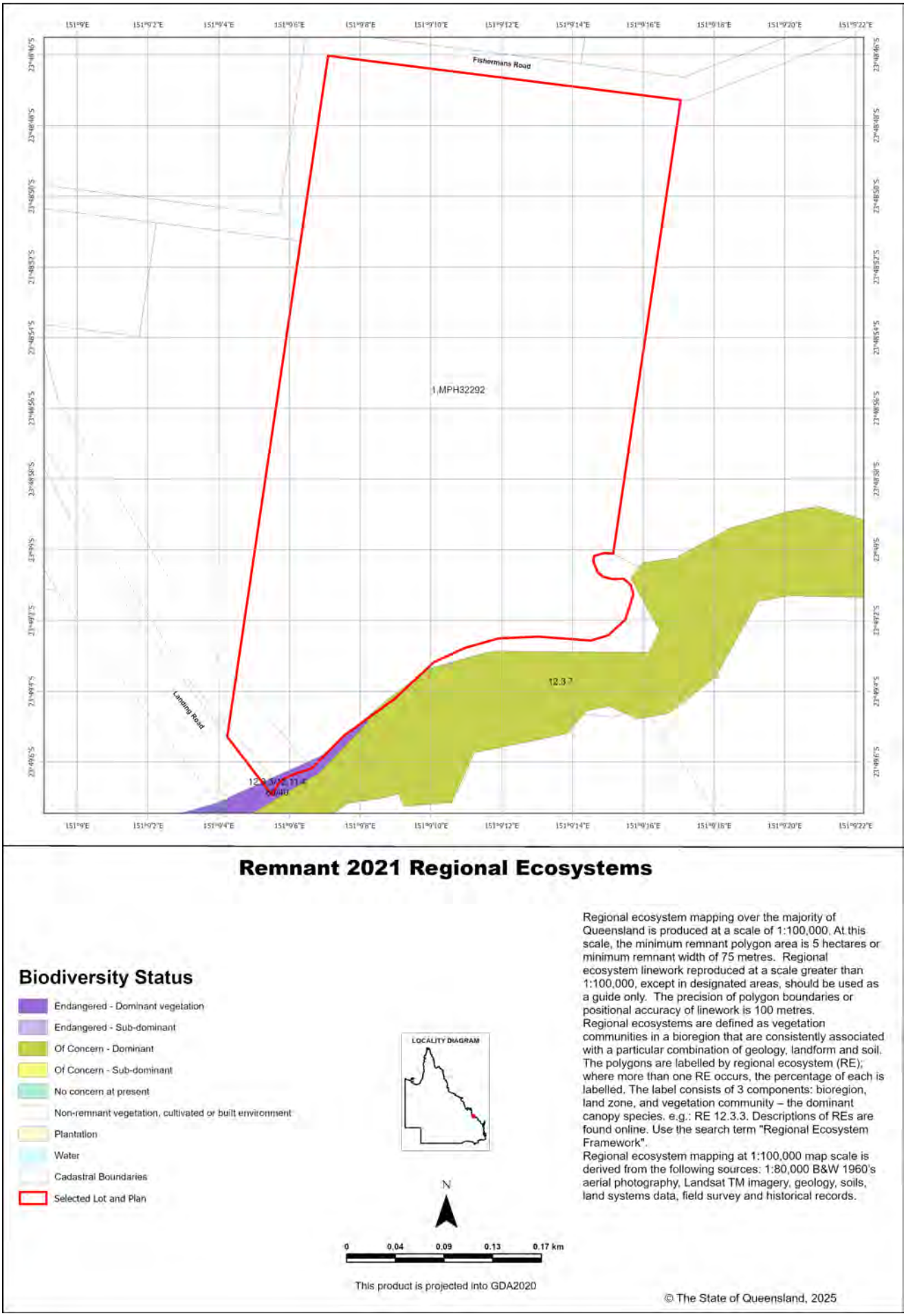
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
12.11.4	Not currently available	Not currently available
12.3.3	Available	Available
12.3.7	Available	Available
non-remnant	Not currently available	Not currently available

Maps

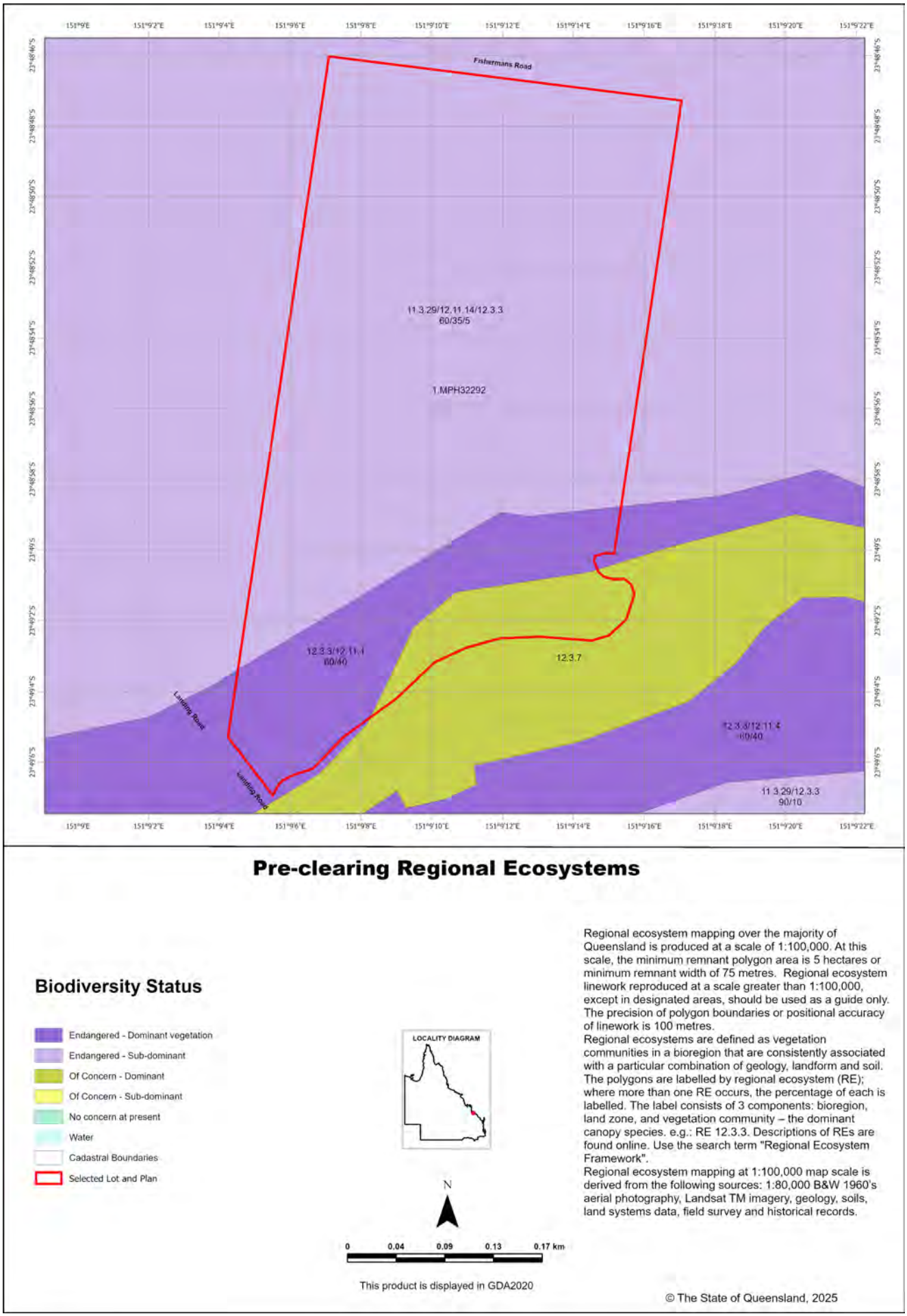
Map 1 - Location



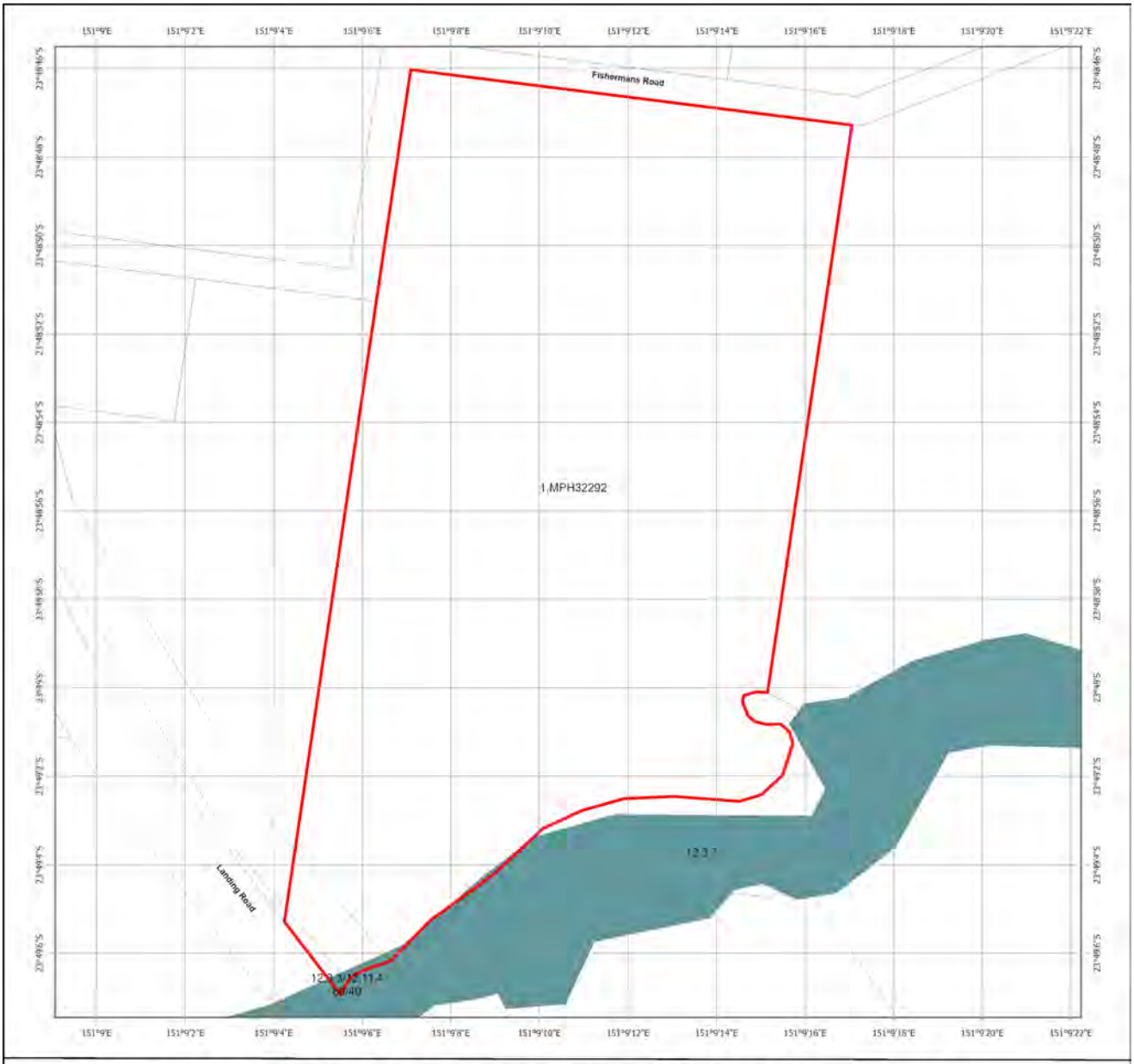
Map 2 - Remnant 2021 regional ecosystems



Map 3 - Pre-clearing regional ecosystems



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



Remnant 2021 Regional Ecosystems coloured by Broad Vegetation Groups

Broad Vegetation Groups
BVG5M Description (BVG1M codes)

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

Non-remnant vegetation, cultivated or built environment
Water
Cadastral Boundaries
Selected Lot and Plan



N

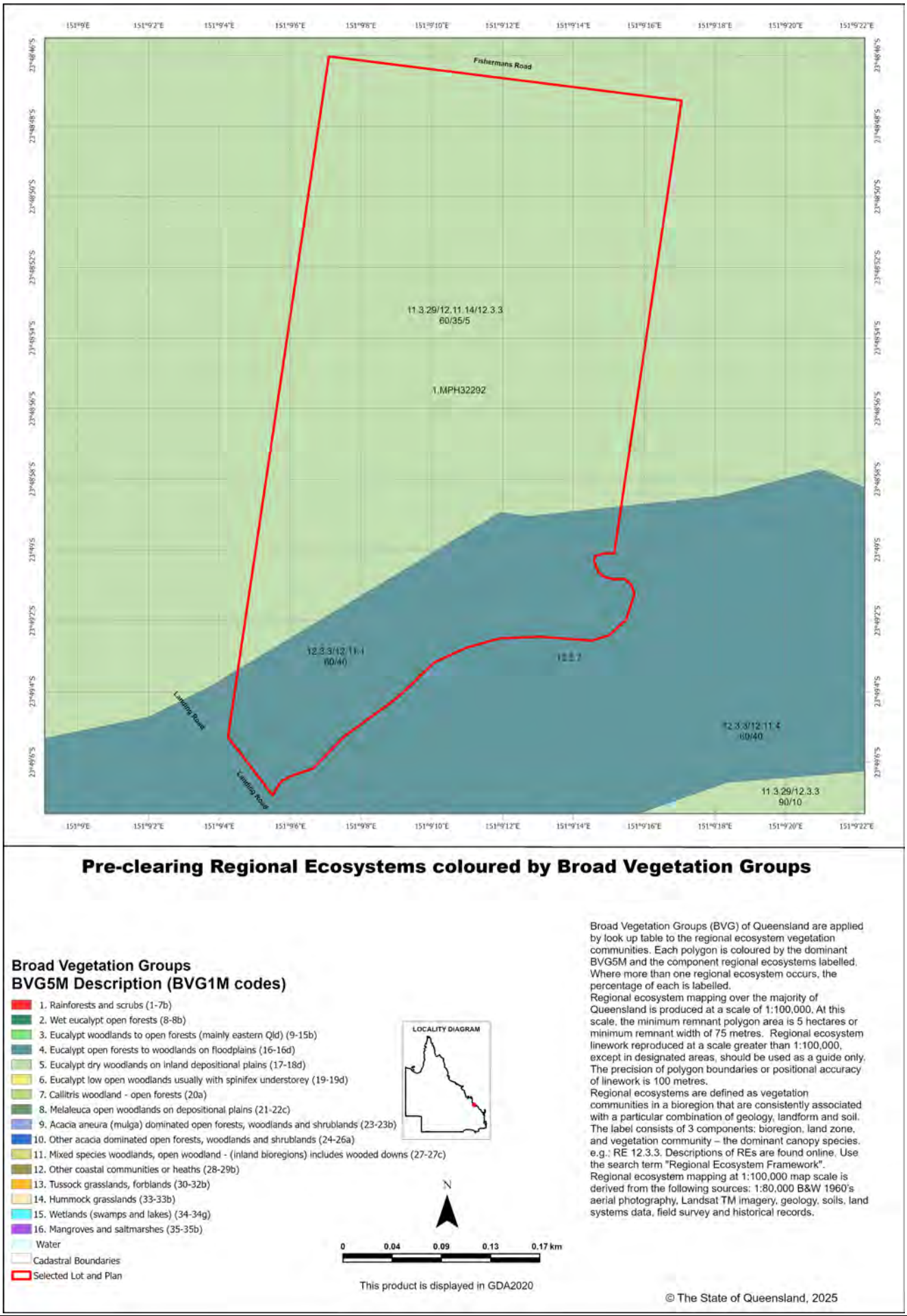
0 0.04 0.09 0.13 0.17 km

This product is displayed in GDA2020

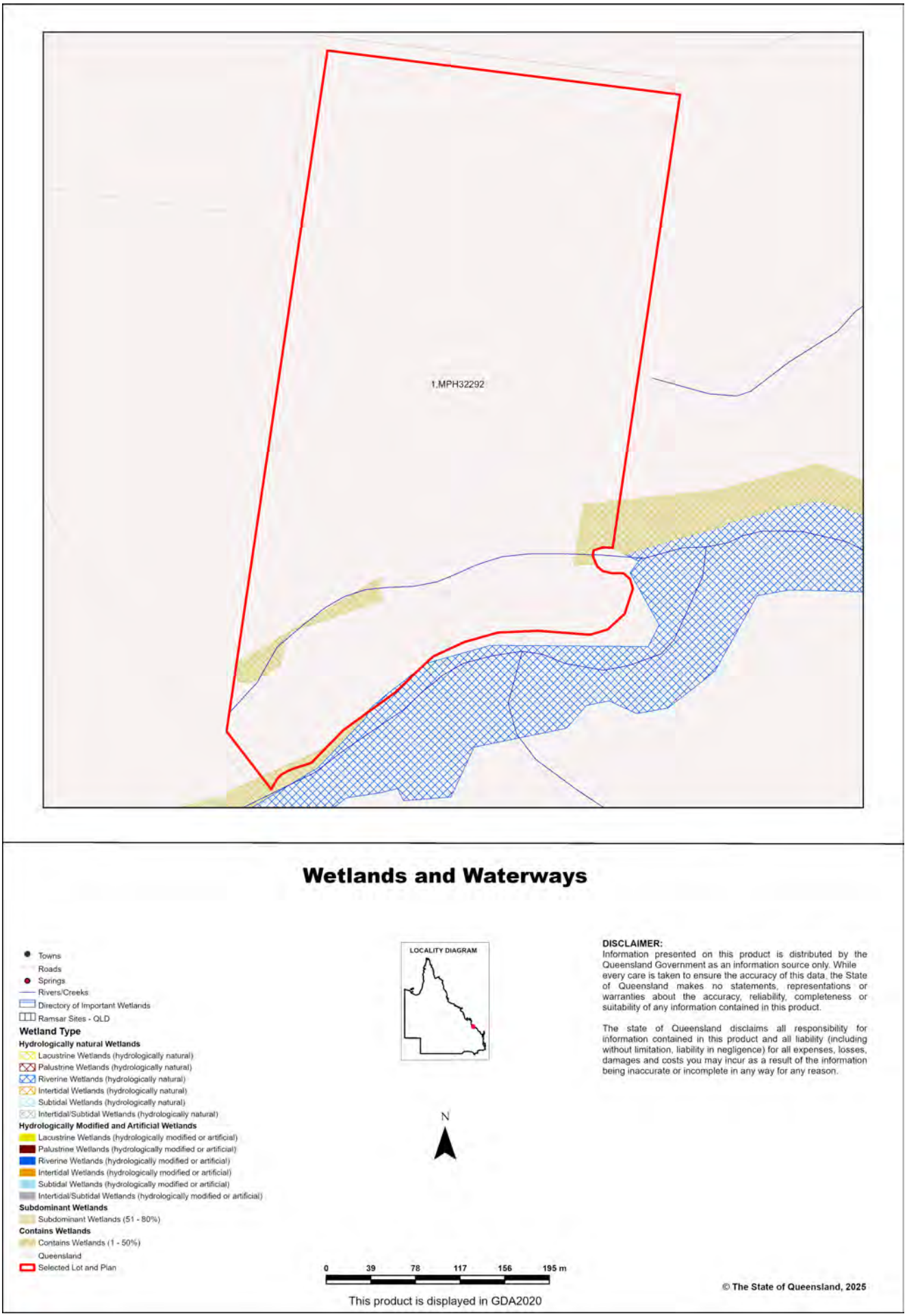
Broad Vegetation Groups (BVG) of Queensland are applied by look up table to the regional ecosystem vegetation communities. Each polygon is coloured by the dominant BVG5M and the component regional ecosystems labelled. Where more than one regional ecosystem occurs, the percentage of each is labelled.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

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



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of the Environment, Tourism, Science and Innovation's Website - http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/ provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from: https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation

The methodology for mapping regional ecosystems can be downloaded from: https://www.qld.gov.au/__data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from: http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/

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

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

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

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science. (https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086)

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F, Richter,D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane. (https://www.qld.gov.au/__data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf).

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

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:
http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/

- Regional Ecosystem Description Database

The datasets listed below are available for download from:
Queensland Spatial Catalogue : Queensland Government (information.qld.gov.au)

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

Appendix 2 - Acronyms and Abbreviations

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

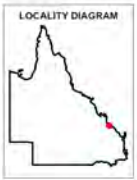


Regulated Vegetation Management Map

Queensland Government

Category A area (Vegetation offsets/compliance notices/VDecs)
Category B area (Remnant vegetation)
Category C area (High-value regrowth vegetation)
Category R area (Reef regrowth watercourse vegetation)
Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
Water
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



N

0 175 350 525 700 875 m

This product is displayed in:
GDA2020

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

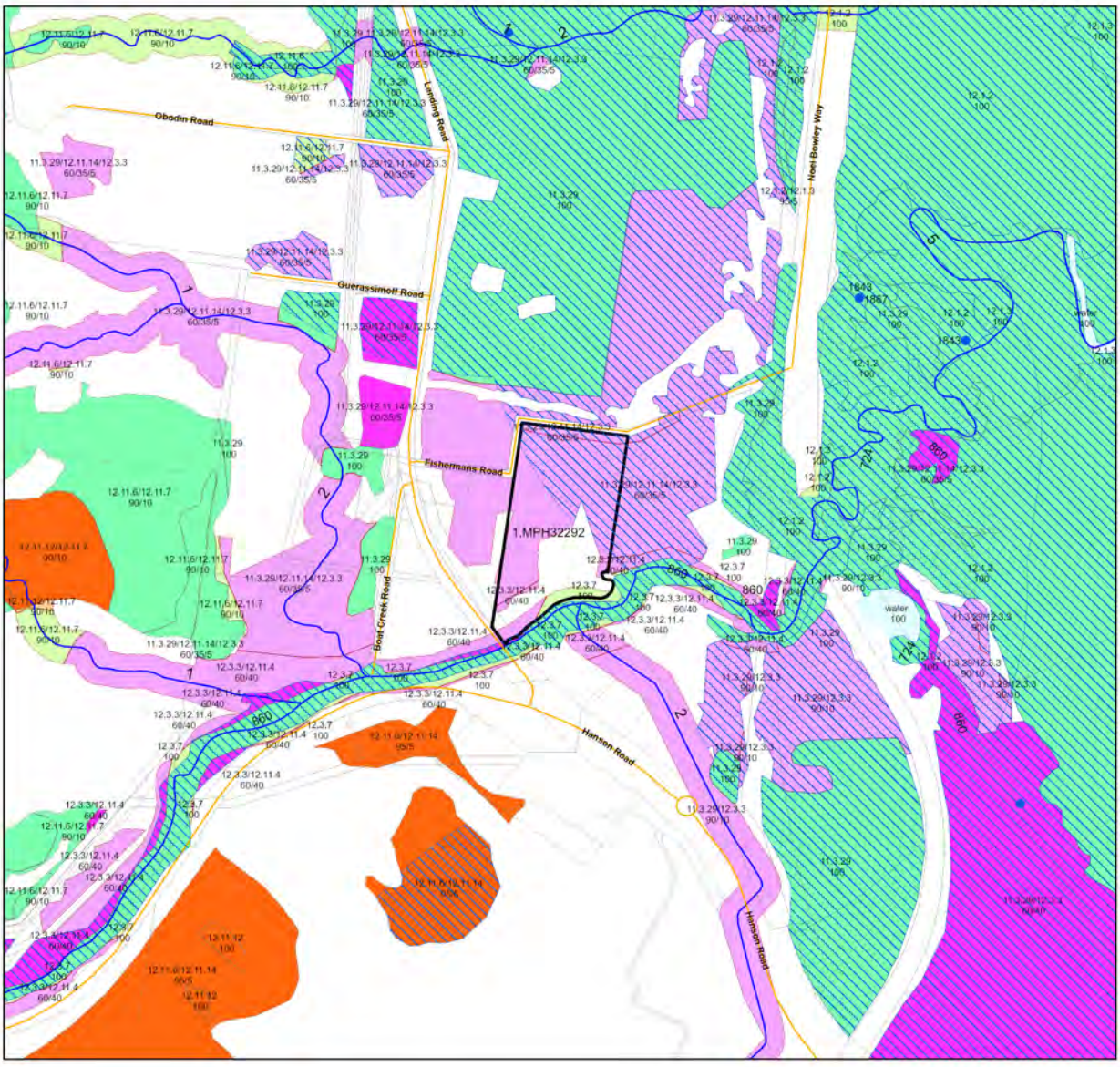
Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

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

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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Vegetation Management Supporting Map

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

Queensland Government

LOCALITY DIAGRAM



N

0 125 250 375 500 625 m

This product is displayed in: GDA2020

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

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

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

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

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

Land parcel boundaries are provided as locational aid only.

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Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - State Code 16: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Planning Act 2016*; and
- Accepted development vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development website http://www.nrmmrrd.qld.gov.au has more information on how the layer is applied under the State Development Assessment Provisions - State Code 16: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

1. that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
2. in which the protected wildlife, at any stage of its life cycle, is located.

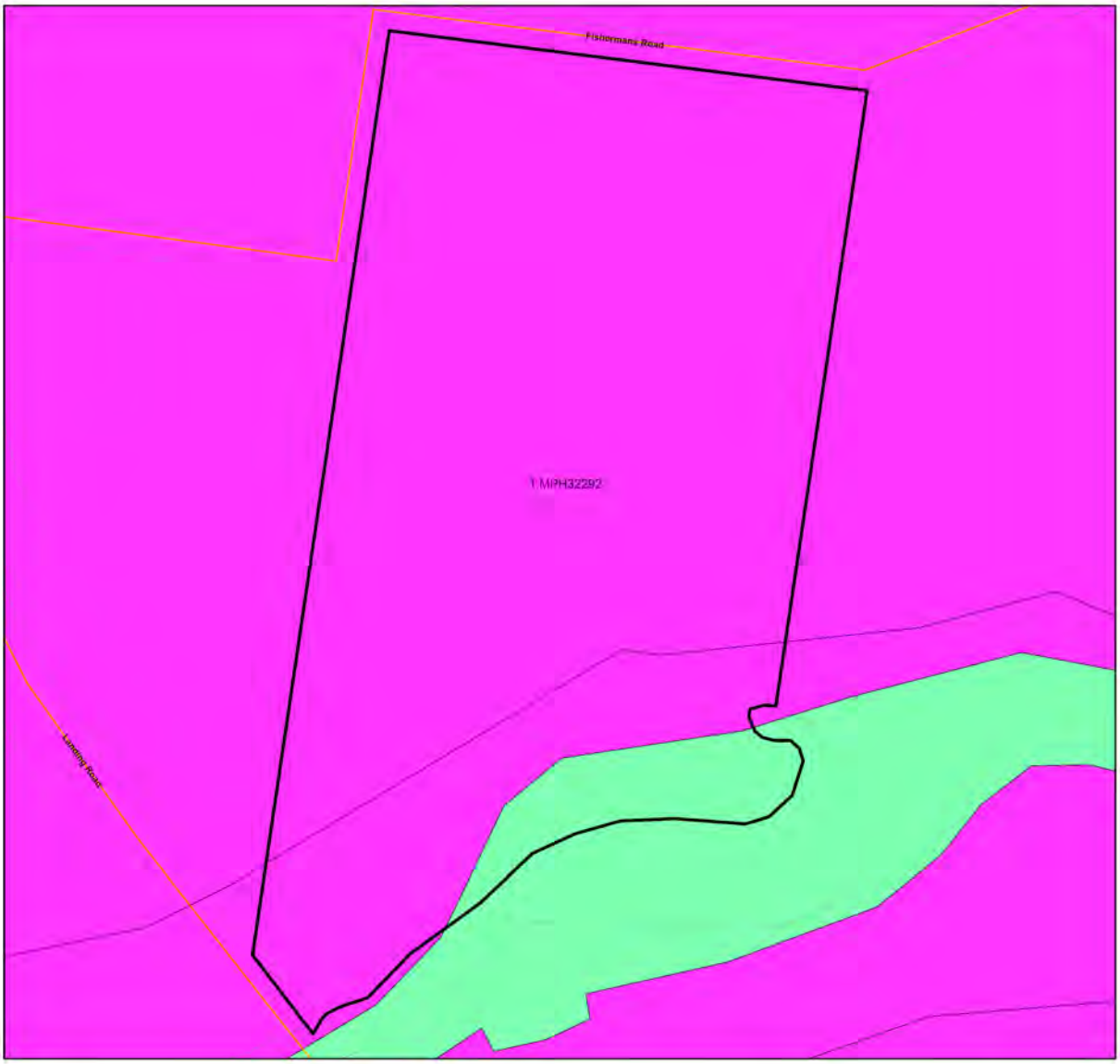
Protected wildlife includes critically endangered, endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.		Riparian areas, plains and hill/escarpment slopes.
1843	Numenius madagascariensis	eastern curlew	E	Foraging on soft, intertidal mudflat, with a preference for broad flats, often in sheltered areas near mangroves and estuaries/creeks, also on sandflats and occasionally ocean beaches, rock platforms and coral reefs. Roost on saltflat, saltmarsh, mangroves, reef flat, sandy spits and grassland near water.	Sea level to 100m.	Sand, sandy mud and mud substrates.	Associated with coastlines and wetlands.
1867	Limosa lapponica baueri	Western Alaskan bar-tailed godwit	V	Foraging on large intertidal mudflat/sandflat, banks in estuaries, inlets, bays and coastal lagoons; also saline wetlands, saltmarsh, sandy beach, rock platform and coral reef-flat. Roost on sandy beach/spit and near saltmarsh.	Sea level to 100m.	Sand and mud substrates.	Associated with coastlines and wetlands.

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 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Vegetation Management Pre-clear Regional Ecosystem Map

- Highway
- Connector
- Street/Local Road
- Other land parcel boundaries
- Pre-clearing area containing Endangered RE
- Pre-clearing area containing Of Concern RE
- Pre-clearing area that is a Least Concern RE
- Water
- Selected Lot and Plan

LOCALITY DIAGRAM



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Digital data for the Pre-clearing regional ecosystem map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

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Vegetation management report

For Lot: 1 Plan: MPH32292
24/06/2025

nrmmrrd.qld.gov.au

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Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of the Environment, Tourism, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of the Environment, Tourism, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of the Environment, Tourism, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

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1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 1 Plan: MPH32292 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
1	MPH32292	Freehold	158,750
A	CTN2166	Easement	2,398

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 1 Plan: MPH32292 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 1 Plan: MPH32292, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Gladstone Regional	Calliope	Southeast Queensland	Burnett - Curtis Hills and Ranges

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

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 1 Plan: MPH32292

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category B	0.04
Category C	10.68
Category R	1.07
Category X	3.70

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.3.29	Least concern	C	6.23	Eucalyptus crebra, E. exserta, Melaleuca spp. woodland on alluvial plains	Sparse
12.11.14	Of concern	C	3.63	Eucalyptus crebra, E. tereticornis, Corymbia intermedia woodland on metamorphics +/- interbedded volcanics	Sparse
12.11.4	Of concern	B	0.01	Semi-evergreen vine thicket on metamorphics +/- interbedded volcanics	Dense
12.11.4	Of concern	C	0.12	Semi-evergreen vine thicket on metamorphics +/- interbedded volcanics	Dense
12.11.4	Of concern	R	0.19	Semi-evergreen vine thicket on metamorphics +/- interbedded volcanics	Dense
12.3.3	Endangered	B	0.02	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.3.3	Endangered	C	0.70	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.3.3	Endangered	R	0.29	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.3.7	Least concern	B	0.01	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp. fringing woodland	Sparse
12.3.7	Least concern	C	less than 0.01	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp. fringing woodland	Sparse
12.3.7	Least concern	R	0.59	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp. fringing woodland	Sparse
non-rem	None	X	3.70	None	None

Please note:
1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses
Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat
Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.		Riparian areas, plains and hill/escarpment slopes.
1843	Numenius madagascariensis	eastern curlew	E	Foraging on soft, intertidal mudflat, with a preference for broad flats, often in sheltered areas near mangroves and estuaries/creeks, also on sandflats and occasionally ocean beaches, rock platforms and coral reefs. Roost on saltflat, saltmarsh, mangroves, reef flat, sandy spits and grassland near water.	Sea level to 100m.	Sand, sandy mud and mud substrates.	Associated with coastlines and wetlands.
1867	Limosa lapponica baueri	Western Alaskan bar-tailed godwit	V	Foraging on large intertidal mudflat/sandflat, banks in estuaries, inlets, bays and coastal lagoons; also saline wetlands, saltmarsh, sandy beach, rock platform and coral reef-flat. Roost on sandy beach/spit and near saltmarsh.	Sea level to 100m.	Sand and mud substrates.	Associated with coastlines and wetlands.

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 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1843	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.1.6, 7.1.1, 7.1.2, 7.1.3, 8.1.1, 8.1.2, 8.1.3, 8.1.4, 11.1.1, 11.1.2, 11.1.3, 11.1.4, 12.1.2, 12.1.3
1867	2.1.1, 2.1.4, 2.1.5, 3.1.6, 7.1.2, 7.1.3, 8.1.2, 8.1.3, 8.1.4, 11.1.1, 11.1.2, 11.1.3, 12.1.2, 12.1.3.

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 1 Plan: MPH32292.

4. Vegetation management framework maps

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

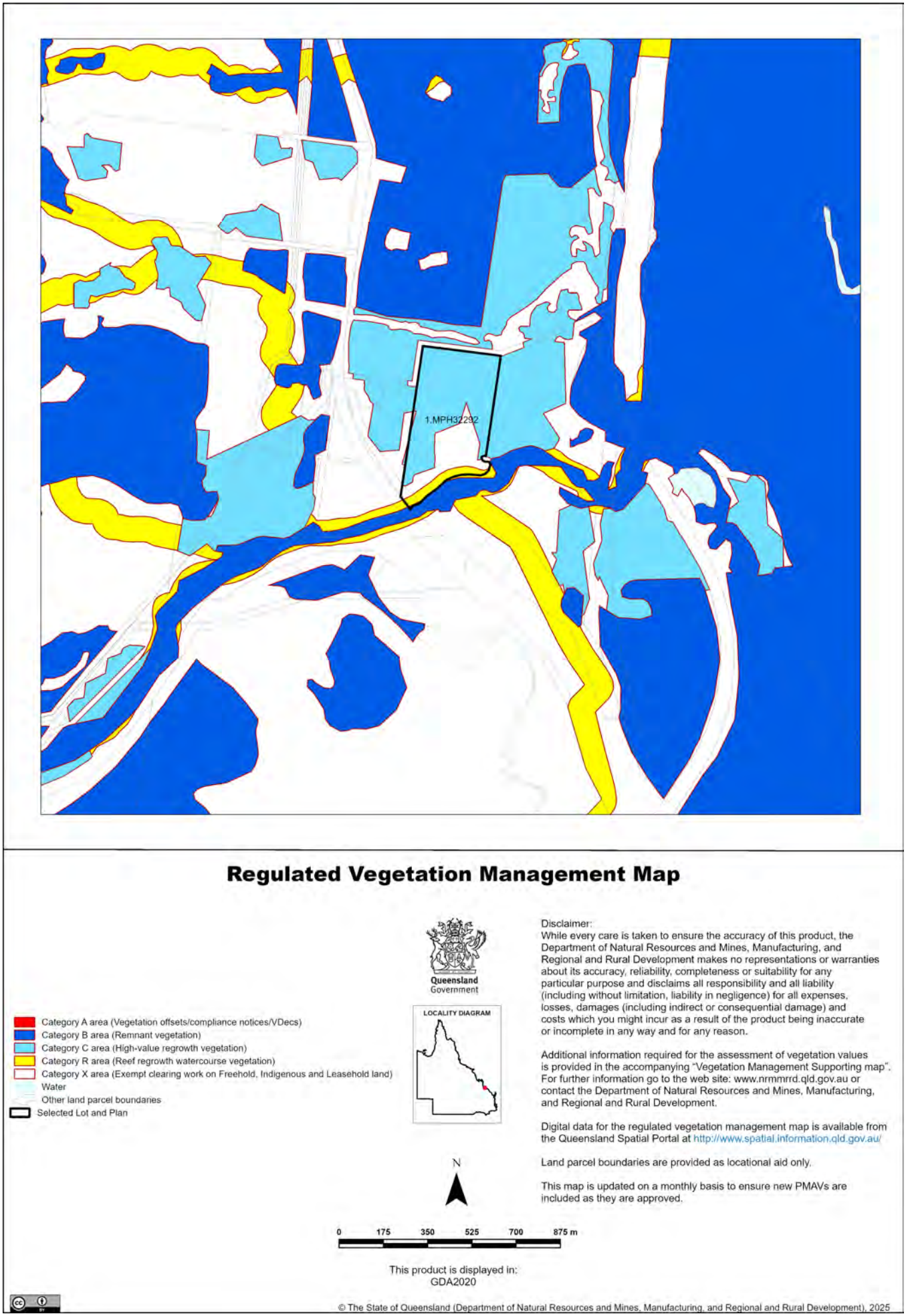
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

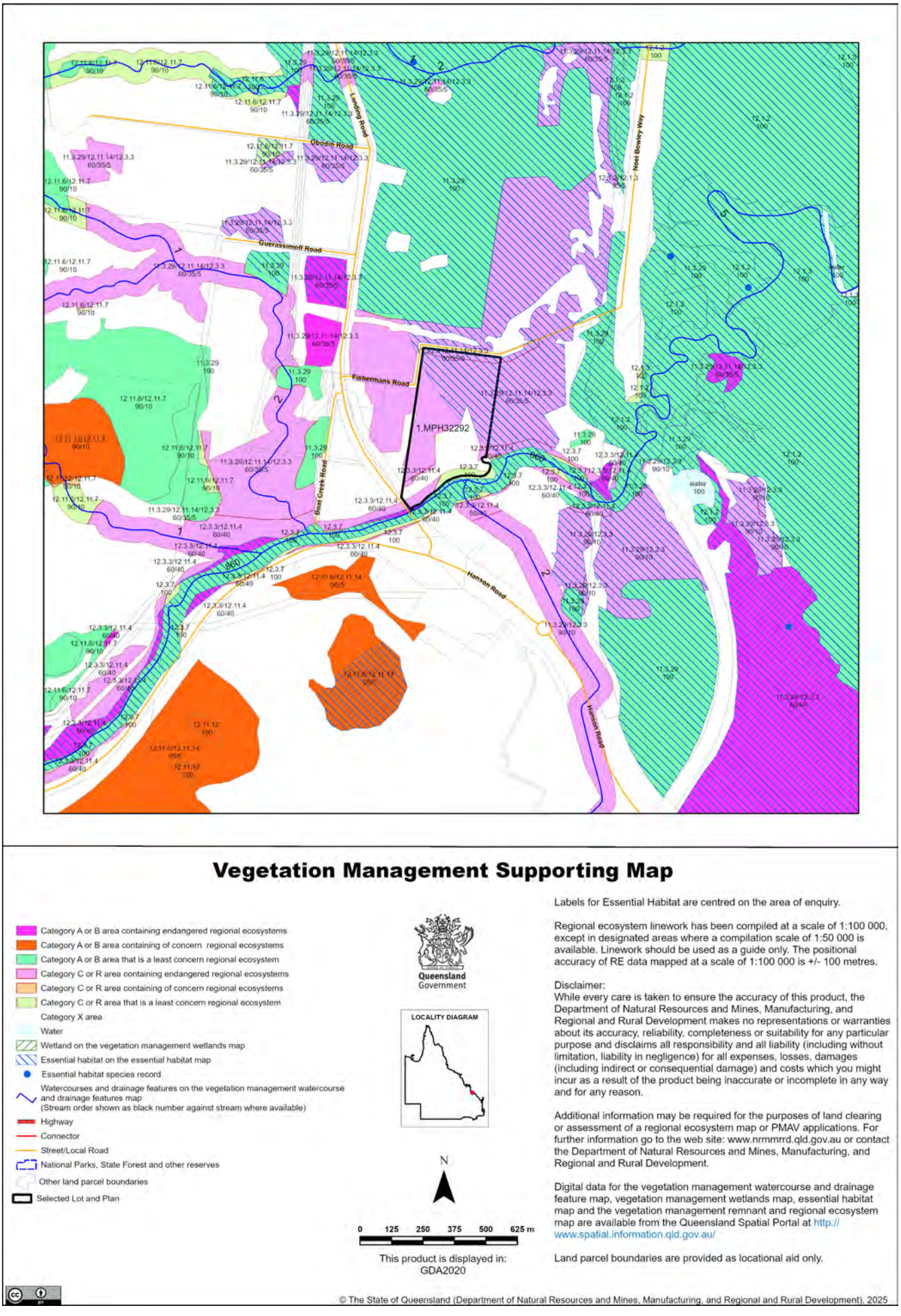
Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

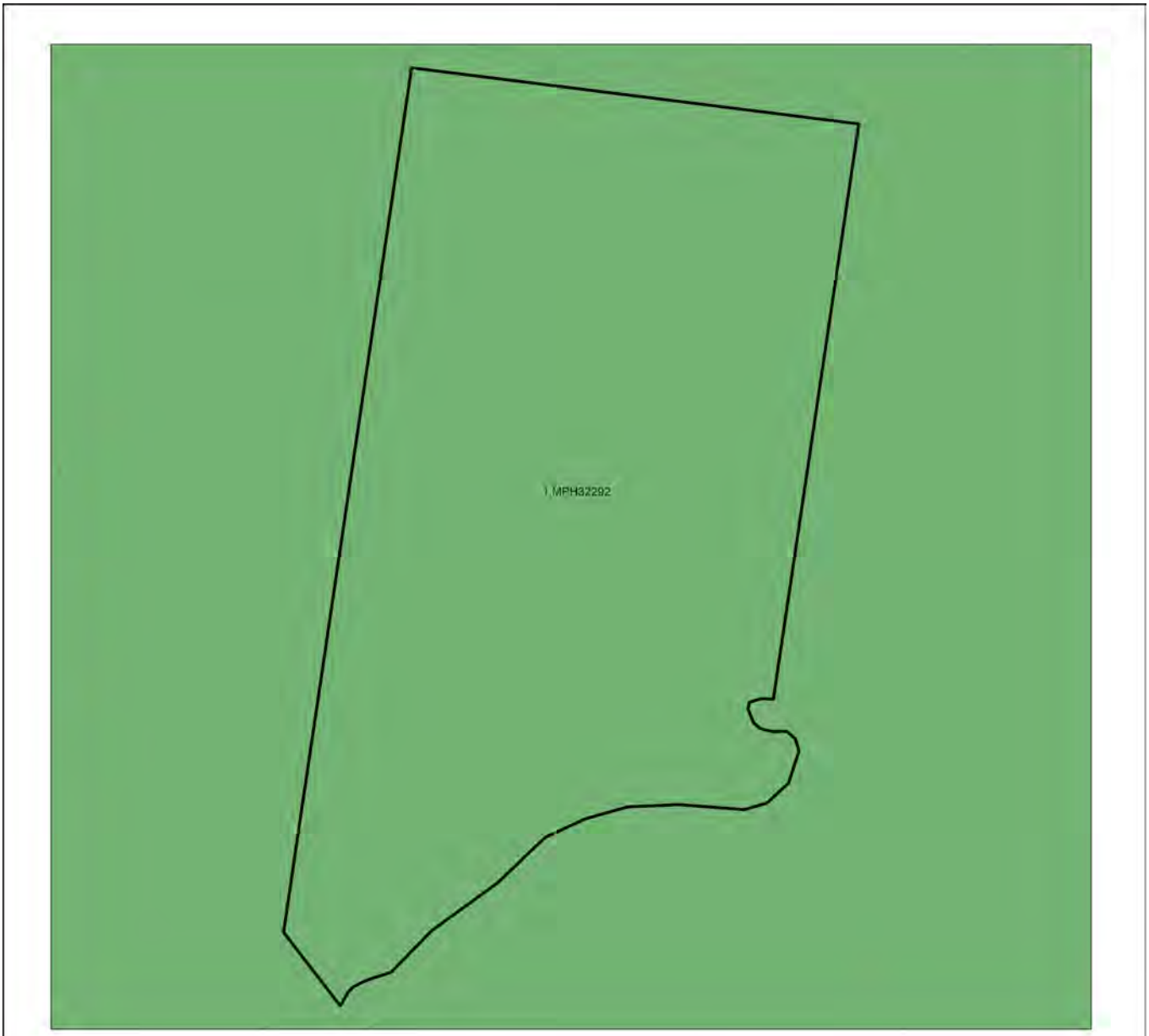
4.1 Regulated vegetation management map



4.2 Vegetation management supporting map



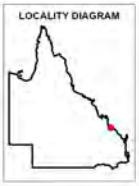
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Land parcel boundaries shown are provided as a locational aid only.

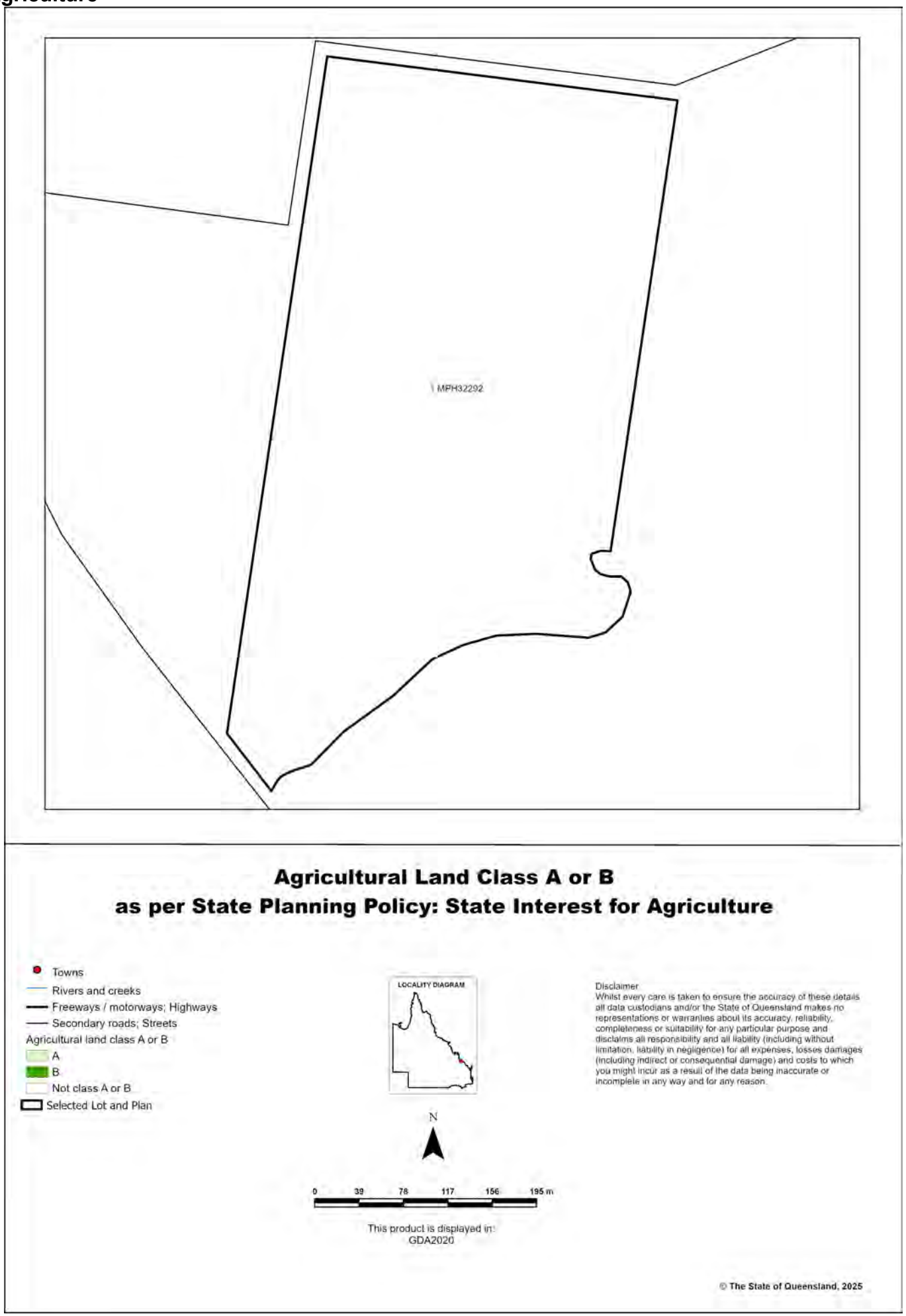
N

0 39 78 117 156 195 m

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GDA2020

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4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



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

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of Endangered, Vulnerable, Near-Threatened (EVNT) plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of the Environment, Tourism, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DETSI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

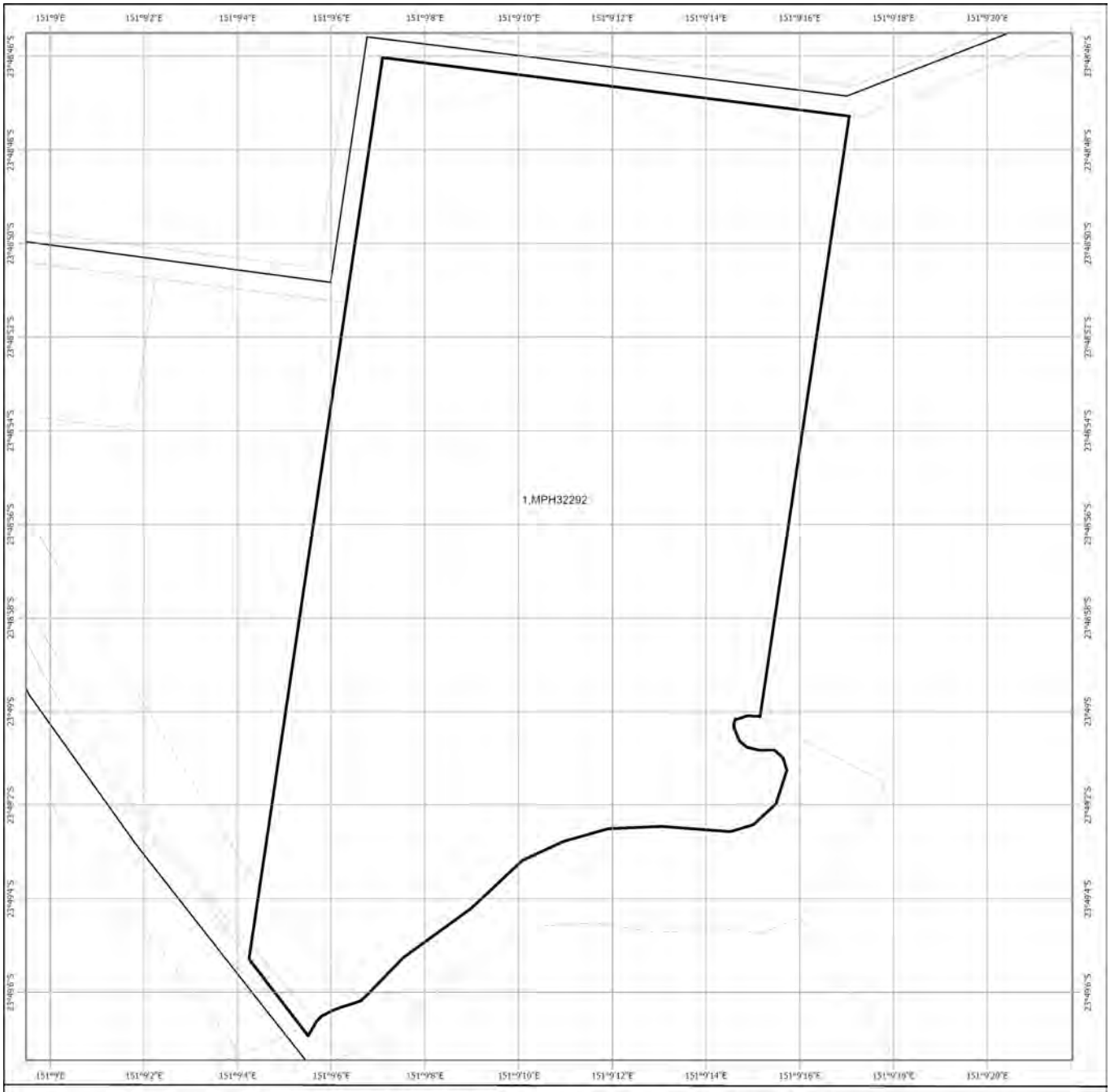
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

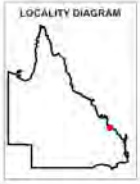
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of the Environment, Tourism, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



N

0 26 52 78 104 130 m

This product is displayed in: GDA2020

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of the Environment, Tourism, Science and Innovation at palm@des.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

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

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DETSI

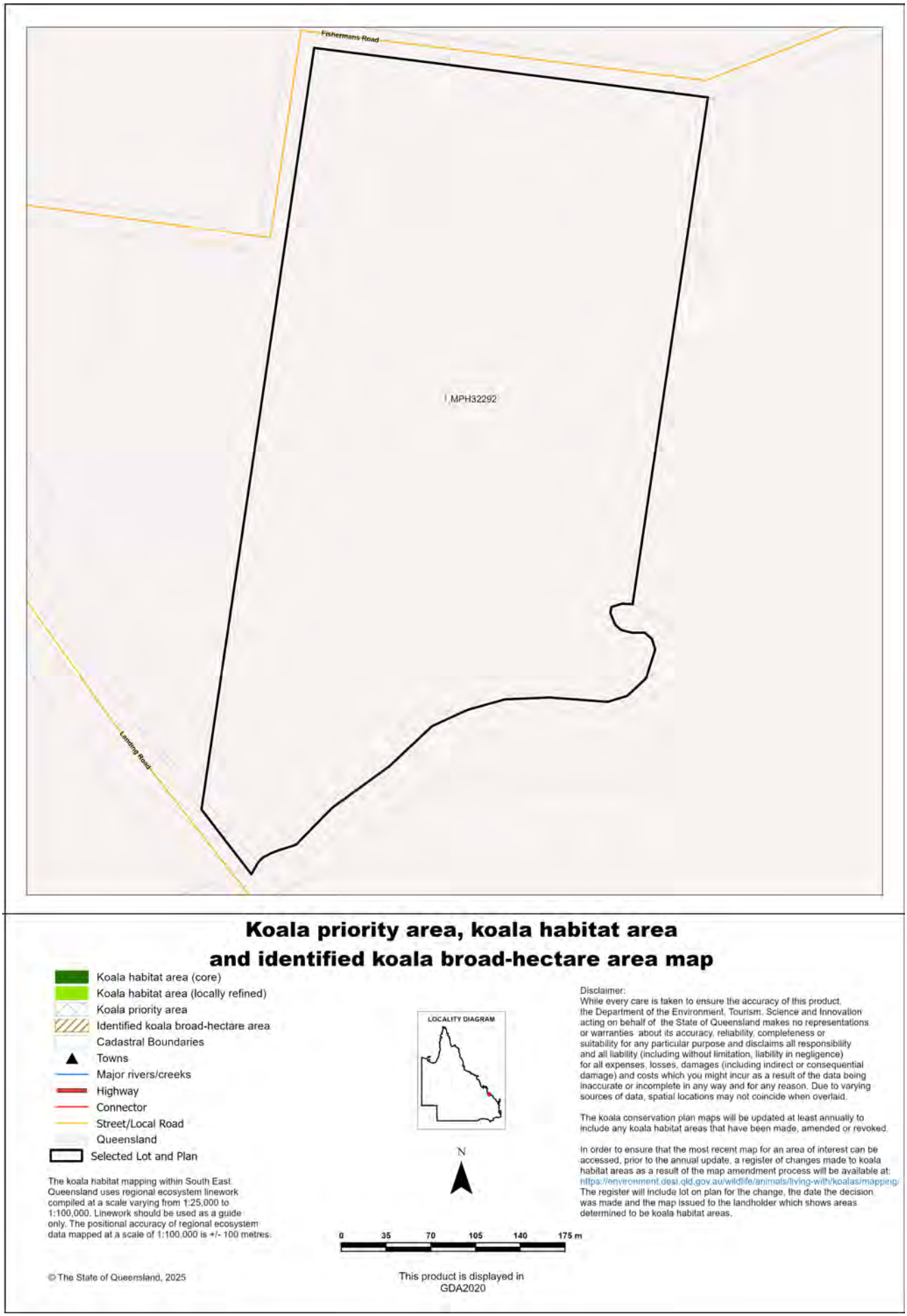
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 1 Plan: MPH32292

7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



7.3 Koala habitat regional ecosystems for core koala habitat areas



Koala habitat regional ecosystems for core koala habitat areas

Koala habitat area (core)
Towns
Highway
Connector
Street/Local Road
Major rivers/creeks
Queensland
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 35 70 105 140 175 m

This product is displayed in GDA2020

DISCLAIMER:

While every care is taken to ensure the accuracy of this product, the Department of the Environment, Tourism, Science and Innovation acting on behalf of the State of Queensland makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.
Due to varying sources of data, spatial locations may not coincide when overlaid.

The 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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8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
Interference with overland flow	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.qld.gov.au
Mining and environmentally relevant activities Infrastructure development (coastal) Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 803 772 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory

WildNet Records
Conservation Significant Species List

For the selected area of interest Lot: 1 Plan: MPH32292
Current as at 24/06/2025 WildNetCSSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 1 Plan: MPH32292

Table 1. Area of interest details

Size (ha)	
15.49	
Local Government(s)	
Gladstone Regional	
Catchment(s)	
Calliope	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges

Protected Area(s)

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

World Heritage Area(s)

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

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

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

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

The WildNet Application may provide additional information on species occurence within your area of interest.

Conservation significant species are species listed:

- as threatened or near threatened under the *Nature Conservation Act 1992*;
- as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* or
- migratory species protected under the following international agreements:
    - Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
    - China-Australia Migratory Bird Agreement
    - Japan-Australia Migratory Bird Agreement
    - Republic of Korea-Australia Migratory Bird Agreement

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

Map 1. Locality Map

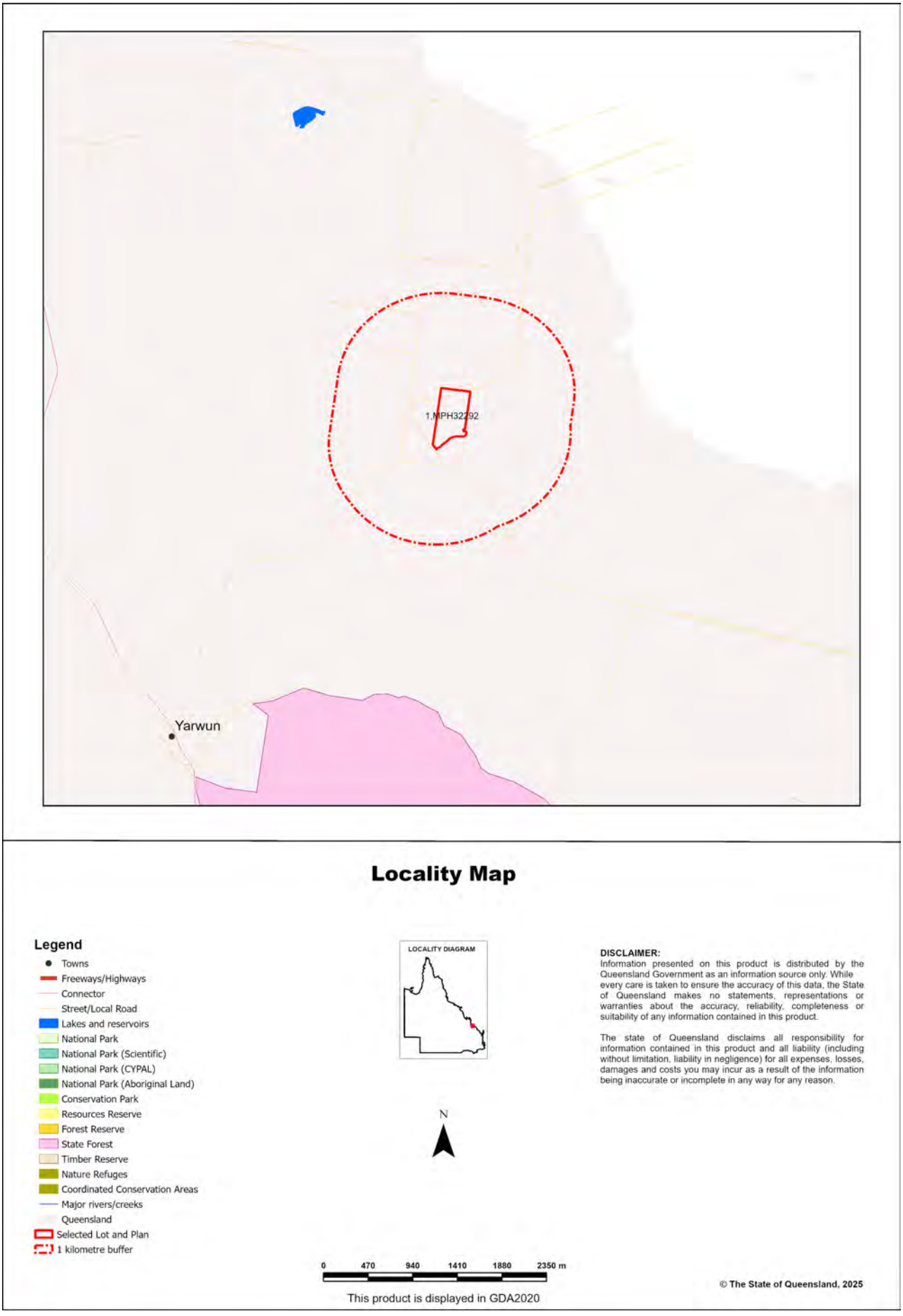


Table 2. Conservation significant species recorded within the area of interest and its one kilometre buffer

Taxon Id	Kingdom	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1736	Animalia	Aves	Cuculidae	*Cuculus optatus*	oriental cuckoo	SL		0	1	31/12/1997
1702	Animalia	Aves	Pandionidae	*Pandion haliaetus cristatus*	eastern osprey	SL		0	2	31/12/1997
1885	Animalia	Aves	Scolopacidae	*Actitis hypoleucos*	common sandpiper	SL		0	1	31/12/1997
1867	Animalia	Aves	Scolopacidae	*Limosa lapponica baueri*	Western Alaskan bar-tailed godwit	E	E	0	1	31/12/1997
1843	Animalia	Aves	Scolopacidae	*Numenius madagascariensis*	eastern curlew	CR	CE	0	2	31/12/1997
1845	Animalia	Aves	Scolopacidae	*Numenius phaeopus*	whimbrel	SL		0	1	31/12/1997
1853	Animalia	Aves	Scolopacidae	*Tringa nebularia*	common greenshank	E	E	0	1	31/12/1997
15513	Plantae	Equisetopsida	Amaryllidaceae	*Crinum pedunculatum*	river lily	SL		0	1	31/01/2003
16766	Plantae	Equisetopsida	Campanulaceae	*Lobelia purpurascens*	white root	SL		0	1	31/01/2003
14339	Plantae	Equisetopsida	Hydrocharitaceae	*Ottelia ovalifolia*	swamp lily	SL		0	1	31/01/2003
14327	Plantae	Equisetopsida	Menyanthaceae	*Nymphoides indica*	water snowflake	SL		0	1	31/01/2003
17505	Plantae	Equisetopsida	Orchidaceae	*Cymbidium canaliculatum*		SL		0	1	31/01/2003
15934	Plantae	Equisetopsida	Xanthorrhoeaceae	*Xanthorrhoea johnsonii*		SL		0	2	22/07/2010
16707	Plantae	Equisetopsida	Zamiaceae	*Macrozamia miquelii*		SL		0	1	31/01/2003

Taxon Id: Unique identifier of the taxon from the WildNet database.
NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).
EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).
Specimens: The number of specimen-backed records of the taxon.
Records: The total number of records of the taxon.
Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the WildNet database include:

- WildNet Application - public interface to find species information and species lists generated from the WildNet database.
- Biomaps - view biodiversity information, including WildNet records approved for publication, and generate reports
- Queensland Globe - view spatial information, including WildNet records approved for publication
- Qld WildNet Data API - access WildNet species information approved for publication such as notes, images and records etc.
- Wetland*Maps* - view species records, survey locations etc. approved for publication
- Wetland*Summary* - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- WildNet wildlife records - published - Queensland - spatial layer of WildNet records approved for publication generated weekly
- Generalised distribution and densities of Queensland wildlife - Queensland species distributions and densities generalised to a 10 km grid resolution
- Conservation status of Queensland wildlife - access current lists of priority species for Queensland including nomenclature and status information
- Queensland Confidential Species - the list of species flagged as confidential in the WildNet database.

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

Other useful sites for accessing Queensland biodiversity data include:

- Useful wildlife resources
- Queensland Government Data
- Atlas of Living Australia (ALA)
- Online Zoological Collections of Australian Museums (OZCAM)
- Australasian Virtual Herbarium (AVH)
- Protected Matters Search Tool

Disclaimer

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WildNet Records
Introduced Species List

For the selected area of interest 15.49 Lot: 1 Plan: MPH32292
Current as at 24/06/2025 WildNetIntroducedSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 1 Plan: MPH32292

Table 1. Area of interest details

Size (ha)	
15.49	
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Gladstone Regional	
Catchment(s)	
Calliope	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges

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

The WildNet Application may provide additional information on species occurence within your area of interest.

Species data

Contextual location information is presented in Map 1.

A summary of the Introduced species recorded within the area of interest and its one kilometre buffer is presented in Tables 2 and 3.

Map 1. Locality Map

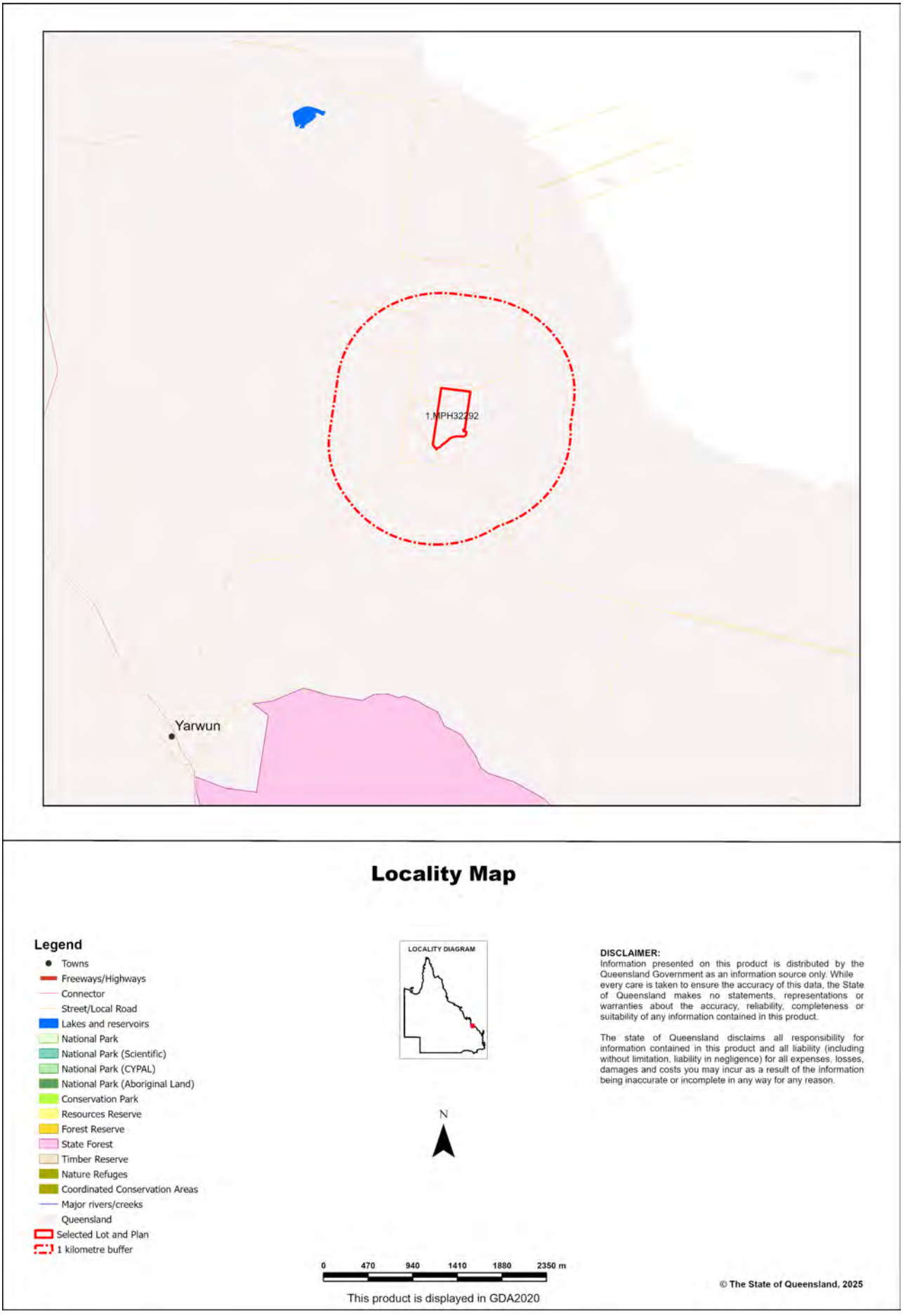


Table 2. Introduced animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Kingdom	Class	Family	Scientific Name	Common Name	Specimens	Records	Last record	Establishment Code
27055	Animalia	Actinopterygii	Poeciliidae	*Gambusia holbrooki*	mosquitofish	0	2	31/01/1999	II
716	Animalia	Amphibia	Bufonidae	*Rhinella marina*	cane toad	0	4	31/12/1999	II
1056	Animalia	Mammalia	Felidae	*Felis catus*	cat	0	1	31/12/1997	II
834	Animalia	Mammalia	Leporidae	*Oryctolagus cuniculus*	rabbit	0	1	31/12/1999	II
764	Animalia	Mammalia	Muridae	*Mus musculus*	house mouse	0	1	31/12/1999	II
731	Animalia	Mammalia	Muridae	*Rattus rattus*	black rat	0	1	31/12/1997	II

Taxon Id: Unique identifier of the taxon from the WildNet database.
Specimens: The number of specimen-backed records of the taxon.
Records: The total number of records of the taxon.
Last record: Date of most recent record of the taxon.
Establishment: Code describing how the taxon is established in Queensland. The list of code description can be accessed from the WildNet Data API.

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

Taxon Id	Kingdom	Class	Family	Scientific Name	Common Name	Specimens	Records	Last record	Establishment Code
19722	Plantae	Equisetopsida	Agavaceae	*Agave americana*		0	1	31/01/2003	NAQ
11849	Plantae	Equisetopsida	Amaranthaceae	*Alternanthera pungens*	khaki weed	0	1	31/01/2003	NAQ
17981	Plantae	Equisetopsida	Amaranthaceae	*Amaranthus viridis*	green amaranth	0	1	31/01/2003	NAQ
17051	Plantae	Equisetopsida	Amaranthaceae	*Gomphrena celosioides*	gomphrena weed	0	1	31/01/2003	NAQ
16720	Plantae	Equisetopsida	Anacardiaceae	*Mangifera indica*	mango	0	1	31/01/2003	NAQ
17935	Plantae	Equisetopsida	Apocynaceae	*Asclepias curassavica*	red-head cottonbush	0	1	31/01/2003	NAQ
17710	Plantae	Equisetopsida	Apocynaceae	*Catharanthus roseus*	pink periwinkle	0	1	31/01/2003	NAQ
15479	Plantae	Equisetopsida	Apocynaceae	*Cryptostegia grandiflora*	rubber vine	0	1	31/01/2003	NAQ
17050	Plantae	Equisetopsida	Apocynaceae	*Gomphocarpus physocarpus*	balloon cottonbush	0	1	31/01/2003	NAQ
11155	Plantae	Equisetopsida	Apocynaceae	*Nerium oleander*	oleander	0	1	31/01/2003	NAQ
22101	Plantae	Equisetopsida	Arecaceae	*Syagrus romanzoffiana*	Queen palm	0	1	31/01/2003	NAQ
11158	Plantae	Equisetopsida	Asteraceae	*Ageratum conyzoides*	billygoat weed	0	1	22/07/2010	NAQ
14051	Plantae	Equisetopsida	Asteraceae	*Ageratum houstonianum*	blue billygoat weed	0	1	31/01/2003	NAQ

15612	Plantae	Equisetopsida	Asteraceae	*Baccharis halimifolia*	groundsel bush	0	1	31/01/2003	NAQ
14045	Plantae	Equisetopsida	Asteraceae	*Bidens bipinnata*	bipinnate beggar's ticks	0	1	31/01/2003	NAQ
7691	Plantae	Equisetopsida	Asteraceae	*Bidens pilosa*		0	2	22/07/2010	NAQ
15574	Plantae	Equisetopsida	Asteraceae	*Carduus thoermeri*	nodding thistle	0	1	31/01/2003	NAQ
14001	Plantae	Equisetopsida	Asteraceae	*Cirsium vulgare*	spear thistle	0	1	31/01/2003	NAQ
15401	Plantae	Equisetopsida	Asteraceae	*Emilia sonchifolia*		0	2	22/07/2010	NAQ
35896	Plantae	Equisetopsida	Asteraceae	*Erigeron bonariensis*		0	1	31/01/2003	NAQ
15039	Plantae	Equisetopsida	Asteraceae	*Sonchus oleraceus*	common sowthistle	0	1	31/01/2003	NAQ
35909	Plantae	Equisetopsida	Asteraceae	*Symphyotrichum subulatum*		0	1	31/01/2003	NAQ
14987	Plantae	Equisetopsida	Asteraceae	*Tridax procumbens*	tridax daisy	0	1	31/01/2003	NAQ
9090	Plantae	Equisetopsida	Balsaminaceae	*Impatiens walleriana*	balsam	0	1	31/01/2003	NAQ
19352	Plantae	Equisetopsida	Cactaceae	*Opuntia stricta*		0	1	31/01/2003	NAQ
13988	Plantae	Equisetopsida	Caricaceae	*Carica papaya*	pawpaw	0	1	31/01/2003	NAQ
21934	Plantae	Equisetopsida	Crassulaceae	*Bryophyllum delagoense*		0	1	31/01/2003	NAQ
11062	Plantae	Equisetopsida	Cyperaceae	*Cyperus papyrus*	papyrus	0	1	31/01/2003	NAQ
17160	Plantae	Equisetopsida	Euphorbiaceae	*Euphorbia cyathophora*	dwarf poinsettia	0	1	31/01/2003	NAQ
18679	Plantae	Equisetopsida	Lamiaceae	*Leucas lavandulifolia*		0	1	31/01/2003	NAQ
10918	Plantae	Equisetopsida	Leguminosae	*Bauhinia variegata*		0	1	31/01/2003	NAQ
18779	Plantae	Equisetopsida	Leguminosae	*Crotalaria pallida*		0	1	31/01/2003	NAQ
9165	Plantae	Equisetopsida	Leguminosae	*Delonix regia*	poinciana	0	1	31/01/2003	NAQ
15461	Plantae	Equisetopsida	Leguminosae	*Desmodium triflorum*		0	1	31/01/2003	NAQ
15235	Plantae	Equisetopsida	Leguminosae	*Macroptilium atropurpureum*	siratro	0	1	31/01/2003	NAQ
9873	Plantae	Equisetopsida	Leguminosae	*Medicago polymorpha*	burr medic	0	1	31/01/2003	NAQ
12876	Plantae	Equisetopsida	Leguminosae	*Stylosanthes scabra*		0	1	22/07/2010	NAQ

12879	Plantae	Equisetopsida	Leguminosae	*Tamarindus indica*		1	1	28/11/2003	NAQ
14990	Plantae	Equisetopsida	Leguminosae	*Trifolium repens var. repens*	white clover	0	1	31/01/2003	NAQ
14927	Plantae	Equisetopsida	Malvaceae	*Abutilon grandifolium*		0	1	31/01/2003	NAQ
16195	Plantae	Equisetopsida	Malvaceae	*Sida cordifolia*		0	2	22/07/2010	NAQ
16146	Plantae	Equisetopsida	Malvaceae	*Sida rhombifolia*		0	3	22/07/2010	NAQ
15990	Plantae	Equisetopsida	Malvaceae	*Urena lobata*	urena weed	0	1	31/01/2003	NAQ
19941	Plantae	Equisetopsida	Nymphaeaceae	*Nymphaea caerulea*		0	1	31/01/2003	NAQ
9457	Plantae	Equisetopsida	Oxalidaceae	*Oxalis corniculata*		0	1	31/01/2003	NAQ
19740	Plantae	Equisetopsida	Papaveraceae	*Argemone ochroleuca*		0	1	31/01/2003	NAQ
16530	Plantae	Equisetopsida	Passifloraceae	*Passiflora foetida*		0	2	22/07/2010	NAQ
16532	Plantae	Equisetopsida	Passifloraceae	*Passiflora suberosa*	corky passion flower	0	1	31/01/2003	NAQ
12030	Plantae	Equisetopsida	Pinaceae	*Pinus elliottii*	slash pine	0	1	31/01/2003	NAQ
18225	Plantae	Equisetopsida	Plantaginaceae	*Mecardonia procumbens*		1	1	25/02/2014	NAQ
16183	Plantae	Equisetopsida	Plantaginaceae	*Scoparia dulcis*	scoparia	0	1	22/07/2010	NAQ
15541	Plantae	Equisetopsida	Poaceae	*Cenchrus echinatus*	Mossman River grass	0	1	31/01/2003	NAQ
15551	Plantae	Equisetopsida	Poaceae	*Chloris gayana*	rhodes grass	0	1	31/01/2003	NAQ
15527	Plantae	Equisetopsida	Poaceae	*Chloris virgata*	feathertop rhodes grass	0	1	31/01/2003	NAQ
15486	Plantae	Equisetopsida	Poaceae	*Cynodon dactylon*		0	1	31/01/2003	NAQ
11066	Plantae	Equisetopsida	Poaceae	*Digitaria didactyla*	Queensland blue couch	0	1	31/01/2003	NAQ
15378	Plantae	Equisetopsida	Poaceae	*Eragrostis tenuifolia*	elastic grass	0	1	31/01/2003	NAQ
10578	Plantae	Equisetopsida	Poaceae	*Hyparrhenia rufa*		0	2	22/07/2010	NAQ
15803	Plantae	Equisetopsida	Poaceae	*Hyparrhenia rufa subsp. rufa*		0	1	31/01/2003	NAQ
29093	Plantae	Equisetopsida	Poaceae	*Megathyrsus maximus*		0	1	31/01/2003	NAQ
27900	Plantae	Equisetopsida	Poaceae	*Megathyrsus maximus var. pubiglumis*		0	1	22/07/2010	NAQ

15242	Plantae	Equisetopsida	Poaceae	*Melinis minutiflora*	molasses grass	0	1	22/07/2010	NAQ
9154	Plantae	Equisetopsida	Poaceae	*Melinis repens*	red natal grass	0	2	22/07/2010	NAQ
15134	Plantae	Equisetopsida	Poaceae	*Paspalum dilatatum*	paspalum	0	1	31/01/2003	NAQ
15043	Plantae	Equisetopsida	Poaceae	*Sorghum halepense*	Johnson grass	0	1	31/01/2003	NAQ
2359	Plantae	Equisetopsida	Poaceae	*Urochloa mutica*		0	1	31/01/2003	NAQ
16359	Plantae	Equisetopsida	Portulacaceae	*Portulaca oleracea*	pigweed	0	1	31/01/2003	NAQ
14109	Plantae	Equisetopsida	Rosaceae	*Eriobotrya japonica*	loquat	0	1	31/01/2003	NAQ
21837	Plantae	Equisetopsida	Rutaceae	*Murraya paniculata 'Exotica'*		0	1	31/01/2003	NAQ
17496	Plantae	Equisetopsida	Solanaceae	*Datura stramonium*	common thornapple	0	1	31/01/2003	NAQ
13788	Plantae	Equisetopsida	Solanaceae	*Solanum nigrum*		0	2	22/07/2010	NAQ
16120	Plantae	Equisetopsida	Solanaceae	*Solanum seaforthianum*	Brazilian nightshade	0	1	31/01/2003	NAQ
16126	Plantae	Equisetopsida	Solanaceae	*Solanum torvum*	devil's fig	0	1	31/01/2003	NAQ
15983	Plantae	Equisetopsida	Sparrmanniaceae	*Triumfetta rhomboidea*	chinese burr	0	1	31/01/2003	NAQ
19905	Plantae	Equisetopsida	Verbenaceae	*Lantana camara*	lantana	0	3	22/07/2010	NAQ
13853	Plantae	Equisetopsida	Verbenaceae	*Lantana montevidensis*	creeping lantana	0	1	31/01/2003	NAQ
16143	Plantae	Equisetopsida	Verbenaceae	*Stachytarpheta jamaicensis*	Jamaica snakeweed	0	2	22/07/2010	NAQ
15951	Plantae	Equisetopsida	Verbenaceae	*Verbena bonariensis*	purpletop	0	1	31/01/2003	NAQ

Taxon Id: Unique identifier of the taxon from the WildNet database.
Specimens: The number of specimen-backed records of the taxon.
Records: The total number of records of the taxon.
Last record: Date of most recent record of the taxon.
Establishment: Code describing how the taxon is established in Queensland. The list of code description can be accessed from the WildNet Data API.

Links and Support

Other sites that deliver species information from the WildNet database include:

- WildNet Application - public interface to find species information and species lists generated from the WildNet database.
- Biomaps - view biodiversity information, including WildNet records approved for publication, and generate reports
- Queensland Globe - view spatial information, including WildNet records approved for publication
- Qld WildNet Data API - access WildNet species information approved for publication such as notes, images and records etc.
- Wetland*Maps* - view species records, survey locations etc. approved for publication
- Wetland*Summary* - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- WildNet wildlife records - published - Queensland - spatial layer of WildNet records approved for publication generated weekly
- Generalised distribution and densities of Queensland wildlife - Queensland species distributions and densities generalised to a 10 km grid resolution
- Conservation status of Queensland wildlife - access current lists of priority species for Queensland including nomenclature and status information
- Queensland Confidential Species - the list of species flagged as confidential in the WildNet database.

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

Other useful sites for accessing Queensland biodiversity data include:

- Useful wildlife resources
- Queensland Government Data
- Atlas of Living Australia (ALA)
- Online Zoological Collections of Australian Museums (OZCAM)
- Australasian Virtual Herbarium (AVH)
- Protected Matters Search Tool

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.

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WildNet Records
Species List

For the selected area of interest 15.49 Lot: 1 Plan: MPH32292
Current as at 24/06/2025 WildNetSpeciesList

Summary Information
The following table provides an overview of the area of interest: Lot: 1 Plan: MPH32292

Table 1. Area of interest details

Size (ha)	
15.49	
Local Government(s)	
Gladstone Regional	
Catchment(s)	
Calliope	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges

Protected Area(s)

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

World Heritage Area(s)

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

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

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

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

The WildNet Application may provide additional information on species occurence within your area of interest.

Species data

Contextual location information is presented in Map 1.

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

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

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

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

Map 1. Locality Map

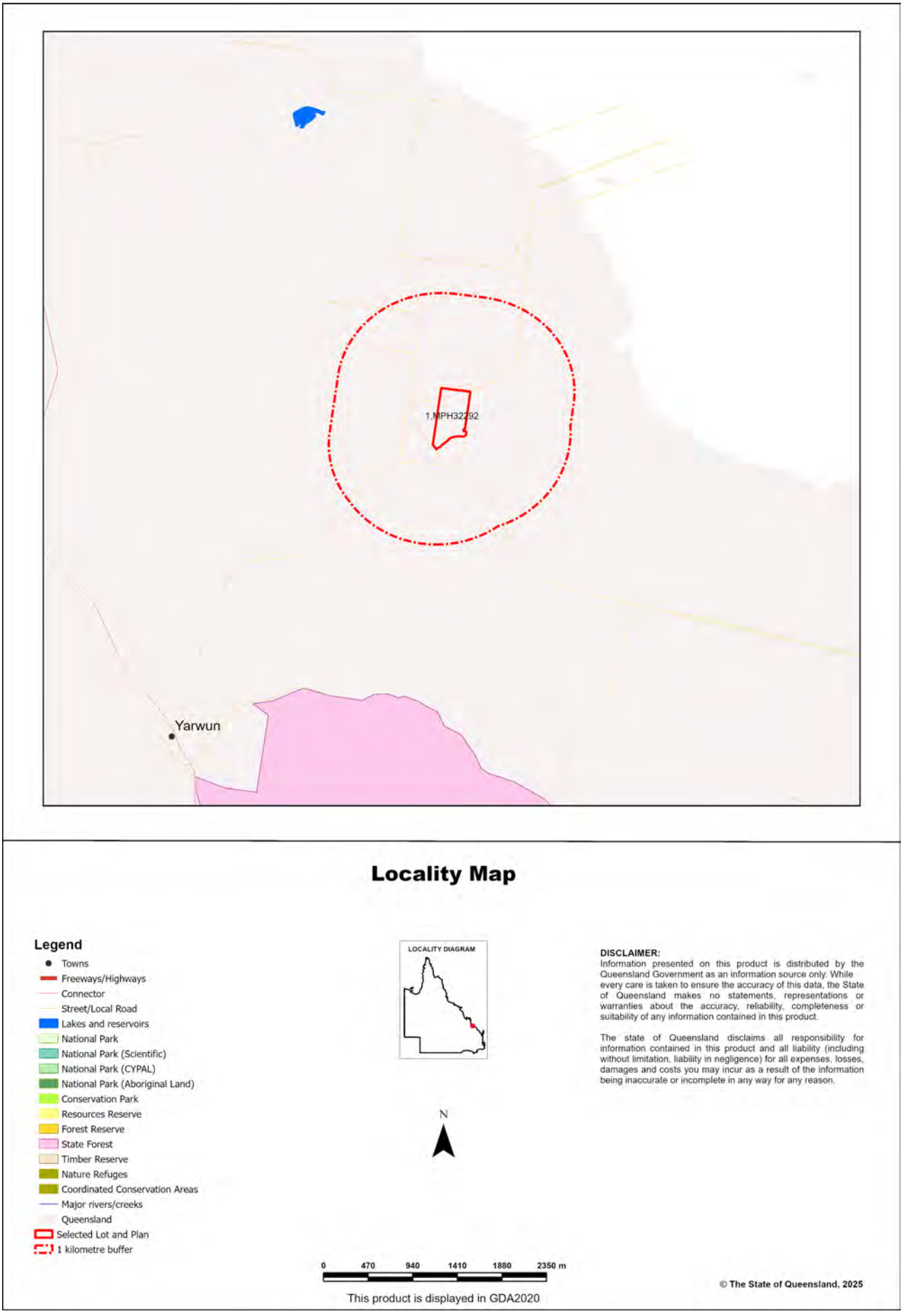


Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
26896	Actinopterygii	Ambassidae	*Ambassis agassizii*	Agassiz's glassfish			0	5	31/03/1999
26910	Actinopterygii	Anguillidae	*Anguilla reinhardtii*	longfin eel			0	1	30/11/1998
26912	Actinopterygii	Apogonidae	*Glossamia aprion*	mouth almighty			0	5	31/03/1999
26920	Actinopterygii	Atherinidae	*Craterocephalus stercusmuscarum*	flyspecked hardyhead			0	7	31/03/1999
26925	Actinopterygii	Centropomidae	*Lates calcarifer*	barramundi			0	1	31/03/1999
26941	Actinopterygii	Clupeidae	*Nematalosa erebi*	bony bream			0	3	30/11/1998
26954	Actinopterygii	Eleotridae	*Hypseleotris compressa*	empire gudgeon			0	8	31/03/1999
26955	Actinopterygii	Eleotridae	*Hypseleotris galii*	firetail gudgeon			0	1	31/01/1999
18168	Actinopterygii	Eleotridae	*Mogurnda adspersa*	southern purplespotted gudgeon			0	1	31/01/1999
27020	Actinopterygii	Lutjanidae	*Lutjanus argentimaculatus*	mangrove jack			0	1	31/03/1999
27021	Actinopterygii	Megalopidae	*Megalops cyprinoides*	oxeye herring			0	1	31/01/1999
27029	Actinopterygii	Melanotaeniidae	*Melanotaenia splendida splendida*	eastern rainbowfish			0	5	31/03/1999
27035	Actinopterygii	Mugilidae	*Mugil cephalus*	sea mullet			0	5	31/01/1999
27055	Actinopterygii	Poeciliidae	*Gambusia holbrooki*	mosquitofish			0	2	31/01/1999
27059	Actinopterygii	Pseudomugilidae	*Pseudomugil signifer*	Pacific blue eye			0	1	31/12/1997
27064	Actinopterygii	Scatophagidae	*Scatophagus argus*	spotted scat			0	1	31/01/1999
27083	Actinopterygii	Terapontidae	*Amniataba percoides*	barred grunter			0	1	31/12/1997
27089	Actinopterygii	Terapontidae	*Leiopotherapon unicolor*	spangled perch			0	3	31/03/1999
27097	Actinopterygii	Terapontidae	*Terapon jarbua*	crescent grunter			0	1	31/01/1999
716	Amphibia	Bufonidae	*Rhinella marina*	cane toad			0	4	31/12/1999
608	Amphibia	Hylidae	*Litoria fallax*	eastern sedgefrog	C		0	1	31/12/1997
604	Amphibia	Hylidae	*Litoria nasuta*	striped rocketfrog	C		0	3	31/12/1999
600	Amphibia	Hylidae	*Litoria rubella*	ruddy treefrog	C		0	2	31/12/1997

29174	Amphibia	Hylidae	*Litoria wilcoxii*	eastern stony creek frog	C		0	2	31/12/1999
681	Amphibia	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog	C		0	1	31/12/1999
684	Amphibia	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog	C		0	1	31/12/1999
673	Amphibia	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk	C		0	1	31/12/1997
680	Amphibia	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog	C		0	2	31/12/1999
1408	Aves	Acanthizidae	*Gerygone levigaster*	mangrove gerygone	C		0	1	31/12/1997
1730	Aves	Accipitridae	*Accipiter novaehollandiae*	grey goshawk	C		0	1	31/12/1997
1732	Aves	Accipitridae	*Aquila audax*	wedge-tailed eagle	C		0	1	31/12/1997
1718	Aves	Accipitridae	*Haliaeetus leucogaster*	white-bellied sea-eagle	C		0	1	31/12/1997
1720	Aves	Accipitridae	*Haliastur indus*	brahminy kite	C		0	1	31/12/1997
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C		0	2	31/12/1997
1714	Aves	Accipitridae	*Milvus migrans*	black kite	C		0	2	31/12/1997
1766	Aves	Alcedinidae	*Dacelo leachii*	blue-winged kookaburra	C		0	1	31/12/1997
1767	Aves	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra	C		0	2	31/12/1997
1760	Aves	Alcedinidae	*Todiramphus macleayii*	forest kingfisher	C		0	1	31/12/1997
1762	Aves	Alcedinidae	*Todiramphus sanctus*	sacred kingfisher	C		0	1	31/12/1997
1759	Aves	Alcedinidae	*Todiramphus sordidus*	Torresian kingfisher	C		0	2	31/12/1997
1998	Aves	Anatidae	*Anas superciliosa*	Pacific black duck	C		0	1	31/12/1997
2005	Aves	Anatidae	*Cygnus atratus*	black swan	C		0	1	31/12/1997
1279	Aves	Anhingidae	*Anhinga novaehollandiae*	Australasian darter	C		0	1	31/12/1997
1829	Aves	Ardeidae	*Ardea alba modesta*	eastern great egret	C		0	2	31/12/1997
1831	Aves	Ardeidae	*Ardea intermedia*	intermediate egret	C		0	1	31/12/1997
1839	Aves	Ardeidae	*Butorides striata*	striated heron	C		0	1	31/12/1997
1826	Aves	Ardeidae	*Egretta novaehollandiae*	white-faced heron	C		0	1	31/12/1997

1818	Aves	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron	C		0	1	31/12/1997
1660	Aves	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow	C		0	2	31/12/1997
1654	Aves	Artamidae	*Cracticus nigrogularis*	pied butcherbird	C		0	2	31/12/1997
1644	Aves	Artamidae	*Gymnorhina tibicen*	Australian magpie	C		0	2	31/12/1997
1196	Aves	Cacatuidae	*Calyptorhynchus banksii*	red-tailed black-cockatoo	C		0	1	31/12/1997
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C		0	1	31/12/1997
1637	Aves	Campephagidae	*Coracina papuensis*	white-bellied cuckoo -shrike	C		0	2	31/12/1997
1975	Aves	Caprimulgidae	*Caprimulgus macrurus*	large-tailed nightjar	C		0	1	31/12/1997
1937	Aves	Charadriidae	*Charadrius ruficapillus*	red-capped plover	C		0	1	31/12/1997
1933	Aves	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)	C		0	1	31/12/1997
1294	Aves	Cisticolidae	*Cisticola exilis*	golden-headed cisticola	C		0	1	31/12/1997
18323	Aves	Columbidae	*Geopelia placida*	peaceful dove	C		0	2	31/12/1997
1793	Aves	Columbidae	*Ocyphaps lophotes*	crested pigeon	C		0	2	31/12/1997
1779	Aves	Coraciidae	*Eurystomus orientalis*	dollarbird	C		0	1	31/12/1997
1609	Aves	Corvidae	*Corvus orru*	Torresian crow	C		0	2	31/12/1997
1751	Aves	Cuculidae	*Centropus phasianinus*	pheasant coucal	C		0	1	31/12/1997
1736	Aves	Cuculidae	*Cuculus optatus*	oriental cuckoo	SL		0	1	31/12/1997
1738	Aves	Cuculidae	*Eudynamys orientalis*	eastern koel	C		0	2	31/12/1997
1740	Aves	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo	C		0	1	31/12/1997
1611	Aves	Dicaeidae	*Dicaeum hirundinaceum*	mistletoebird	C		0	1	31/12/1997
1366	Aves	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin	C		0	2	31/12/1997
1342	Aves	Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C		0	2	31/12/1997
1926	Aves	Haematopodidae	*Haematopus longirostris*	Australian pied oystercatcher	C		0	1	31/12/1997
1572	Aves	Hirundinidae	*Hirundo neoxena*	welcome swallow	C		0	2	31/12/1997

1886	Aves	Laridae	*Gelochelidon macrotarsa*	Australian tern	C		0	1	31/12/1997
1289	Aves	Locustellidae	*Cincloramphus timoriensis*	tawny grassbird	C		0	1	31/12/1997
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C		0	1	31/12/1997
1694	Aves	Megapodiidae	*Alectura lathami*	Australian brush-turkey	C		0	1	31/12/1997
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C		0	2	31/12/1997
1524	Aves	Meliphagidae	*Gavicalis fasciogularis*	mangrove honeyeater	C		0	1	31/12/1997
1497	Aves	Meliphagidae	*Lichmera indistincta*	brown honeyeater	C		0	2	31/12/1997
1500	Aves	Meliphagidae	*Manorina melanocephala*	noisy miner	C		0	1	31/12/1997
1504	Aves	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater	C		0	1	31/12/1997
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C		0	2	31/12/1997
1488	Aves	Meliphagidae	*Myzomela obscura*	dusky honeyeater	C		0	2	31/12/1997
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C		0	2	31/12/1997
1598	Aves	Monarchidae	*Myiagra alecto*	shining flycatcher	C		0	1	31/12/1997
1586	Aves	Monarchidae	*Myiagra rubecula*	leaden flycatcher	C		0	2	31/12/1997
1455	Aves	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit	C		0	1	31/12/1997
1442	Aves	Oriolidae	*Oriolus sagittatus*	olive-backed oriole	C		0	1	31/12/1997
1444	Aves	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird	C		0	2	31/12/1997
1449	Aves	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush	C		0	1	31/12/1997
1702	Aves	Pandionidae	*Pandion haliaetus cristatus*	eastern osprey	SL		0	2	31/12/1997
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C		0	2	31/12/1997
1284	Aves	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican	C		0	1	31/12/1997
1261	Aves	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant	C		0	1	31/12/1997
1263	Aves	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant	C		0	1	31/12/1997
1182	Aves	Psittaculidae	*Aprosmictus erythropterus*	red-winged parrot	C		0	1	31/12/1997

1136	Aves	Psittaculidae	*Platycercus adscitus*	pale-headed rosella	C		0	1	31/12/1997
1124	Aves	Psittaculidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet	C		0	2	31/12/1997
1125	Aves	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C		0	1	31/12/1997
1673	Aves	Rallidae	*Gallinula tenebrosa*	dusky moorhen	C		0	1	31/12/1997
1885	Aves	Scolopacidae	*Actitis hypoleucos*	common sandpiper	SL		0	1	31/12/1997
1867	Aves	Scolopacidae	*Limosa lapponica baueri*	Western Alaskan bar-tailed godwit	E	E	0	1	31/12/1997
1843	Aves	Scolopacidae	*Numenius madagascariensis*	eastern curlew	CR	CE	0	2	31/12/1997
1845	Aves	Scolopacidae	*Numenius phaeopus*	whimbrel	SL		0	1	31/12/1997
1853	Aves	Scolopacidae	*Tringa nebularia*	common greenshank	E	E	0	1	31/12/1997
1102	Aves	Strigidae	*Ninox boobook*	southern boobook	C		0	1	31/12/1997
1823	Aves	Threskiornithidae	*Platalea regia*	royal spoonbill	C		0	1	31/12/1997
1812	Aves	Threskiornithidae	*Threskiornis molucca*	Australian white ibis	C		0	1	31/12/1997
1800	Aves	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis	C		0	1	31/12/1997
1276	Aves	Zosteropidae	*Zosterops lateralis*	silvereye	C		0	1	31/12/1997
1068	Mammalia	Canidae	*Canis familiaris (dingo)*	dingo			0	1	31/12/1997
811	Mammalia	Dasyuridae	*Planigale maculata*	common planigale	C		0	1	31/12/1999
793	Mammalia	Dasyuridae	*Sminthopsis murina*	common dunnart	C		0	1	31/12/1999
1056	Mammalia	Felidae	*Felis catus*	cat			0	1	31/12/1997
834	Mammalia	Leporidae	*Oryctolagus cuniculus*	rabbit			0	1	31/12/1999
901	Mammalia	Macropodidae	*Macropus giganteus*	eastern grey kangaroo	C		0	1	31/12/1999
988	Mammalia	Molossidae	*Mormopterus sp.*		C		0	2	31/12/1997
767	Mammalia	Muridae	*Hydromys chrysogaster*	water rat	C		0	1	31/12/1999
764	Mammalia	Muridae	*Mus musculus*	house mouse			0	1	31/12/1999
731	Mammalia	Muridae	*Rattus rattus*	black rat			0	1	31/12/1997

784	Mammalia	Peramelidae	*Isoodon macrourus*	northern brown bandicoot	C		0	1	31/12/1997
859	Mammalia	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum	C		0	1	31/12/1997
984	Mammalia	Pteropodidae	*Pteropus alecto*	black flying-fox	C		0	1	31/12/1997
948	Mammalia	Vespertilionidae	*Chalinolobus picatus*	little pied bat	C		0	2	31/12/1997
567	Reptilia	Agamidae	*Diporiphora australis*	tommy roundhead	C		0	1	31/12/1997
556	Reptilia	Agamidae	*Pogona barbata*	bearded dragon	C		0	1	31/12/1997
58	Reptilia	Chelidae	*Emydura macquarii krefftii*	Krefft's river turtle	C		0	3	31/12/1999
36209	Reptilia	Diplodactylidae	*Amalosia queenslandia*	Queensland zigzag gecko	C		0	1	31/12/1999
429	Reptilia	Diplodactylidae	*Diplodactylus vittatus*	wood gecko	C		0	1	31/12/1997
486	Reptilia	Elapidae	*Furina diadema*	red-naped snake	C		0	1	31/12/1999
413	Reptilia	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko	C		0	2	31/12/1999
294	Reptilia	Scincidae	*Carlia munda*	shaded-litter rainbow-skink	C		0	1	31/12/1999
297	Reptilia	Scincidae	*Carlia pectoralis sensu lato*		C		0	1	31/12/1999
302	Reptilia	Scincidae	*Carlia schmeltzii*	robust rainbow-skink	C		0	1	31/12/1997
277	Reptilia	Scincidae	*Carlia vivax*	tussock rainbow-skink	C		0	1	31/12/1997
188	Reptilia	Scincidae	*Concinnia martini*	dark bar-sided skink	C		0	1	31/12/1997
260	Reptilia	Scincidae	*Cryptoblepharus virgatus sensu lato*		C		0	2	31/12/1999
190	Reptilia	Scincidae	*Eulamprus quoyii*	eastern water skink	C		0	3	31/12/1999
173	Reptilia	Scincidae	*Glaphyromorphus punctulatus*	fine-spotted mulch-skink	C		0	1	31/12/1999
179	Reptilia	Scincidae	*Lampropholis adonis*	diamond-shielded sunskink	C		0	1	31/12/1997
184	Reptilia	Scincidae	*Lampropholis delicata*	dark-flecked garden sunskink	C		0	2	31/12/1999
150	Reptilia	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink	C		0	2	31/12/1999
70	Reptilia	Varanidae	*Varanus semiremex*	rusty monitor	C		0	1	31/12/1997
61	Reptilia	Varanidae	*Varanus varius*	lace monitor	C		0	1	31/12/1997

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

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
12326	Equisetopsida	Acanthaceae	*Avicennia marina*		C		0	1	31/01/2003
17767	Equisetopsida	Acanthaceae	*Brunoniella australis*	blue trumpet	C		0	1	22/07/2010
19722	Equisetopsida	Agavaceae	*Agave americana*				0	1	31/01/2003
17978	Equisetopsida	Amaranthaceae	*Alternanthera nodiflora*	joyweed	C		0	1	31/01/2003
11849	Equisetopsida	Amaranthaceae	*Alternanthera pungens*	khaki weed			0	1	31/01/2003
17981	Equisetopsida	Amaranthaceae	*Amaranthus viridis*	green amaranth			0	1	31/01/2003
17051	Equisetopsida	Amaranthaceae	*Gomphrena celosioides*	gomphrena weed			0	1	31/01/2003
15513	Equisetopsida	Amaryllidaceae	*Crinum pedunculatum*	river lily	SL		0	1	31/01/2003
16720	Equisetopsida	Anacardiaceae	*Mangifera indica*	mango			0	1	31/01/2003
9484	Equisetopsida	Apocynaceae	*Alstonia constricta*	bitterbark	C		0	1	31/01/2003
19732	Equisetopsida	Apocynaceae	*Alyxia ruscifolia*		C		0	1	31/01/2003
17935	Equisetopsida	Apocynaceae	*Asclepias curassavica*	red-head cottonbush			0	1	31/01/2003
9698	Equisetopsida	Apocynaceae	*Carissa ovata*	currantbush	C		0	1	31/01/2003
17710	Equisetopsida	Apocynaceae	*Catharanthus roseus*	pink periwinkle			0	1	31/01/2003
15479	Equisetopsida	Apocynaceae	*Cryptostegia grandiflora*	rubber vine			0	1	31/01/2003
36295	Equisetopsida	Apocynaceae	*Cynanchum viminale*		C		0	1	31/01/2003
17050	Equisetopsida	Apocynaceae	*Gomphocarpus physocarpus*	balloon cottonbush			0	1	31/01/2003
8452	Equisetopsida	Apocynaceae	*Gymnanthera oblonga*		C		1	1	5/09/2022
11155	Equisetopsida	Apocynaceae	*Nerium oleander*	oleander			0	1	31/01/2003
16521	Equisetopsida	Apocynaceae	*Parsonsia lanceolata*	northern silkpod	C		0	1	31/01/2003
16526	Equisetopsida	Apocynaceae	*Parsonsia straminea*	monkey rope	C		0	1	31/01/2003
41442	Equisetopsida	Araliaceae	*Heptapleurum actinophyllum*		C		0	1	31/01/2003
22101	Equisetopsida	Arecaceae	*Syagrus romanzoffiana*	Queen palm			0	1	31/01/2003

11158	Equisetopsida	Asteraceae	*Ageratum conyzoides*	billygoat weed			0	1	22/07/2010
14051	Equisetopsida	Asteraceae	*Ageratum houstonianum*	blue billygoat weed			0	1	31/01/2003
15612	Equisetopsida	Asteraceae	*Baccharis halimifolia*	groundsel bush			0	1	31/01/2003
14045	Equisetopsida	Asteraceae	*Bidens bipinnata*	bipinnate beggar's ticks			0	1	31/01/2003
7691	Equisetopsida	Asteraceae	*Bidens pilosa*				0	2	22/07/2010
15565	Equisetopsida	Asteraceae	*Calotis cuneifolia*	burr daisy	C		0	1	31/01/2003
15567	Equisetopsida	Asteraceae	*Calotis hispidula*	bogan flea	C		0	1	31/01/2003
15574	Equisetopsida	Asteraceae	*Carduus thoermeri*	nodding thistle			0	1	31/01/2003
15537	Equisetopsida	Asteraceae	*Cassinia quinquefaria*		C		0	1	31/01/2003
8398	Equisetopsida	Asteraceae	*Chrysocephalum apiculatum*	yellow buttons	C		0	1	31/01/2003
14001	Equisetopsida	Asteraceae	*Cirsium vulgare*	spear thistle			0	1	31/01/2003
29560	Equisetopsida	Asteraceae	*Coronidium lanuginosum*		C		0	1	31/01/2003
22237	Equisetopsida	Asteraceae	*Cyanthillium cinereum*		C		0	2	22/07/2010
15401	Equisetopsida	Asteraceae	*Emilia sonchifolia*				0	2	22/07/2010
35896	Equisetopsida	Asteraceae	*Erigeron bonariensis*				0	1	31/01/2003
6539	Equisetopsida	Asteraceae	*Peripleura diffusa*		C		0	1	31/01/2003
6540	Equisetopsida	Asteraceae	*Peripleura hispidula*		C		0	2	22/07/2010
7090	Equisetopsida	Asteraceae	*Picris angustifolia subsp. carolorum-henricorum*		C		0	1	22/07/2010
15129	Equisetopsida	Asteraceae	*Pterocaulon redolens*		C		0	3	22/07/2010
12208	Equisetopsida	Asteraceae	*Sigesbeckia orientalis*	Indian weed	C		0	1	31/01/2003
15039	Equisetopsida	Asteraceae	*Sonchus oleraceus*	common sowthistle			0	1	31/01/2003
35909	Equisetopsida	Asteraceae	*Symphyotrichum subulatum*				0	1	31/01/2003
14987	Equisetopsida	Asteraceae	*Tridax procumbens*	tridax daisy			0	1	31/01/2003
14959	Equisetopsida	Asteraceae	*Vittadinia sulcata*	native daisy	C		0	1	31/01/2003

9090	Equisetopsida	Balsaminaceae	*Impatiens walleriana*	balsam			0	1	31/01/2003
19352	Equisetopsida	Cactaceae	*Opuntia stricta*				0	1	31/01/2003
16766	Equisetopsida	Campanulaceae	*Lobelia purpurascens*	white root	SL		0	1	31/01/2003
16011	Equisetopsida	Cannabaceae	*Trema tomentosa*		C		0	1	31/01/2003
17725	Equisetopsida	Capparaceae	*Capparis arborea*	brush caper berry	C		0	1	31/01/2003
13984	Equisetopsida	Capparaceae	*Capparis canescens*		C		0	1	31/01/2003
13988	Equisetopsida	Caricaceae	*Carica papaya*	pawpaw			0	1	31/01/2003
18014	Equisetopsida	Casuarinaceae	*Allocasuarina torulosa*		C		0	1	31/01/2003
9087	Equisetopsida	Casuarinaceae	*Casuarina cunninghamiana*		C		0	1	31/01/2003
16115	Equisetopsida	Chenopodiaceae	*Suaeda australis*		C		0	1	31/01/2003
31677	Equisetopsida	Chenopodiaceae	*Tecticornia indica*		C		0	1	31/01/2003
11105	Equisetopsida	Commelinaceae	*Commelina ensifolia*	scurvy grass	C		0	1	31/01/2003
17176	Equisetopsida	Convolvulaceae	*Evolvulus alsinoides*		C		0	1	31/01/2003
21934	Equisetopsida	Crassulaceae	*Bryophyllum delagoense*				0	1	31/01/2003
14661	Equisetopsida	Cyperaceae	*Cyperus cyperoides*		C		0	1	22/07/2010
17515	Equisetopsida	Cyperaceae	*Cyperus difformis*	rice sedge	C		0	1	22/07/2010
14656	Equisetopsida	Cyperaceae	*Cyperus exaltatus*	tall flatsedge	C		0	1	31/01/2003
13966	Equisetopsida	Cyperaceae	*Cyperus flaccidus*		C		0	2	22/07/2010
17521	Equisetopsida	Cyperaceae	*Cyperus gracilis*		C		0	2	22/07/2010
11062	Equisetopsida	Cyperaceae	*Cyperus papyrus*	papyrus			0	1	31/01/2003
9376	Equisetopsida	Cyperaceae	*Fimbristylis aestivalis*		C		0	2	22/07/2010
10137	Equisetopsida	Cyperaceae	*Fimbristylis bisumbellata*		C		0	1	22/07/2010
17107	Equisetopsida	Cyperaceae	*Fimbristylis dichotoma*	common fringe-rush	C		0	1	31/01/2003
17078	Equisetopsida	Cyperaceae	*Gahnia aspera*		C		0	1	31/01/2003

41286	Equisetopsida	Cyperaceae	*Machaerina articulata*		C		0	1	31/01/2003
14228	Equisetopsida	Cyperaceae	*Scleria mackaviensis*		C		0	2	22/07/2010
17160	Equisetopsida	Euphorbiaceae	*Euphorbia cyathophora*	dwarf poinsettia			0	1	31/01/2003
16753	Equisetopsida	Euphorbiaceae	*Macaranga tanarius*	macaranga	C		0	1	31/01/2003
16715	Equisetopsida	Euphorbiaceae	*Mallotus philippensis*	red kamala	C		0	1	31/01/2003
13239	Equisetopsida	Hemerocallidaceae	*Dianella brevipedunculata*		C		1	3	22/07/2010
17463	Equisetopsida	Hemerocallidaceae	*Dianella caerulea var. vannata*		C		0	1	31/01/2003
10281	Equisetopsida	Hemerocallidaceae	*Dianella longifolia*		C		0	1	22/07/2010
14339	Equisetopsida	Hydrocharitaceae	*Ottelia ovalifolia*	swamp lily	SL		0	1	31/01/2003
13895	Equisetopsida	Juncaceae	*Juncus polyanthemus*		C		0	1	31/01/2003
18679	Equisetopsida	Lamiaceae	*Leucas lavandulifolia*				0	1	31/01/2003
17703	Equisetopsida	Lauraceae	*Cassytha filiformis*	dodder laurel	C		0	1	31/01/2003
15339	Equisetopsida	Laxmanniaceae	*Eustrephus latifolius*	wombat berry	C		0	3	22/07/2010
14415	Equisetopsida	Laxmanniaceae	*Lomandra confertifolia subsp. pallida*		C		0	2	22/07/2010
12406	Equisetopsida	Laxmanniaceae	*Lomandra gracilis*		C		0	1	31/01/2003
16776	Equisetopsida	Laxmanniaceae	*Lomandra longifolia*		C		0	2	22/07/2010
18792	Equisetopsida	Laxmanniaceae	*Lomandra multiflora*		C		0	1	31/01/2003
15149	Equisetopsida	Lecythidaceae	*Planchonia careya*	cockatoo apple	C		0	3	22/07/2010
15827	Equisetopsida	Leguminosae	*Acacia aulacocarpa*		C		0	1	31/01/2003
15793	Equisetopsida	Leguminosae	*Acacia crassa subsp. longicoma*		C		1	1	6/03/2020
15796	Equisetopsida	Leguminosae	*Acacia decora*	pretty wattle	C		0	1	31/01/2003
21915	Equisetopsida	Leguminosae	*Acacia disparrima subsp. disparrima*		C		0	1	22/07/2010
15744	Equisetopsida	Leguminosae	*Acacia fasciculifera*	scaly bark	C		0	1	31/01/2003
15745	Equisetopsida	Leguminosae	*Acacia fimbriata*	Brisbane golden wattle	C		0	1	31/01/2003

15746	Equisetopsida	Leguminosae	*Acacia flavescens*	toothed wattle	C		0	2	22/07/2010
15765	Equisetopsida	Leguminosae	*Acacia leiocalyx*		C		0	1	31/01/2003
14066	Equisetopsida	Leguminosae	*Acacia leiocalyx subsp. leiocalyx*		C		0	1	22/07/2010
15772	Equisetopsida	Leguminosae	*Acacia maidenii*	Maiden's wattle	C		0	1	31/01/2003
15739	Equisetopsida	Leguminosae	*Acacia podalyriifolia*	Queensland silver wattle	C		0	1	31/01/2003
15694	Equisetopsida	Leguminosae	*Acacia salicina*	doolan	C		0	1	31/01/2003
10918	Equisetopsida	Leguminosae	*Bauhinia variegata*				0	1	31/01/2003
21834	Equisetopsida	Leguminosae	*Chamaecrista nomame*		C		0	2	22/07/2010
14693	Equisetopsida	Leguminosae	*Crotalaria brevis*		C		0	2	22/07/2010
15469	Equisetopsida	Leguminosae	*Crotalaria medicaginea*	trefoil rattlepod	C		0	1	31/01/2003
15471	Equisetopsida	Leguminosae	*Crotalaria montana*		C		0	2	22/07/2010
18779	Equisetopsida	Leguminosae	*Crotalaria pallida*				0	1	31/01/2003
9165	Equisetopsida	Leguminosae	*Delonix regia*	poinciana			0	1	31/01/2003
14642	Equisetopsida	Leguminosae	*Desmodium gangeticum*		C		0	1	22/07/2010
14644	Equisetopsida	Leguminosae	*Desmodium heterocarpon var. strigosum*		C		1	1	14/09/2020
15460	Equisetopsida	Leguminosae	*Desmodium rhytidophyllum*		C		0	2	22/07/2010
15461	Equisetopsida	Leguminosae	*Desmodium triflorum*				0	1	31/01/2003
15334	Equisetopsida	Leguminosae	*Erythrina vespertilio*		C		0	1	31/01/2003
13000	Equisetopsida	Leguminosae	*Flemingia parviflora*	flemingia	C		0	3	22/07/2010
15356	Equisetopsida	Leguminosae	*Glycine tabacina*	glycine pea	C		0	3	22/07/2010
41983	Equisetopsida	Leguminosae	*Heliodendron thozetianum*		C		0	1	31/01/2003
15294	Equisetopsida	Leguminosae	*Indigofera hirsuta*	hairy indigo	C		0	2	22/07/2010
15255	Equisetopsida	Leguminosae	*Isotropis filicaulis*		C		0	1	31/01/2003
15260	Equisetopsida	Leguminosae	*Jacksonia scoparia*		C		0	1	31/01/2003

15235	Equisetopsida	Leguminosae	*Macroptilium atropurpureum*	siratro			0	1	31/01/2003
9873	Equisetopsida	Leguminosae	*Medicago polymorpha*	burr medic			0	1	31/01/2003
14370	Equisetopsida	Leguminosae	*Neptunia gracilis forma gracilis*		C		0	1	31/01/2003
14257	Equisetopsida	Leguminosae	*Rhynchosia minima*		C		0	1	31/01/2003
12876	Equisetopsida	Leguminosae	*Stylosanthes scabra*				0	1	22/07/2010
12879	Equisetopsida	Leguminosae	*Tamarindus indica*				1	1	28/11/2003
27745	Equisetopsida	Leguminosae	*Tephrosia filipes*		C		0	1	31/01/2003
14990	Equisetopsida	Leguminosae	*Trifolium repens var. repens*	white clover			0	1	31/01/2003
14998	Equisetopsida	Leguminosae	*Uraria lagopodioides*		C		0	1	22/07/2010
30907	Equisetopsida	Leguminosae	*Vachellia bidwillii*		C		0	1	31/01/2003
14952	Equisetopsida	Leguminosae	*Vigna lanceolata*		C		0	1	31/01/2003
10196	Equisetopsida	Leguminosae	*Vigna vexillata var. angustifolia*		C		0	1	31/01/2003
21949	Equisetopsida	Leguminosae	*Zornia dyctiocarpa*		C		0	1	31/01/2003
14923	Equisetopsida	Leguminosae	*Zornia muriculata subsp. muriculata*		C		1	1	28/11/2003
41230	Equisetopsida	Linderniaceae	*Torenia crustacea*		C		0	1	22/07/2010
17991	Equisetopsida	Loranthaceae	*Amyema miquelii*		C		0	1	22/07/2010
13236	Equisetopsida	Loranthaceae	*Dendrophthoe glabrescens*		C		0	1	31/01/2003
11979	Equisetopsida	Lythraceae	*Ammannia multiflora*	jerry-jerry	C		0	1	22/07/2010
14927	Equisetopsida	Malvaceae	*Abutilon grandifolium*				0	1	31/01/2003
16955	Equisetopsida	Malvaceae	*Hibiscus heterophyllus*		C		0	1	31/01/2003
16195	Equisetopsida	Malvaceae	*Sida cordifolia*				0	2	22/07/2010
16196	Equisetopsida	Malvaceae	*Sida corrugata*		C		0	1	31/01/2003
22197	Equisetopsida	Malvaceae	*Sida hackettiana*		C		0	2	22/07/2010
16146	Equisetopsida	Malvaceae	*Sida rhombifolia*				0	3	22/07/2010

15990	Equisetopsida	Malvaceae	*Urena lobata*	urena weed			0	1	31/01/2003
42052	Equisetopsida	Meliaceae	*Didymocheton gaudichaudianus*		C		0	1	31/01/2003
16661	Equisetopsida	Meliaceae	*Melia azedarach*	white cedar	C		0	1	31/01/2003
16557	Equisetopsida	Meliaceae	*Owenia acidula*	emu apple	C		0	1	31/01/2003
14327	Equisetopsida	Menyanthaceae	*Nymphoides indica*	water snowflake	SL		0	1	31/01/2003
19858	Equisetopsida	Moraceae	*Ficus benjamina*		C		0	1	31/01/2003
17144	Equisetopsida	Moraceae	*Ficus opposita*		C		0	1	31/01/2003
13825	Equisetopsida	Moraceae	*Maclura cochinchinensis*	cockspur thorn	C		1	1	29/06/2006
3624	Equisetopsida	Moraceae	*Malaisia scandens*		C		0	1	31/01/2003
18035	Equisetopsida	Myrsinaceae	*Aegiceras corniculatum*	river mangrove	C		0	1	31/01/2003
42283	Equisetopsida	Myrtaceae	*Blakella tessellaris*		C		0	3	22/07/2010
42282	Equisetopsida	Myrtaceae	*Blakella torelliana*		C		0	1	31/01/2003
6531	Equisetopsida	Myrtaceae	*Corymbia citriodora*	spotted gum	C		0	1	31/01/2003
6534	Equisetopsida	Myrtaceae	*Corymbia clarksoniana*		C		0	1	31/01/2003
6445	Equisetopsida	Myrtaceae	*Corymbia intermedia*	pink bloodwood	C		0	2	22/07/2010
17290	Equisetopsida	Myrtaceae	*Eucalyptus acmenoides*		C		0	1	31/01/2003
17252	Equisetopsida	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark	C		0	3	22/07/2010
17229	Equisetopsida	Myrtaceae	*Eucalyptus moluccana*	gum-topped box	C		0	1	31/01/2003
12503	Equisetopsida	Myrtaceae	*Eucalyptus platyphylla*	poplar gum	C		0	1	31/01/2003
17204	Equisetopsida	Myrtaceae	*Eucalyptus tereticornis*		C		0	3	22/07/2010
16780	Equisetopsida	Myrtaceae	*Lophostemon confertus*	brush box	C		0	1	31/01/2003
16730	Equisetopsida	Myrtaceae	*Lophostemon suaveolens*	swamp box	C		0	3	22/07/2010
31373	Equisetopsida	Myrtaceae	*Melaleuca citrina*		C		0	1	31/01/2003
16689	Equisetopsida	Myrtaceae	*Melaleuca leucadendra*	broad-leaved tea-tree	C		0	1	31/01/2003

13828	Equisetopsida	Myrtaceae	*Melaleuca nervosa*		C		0	3	22/07/2010
31375	Equisetopsida	Myrtaceae	*Melaleuca viminalis*		C		0	1	31/01/2003
16657	Equisetopsida	Myrtaceae	*Melaleuca viridiflora*		C		0	1	31/01/2003
16047	Equisetopsida	Myrtaceae	*Syzygium luehmannii*		C		0	1	31/01/2003
19941	Equisetopsida	Nymphaeaceae	*Nymphaea caerulea*				0	1	31/01/2003
16838	Equisetopsida	Oleaceae	*Jasminum didymum subsp. racemosum*		C		0	1	31/01/2003
16840	Equisetopsida	Oleaceae	*Jasminum simplicifolium subsp. australiense*		C		0	1	31/01/2003
13420	Equisetopsida	Onagraceae	*Ludwigia octovalvis*	willow primrose	C		0	1	31/01/2003
16731	Equisetopsida	Onagraceae	*Ludwigia peploides subsp. montevidensis*		C		0	1	31/01/2003
17505	Equisetopsida	Orchidaceae	*Cymbidium canaliculatum*		SL		0	1	31/01/2003
9457	Equisetopsida	Oxalidaceae	*Oxalis corniculata*				0	1	31/01/2003
19740	Equisetopsida	Papaveraceae	*Argemone ochroleuca*				0	1	31/01/2003
16530	Equisetopsida	Passifloraceae	*Passiflora foetida*				0	2	22/07/2010
16532	Equisetopsida	Passifloraceae	*Passiflora suberosa*	corky passion flower			0	1	31/01/2003
17808	Equisetopsida	Phyllanthaceae	*Breynia oblongifolia*		C		0	2	22/07/2010
11327	Equisetopsida	Phyllanthaceae	*Bridelia exaltata*		C		0	1	31/01/2003
16473	Equisetopsida	Phyllanthaceae	*Phyllanthus virgatus*		C		0	2	22/07/2010
16505	Equisetopsida	Picrodendraceae	*Petalostigma pubescens*	quinine tree	C		0	3	22/07/2010
12030	Equisetopsida	Pinaceae	*Pinus elliottii*	slash pine			0	1	31/01/2003
22387	Equisetopsida	Pittosporaceae	*Pittosporum spinescens*		C		0	1	31/01/2003
18225	Equisetopsida	Plantaginaceae	*Mecardonia procumbens*				1	1	25/02/2014
16183	Equisetopsida	Plantaginaceae	*Scoparia dulcis*	scoparia			0	1	22/07/2010
13707	Equisetopsida	Poaceae	*Aristida calycina*		C		0	1	31/01/2003
15650	Equisetopsida	Poaceae	*Aristida caput-medusae*		C		0	1	31/01/2003

18398	Equisetopsida	Poaceae	*Aristida holathera*		C		0	1	31/01/2003
9289	Equisetopsida	Poaceae	*Aristida queenslandica*		C		0	1	31/01/2003
11124	Equisetopsida	Poaceae	*Aristida queenslandica var. dissimilis*		C		0	1	22/07/2010
15634	Equisetopsida	Poaceae	*Arundinella nepalensis*	reedgrass	C		0	3	22/07/2010
10316	Equisetopsida	Poaceae	*Bothriochloa decipiens var. decipiens*		C		0	1	22/07/2010
14773	Equisetopsida	Poaceae	*Capillipedium parviflorum*	scented top	C		0	1	31/01/2003
14774	Equisetopsida	Poaceae	*Capillipedium spicigerum*	spicytop	C		0	2	22/07/2010
15541	Equisetopsida	Poaceae	*Cenchrus echinatus*	Mossman River grass			0	1	31/01/2003
15550	Equisetopsida	Poaceae	*Chloris divaricata var. divaricata*	slender chloris	C		0	1	31/01/2003
15551	Equisetopsida	Poaceae	*Chloris gayana*	rhodes grass			0	1	31/01/2003
15527	Equisetopsida	Poaceae	*Chloris virgata*	feathertop rhodes grass			0	1	31/01/2003
15531	Equisetopsida	Poaceae	*Chrysopogon fallax*		C		0	2	22/07/2010
15485	Equisetopsida	Poaceae	*Cymbopogon refractus*	barbed-wire grass	C		0	2	22/07/2010
15486	Equisetopsida	Poaceae	*Cynodon dactylon*				0	1	31/01/2003
11066	Equisetopsida	Poaceae	*Digitaria didactyla*	Queensland blue couch			0	1	31/01/2003
34493	Equisetopsida	Poaceae	*Dinebra decipiens var. decipiens*		C		0	1	22/07/2010
15405	Equisetopsida	Poaceae	*Enneapogon lindleyanus*		C		0	1	22/07/2010
15361	Equisetopsida	Poaceae	*Eragrostis elongata*		C		0	1	31/01/2003
15367	Equisetopsida	Poaceae	*Eragrostis leptostachya*		C		0	1	22/07/2010
15371	Equisetopsida	Poaceae	*Eragrostis parviflora*	weeping lovegrass	C		0	1	31/01/2003
15373	Equisetopsida	Poaceae	*Eragrostis sororia*		C		0	1	31/01/2003
15374	Equisetopsida	Poaceae	*Eragrostis spartinoides*		C		0	3	22/07/2010
15378	Equisetopsida	Poaceae	*Eragrostis tenuifolia*	elastic grass			0	1	31/01/2003
15320	Equisetopsida	Poaceae	*Heteropogon contortus*	black speargrass	C		0	3	22/07/2010

10578	Equisetopsida	Poaceae	*Hyparrhenia rufa*				0	2	22/07/2010
15803	Equisetopsida	Poaceae	*Hyparrhenia rufa subsp. rufa*				0	1	31/01/2003
15290	Equisetopsida	Poaceae	*Imperata cylindrica*	blady grass	C		0	1	31/01/2003
29093	Equisetopsida	Poaceae	*Megathyrsus maximus*				0	1	31/01/2003
27900	Equisetopsida	Poaceae	*Megathyrsus maximus var. pubiglumis*				0	1	22/07/2010
15242	Equisetopsida	Poaceae	*Melinis minutiflora*	molasses grass			0	1	22/07/2010
9154	Equisetopsida	Poaceae	*Melinis repens*	red natal grass			0	2	22/07/2010
13607	Equisetopsida	Poaceae	*Panicum effusum*		C		0	2	22/07/2010
18424	Equisetopsida	Poaceae	*Panicum simile*		C		0	1	22/07/2010
14345	Equisetopsida	Poaceae	*Paspalidium distans*	shotgrass	C		0	1	22/07/2010
15134	Equisetopsida	Poaceae	*Paspalum dilatatum*	paspalum			0	1	31/01/2003
15043	Equisetopsida	Poaceae	*Sorghum halepense*	Johnson grass			0	1	31/01/2003
10792	Equisetopsida	Poaceae	*Sorghum nitidum forma aristatum*		C		0	1	31/01/2003
15003	Equisetopsida	Poaceae	*Sporobolus virginicus*	sand couch	C		0	1	31/01/2003
14974	Equisetopsida	Poaceae	*Themeda triandra*	kangaroo grass	C		0	3	22/07/2010
2359	Equisetopsida	Poaceae	*Urochloa mutica*				0	1	31/01/2003
13155	Equisetopsida	Polygonaceae	*Persicaria decipiens*	slender knotweed	C		0	1	31/01/2003
16359	Equisetopsida	Portulacaceae	*Portulaca oleracea*	pigweed			0	1	31/01/2003
9659	Equisetopsida	Rhamnaceae	*Alphitonia excelsa*	soap tree	C		0	1	31/01/2003
14109	Equisetopsida	Rosaceae	*Eriobotrya japonica*	loquat			0	1	31/01/2003
5565	Equisetopsida	Rubiaceae	*Coelospermum reticulatum*		C		0	2	22/07/2010
27436	Equisetopsida	Rubiaceae	*Cyclophyllum coprosmoides*		C		0	1	31/01/2003
16334	Equisetopsida	Rubiaceae	*Psychotria daphnoides*		C		0	1	31/01/2003
2399	Equisetopsida	Rubiaceae	*Psydrax odorata*		C		0	1	31/01/2003

16135	Equisetopsida	Rubiaceae	*Spermacoce brachystema*		C		0	1	31/01/2003
16139	Equisetopsida	Rubiaceae	*Spermacoce multicaulis*		C		0	1	22/07/2010
21837	Equisetopsida	Rutaceae	*Murraya paniculata 'Exotica'*				0	1	31/01/2003
19727	Equisetopsida	Sapindaceae	*Alectryon tomentosus*		C		1	1	20/01/2022
17548	Equisetopsida	Sapindaceae	*Cupaniopsis anacardioides*	tuckeroo	C		0	1	31/01/2003
16885	Equisetopsida	Sapindaceae	*Jagera pseudorhus*		C		0	1	31/01/2003
8631	Equisetopsida	Scrophulariaceae	*Eremophila debilis*	winter apple	C		0	1	31/01/2003
16602	Equisetopsida	Scrophulariaceae	*Myoporum acuminatum*	coastal boobialla	C		0	1	31/01/2003
17496	Equisetopsida	Solanaceae	*Datura stramonium*	common thornapple			0	1	31/01/2003
13788	Equisetopsida	Solanaceae	*Solanum nigrum*				0	2	22/07/2010
16120	Equisetopsida	Solanaceae	*Solanum seaforthianum*	Brazilian nightshade			0	1	31/01/2003
16126	Equisetopsida	Solanaceae	*Solanum torvum*	devil's fig			0	1	31/01/2003
17049	Equisetopsida	Sparrmanniaceae	*Grewia latifolia*	dysentery plant	C		0	3	22/07/2010
15983	Equisetopsida	Sparrmanniaceae	*Triumfetta rhomboidea*	chinese burr			0	1	31/01/2003
12527	Equisetopsida	Typhaceae	*Typha domingensis*		C		0	1	31/01/2003
19905	Equisetopsida	Verbenaceae	*Lantana camara*	lantana			0	3	22/07/2010
13853	Equisetopsida	Verbenaceae	*Lantana montevidensis*	creeping lantana			0	1	31/01/2003
16143	Equisetopsida	Verbenaceae	*Stachytarpheta jamaicensis*	Jamaica snakeweed			0	2	22/07/2010
15951	Equisetopsida	Verbenaceae	*Verbena bonariensis*	purpletop			0	1	31/01/2003
41630	Equisetopsida	Violaceae	*Pigea stellarioides*		C		0	1	31/01/2003
15934	Equisetopsida	Xanthorrhoeaceae	*Xanthorrhoea johnsonii*		SL		0	2	22/07/2010
16707	Equisetopsida	Zamiaceae	*Macrozamia miquelii*		SL		0	1	31/01/2003

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

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

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

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

Species table headings and codes
Taxon Id: Unique identifier of the taxon from the WildNet database.
NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).
EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).
Specimens: The number of specimen-backed records of the taxon.
Records: The total number of records of the taxon.
Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the WildNet database include:

- WildNet Application - public interface to find species information and species lists generated from the WildNet database.
- Biomaps - view biodiversity information, including WildNet records approved for publication, and generate reports
- Queensland Globe - view spatial information, including WildNet records approved for publication
- Qld WildNet Data API - access WildNet species information approved for publication such as notes, images and records etc.
- Wetland*Maps* - view species records, survey locations etc. approved for publication
- Wetland*Summary* - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- WildNet wildlife records - published - Queensland - spatial layer of WildNet records approved for publication generated weekly
- Generalised distribution and densities of Queensland wildlife - Queensland species distributions and densities generalised to a 10 km grid resolution
- Conservation status of Queensland wildlife - access current lists of priority species for Queensland including nomenclature and status information
- Queensland Confidential Species - the list of species flagged as confidential in the WildNet database.

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

Other useful sites for accessing Queensland biodiversity data include:

- Useful wildlife resources
- Queensland Government Data
- Atlas of Living Australia (ALA)
- Online Zoological Collections of Australian Museums (OZCAM)
- Australasian Virtual Herbarium (AVH)
- Protected Matters Search Tool

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government, to the maximum extent permitted by law, makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.

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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: 26-Aug-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:	8
Listed Threatened Species:	38
Listed Migratory Species:	17

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:	26
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:	12
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
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		

Scientific Name	Threatened Category	Presence Text
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area
Epthianura crocea macgregori Capricorn Yellow Chat, Yellow Chat (Dawson) [67090]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
[Limnodromus semipalmatus](#) Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area
[Limosa lapponica baueri](#) Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area
[Neochmia ruficauda ruficauda](#) Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area
[Turnix melanogaster](#) Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
MAMMAL		
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
[Petauroides volans](#) Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area
[Petaurus australis australis](#) Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Xeromys myoides		
Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat known to occur within area
PLANT		
Bosistoa transversa		
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Cossinia australiana		
Cossinia [3066]	Endangered	Species or species habitat may occur within area
Cupaniopsis shirleyana		
Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat likely to occur within area
Cycas megacarpa		
[55794]	Endangered	Species or species habitat may occur within area
Cycas ophiolitica		
[55797]	Endangered	Species or species habitat may occur within area
Dichanthium setosum		
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus raveretiana		
Black Ironbox [16344]	Vulnerable	Species or species habitat likely to occur within area
Macadamia integrifolia		
Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Samadera bidwillii](#) Quassia [29708]	Vulnerable	Species or species habitat may occur within area
REPTILE		
[Delma torquata](#) Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
[Egernia rugosa](#) Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area
[Furina dunmalli](#) Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
[Hemiaspis damelii](#) Grey Snake [1179]	Endangered	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
[Anous stolidus](#) Common Noddy [825]		Species or species habitat known to occur within area
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Marine Species		
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
[Cuculus optatus](#) Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Migratory Wetlands Species		

Scientific Name	Threatened Category	Presence Text
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Tringa nebularia		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus		
Common Noddy [825]		Species or species habitat known to occur within area
Anseranas semipalmata		
Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis		
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat known to occur within area
Pterodroma cervicalis		
White-necked Petrel [59642]		Species or species habitat may occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato)		
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Symposiachrus trivirgatus as Monarcha trivirgatus		
Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area
Tringa nebularia		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area
Reptile		
Crocodylus porosus		
Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Blackwater to Gladstone Gas Pipeline Project	2011/6034	Controlled Action	Completed
Construct and operate 447km high pressure gas transmission pipeline	2009/4976	Controlled Action	Post-Approval
Construction of a Chlor-Alkali-Ethylene Di-Chloride (CA/EDC) Plant at the Gladst	2002/764	Controlled Action	Completed
Gas Pipeline with Alternative Pipleine to Supply Natural Gas Liquefaction Park	2008/4096	Controlled Action	Post-Approval
H2-Hub??? Gladstone - Export-class Green Hydrogen and Ammonia Complex	2021/9049	Controlled Action	Referral Decision
Queensland Curtis LNG Project - LNG Marine Facilities	2008/4401	Controlled Action	Post-Approval
Queensland Curtis LNG Project - Pipeline Network	2008/4399	Controlled Action	Post-Approval
The Arrow Gas Transmission Pipeline, Gladstone to Curtis Island	2009/5008	Controlled Action	Post-Approval
Not controlled action			
Gladstone Energy and Ammonia Project, Qld	2018/8305	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
Project Sun Liquefied Natural Gas Plant and Pipeline	2008/3994	Not Controlled Action	Completed
Referral decision			
Gas Transmission Pipeline to supply Natural Gas Liquefaction Park	2008/4061	Referral Decision	Completed

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:

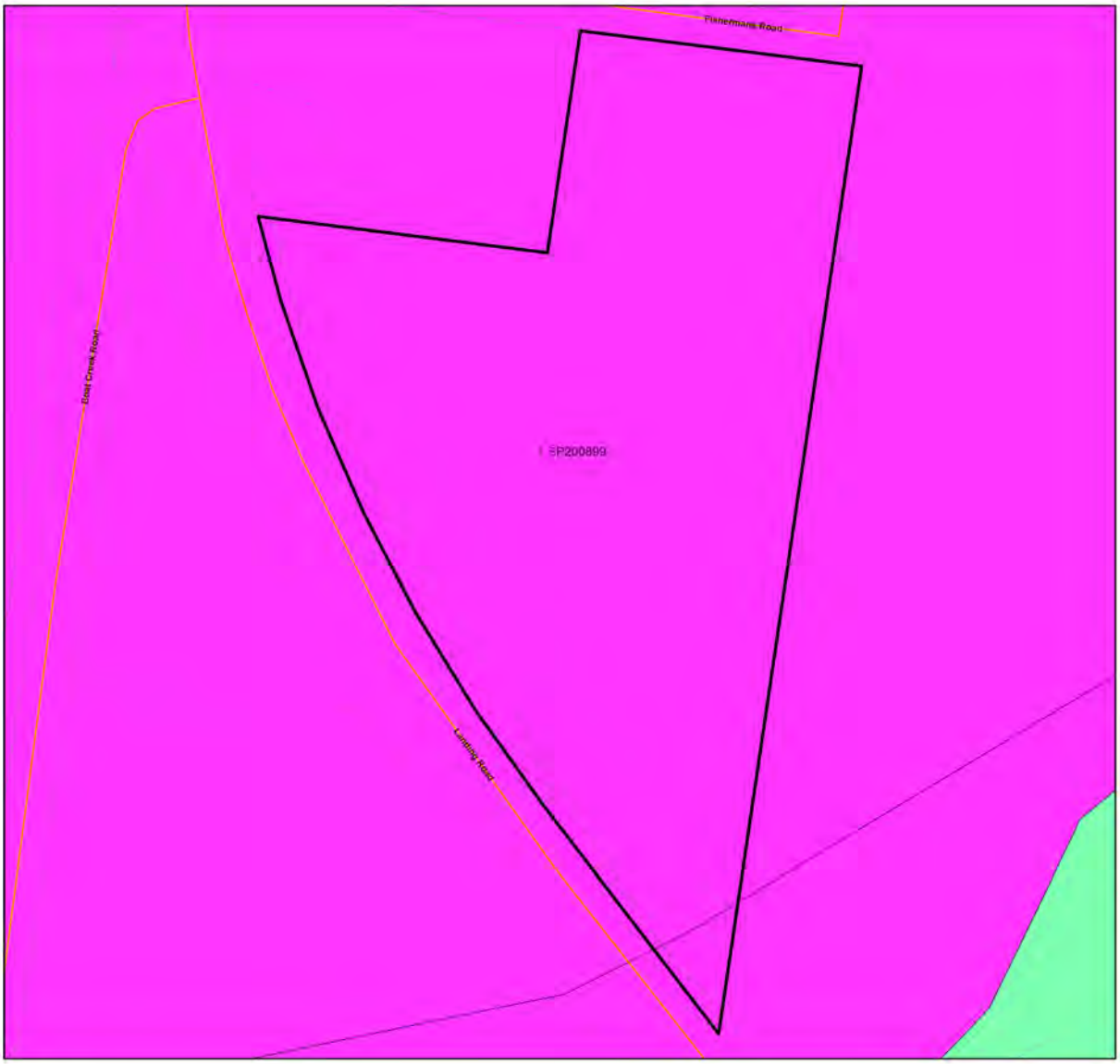
-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, 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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Canberra ACT 2601 Australia
+61 2 6274 1111



Vegetation Management Pre-clear Regional Ecosystem Map

- Highway
- Connector
- Street/Local Road
- Other land parcel boundaries
- Pre-clearing area containing Endangered RE
- Pre-clearing area containing Of Concern RE
- Pre-clearing area that is a Least Concern RE
- Water
- Selected Lot and Plan

LOCALITY DIAGRAM



N

0 19 38 57 76 95 m

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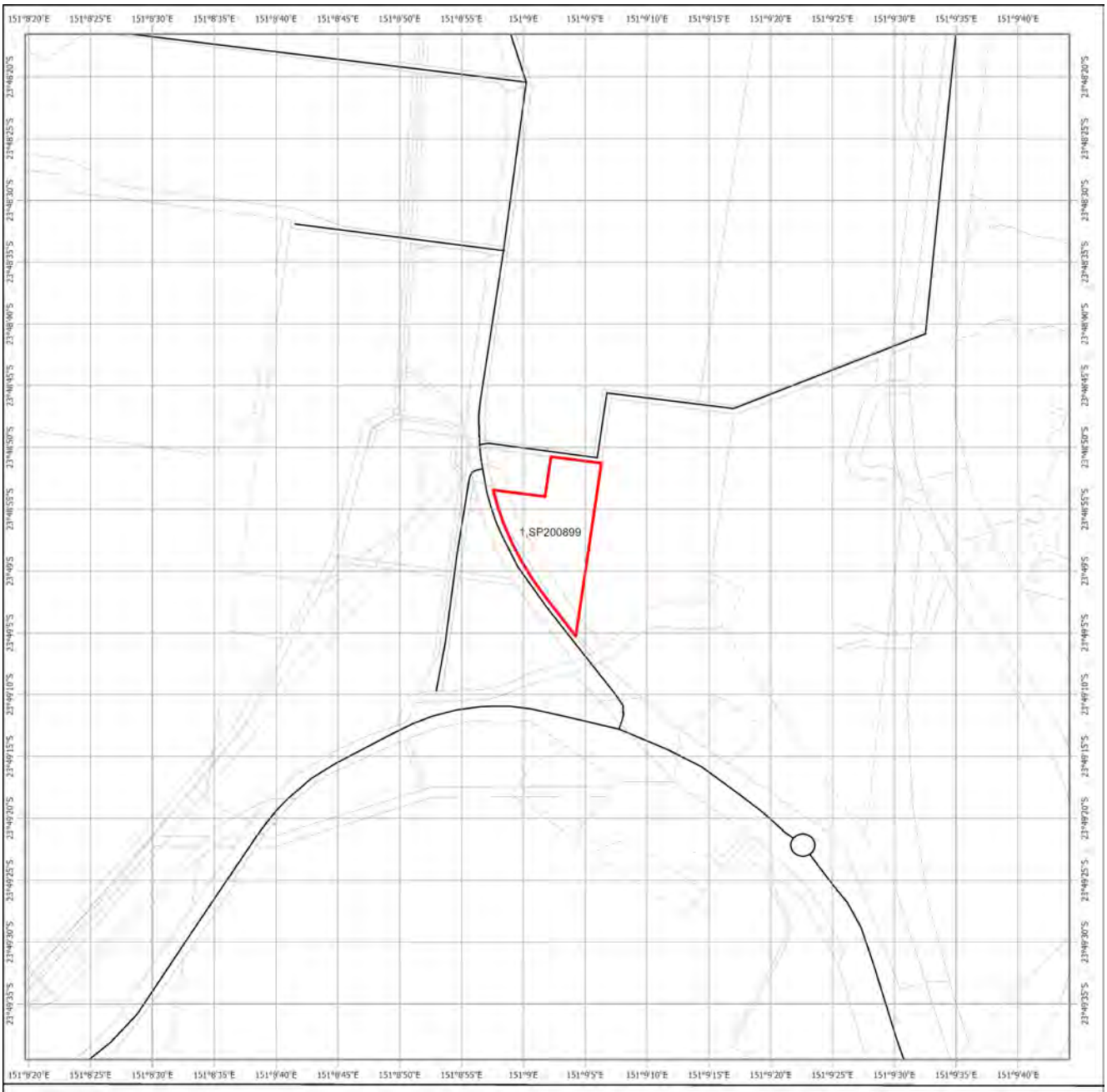
Pre-clearing regional ecosystem line-work reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only.

Digital data for the Pre-clearing regional ecosystem map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

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Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of the Environment, Tourism, Science and Innovation at palm@detsi.qld.gov.au

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Protected plants flora survey trigger map

The protected plants flora survey trigger map identifies 'high risk areas' where endangered, vulnerable or near threatened plants are known to exist or are likely to exist. Under the *Nature Conservation Act 1992* (the Act) it is an offence to clear protected plants that are 'in the wild' unless you are authorised or the clearing is exempt, for more information see section 89 of the Act.

Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for information on what exemptions may apply in your circumstances, whether you may need to undertake a flora survey, and whether you may need a protected plants clearing permit.

Updates to the data informing the flora survey trigger map
The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of the Environment, Tourism, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for more information.

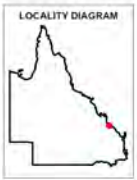


Regulated Vegetation Management Map

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Category A area (Vegetation offsets/compliance notices/VDecs)
Category B area (Remnant vegetation)
Category C area (High-value regrowth vegetation)
Category R area (Reef regrowth watercourse vegetation)
Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
Water
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



N

0 160 320 480 640 800 m

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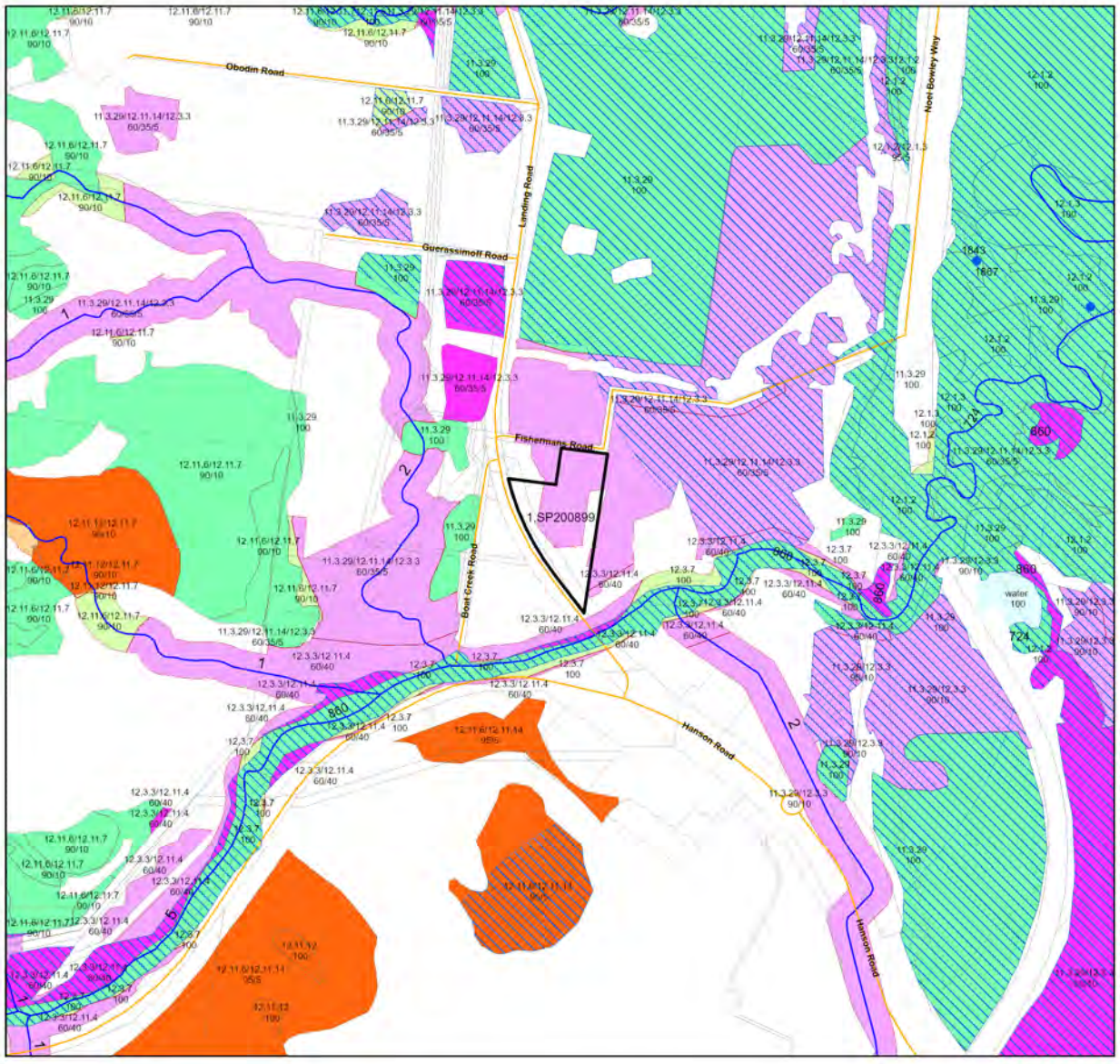
Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development.

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

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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Vegetation Management Supporting Map

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

Queensland Government

LOCALITY DIAGRAM



N

0 120 240 360 480 600 m

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

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

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

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

Land parcel boundaries are provided as locational aid only.

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Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - State Code 16: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Planning Act 2016*; and
- Accepted development vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development website http://www.nrmmrrd.qld.gov.au has more information on how the layer is applied under the State Development Assessment Provisions - State Code 16: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

1. that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
2. in which the protected wildlife, at any stage of its life cycle, is located.

Protected wildlife includes critically endangered, endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

No records



Vegetation management report

For Lot: 1 Plan: SP200899
26/08/2025

nrmmrrd.qld.gov.au

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Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of the Environment, Tourism, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of the Environment, Tourism, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of the Environment, Tourism, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

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1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 1 Plan: SP200899 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
A	CTN2165	Easement	13,350
1	SP200899	Freehold	57,500

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 1 Plan: SP200899 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 1 Plan: SP200899, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Gladstone Regional	Calliope	Southeast Queensland	Burnett - Curtis Hills and Ranges

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

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@resources.qld.gov.au

Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 1 Plan: SP200899

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category C	3.07
Category X	2.68

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.3.29	Least concern	C	1.84	Eucalyptus crebra, E. exserta, Melaleuca spp. woodland on alluvial plains	Sparse
12.11.14	Of concern	C	1.07	Eucalyptus crebra, E. tereticornis, Corymbia intermedia woodland on metamorphics +/- interbedded volcanics	Sparse
12.3.3	Endangered	C	0.15	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
non-rem	None	X	2.68	None	None

Please note:
1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife,

means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C
No records

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 1 Plan: SP200899.

4. Vegetation management framework maps

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

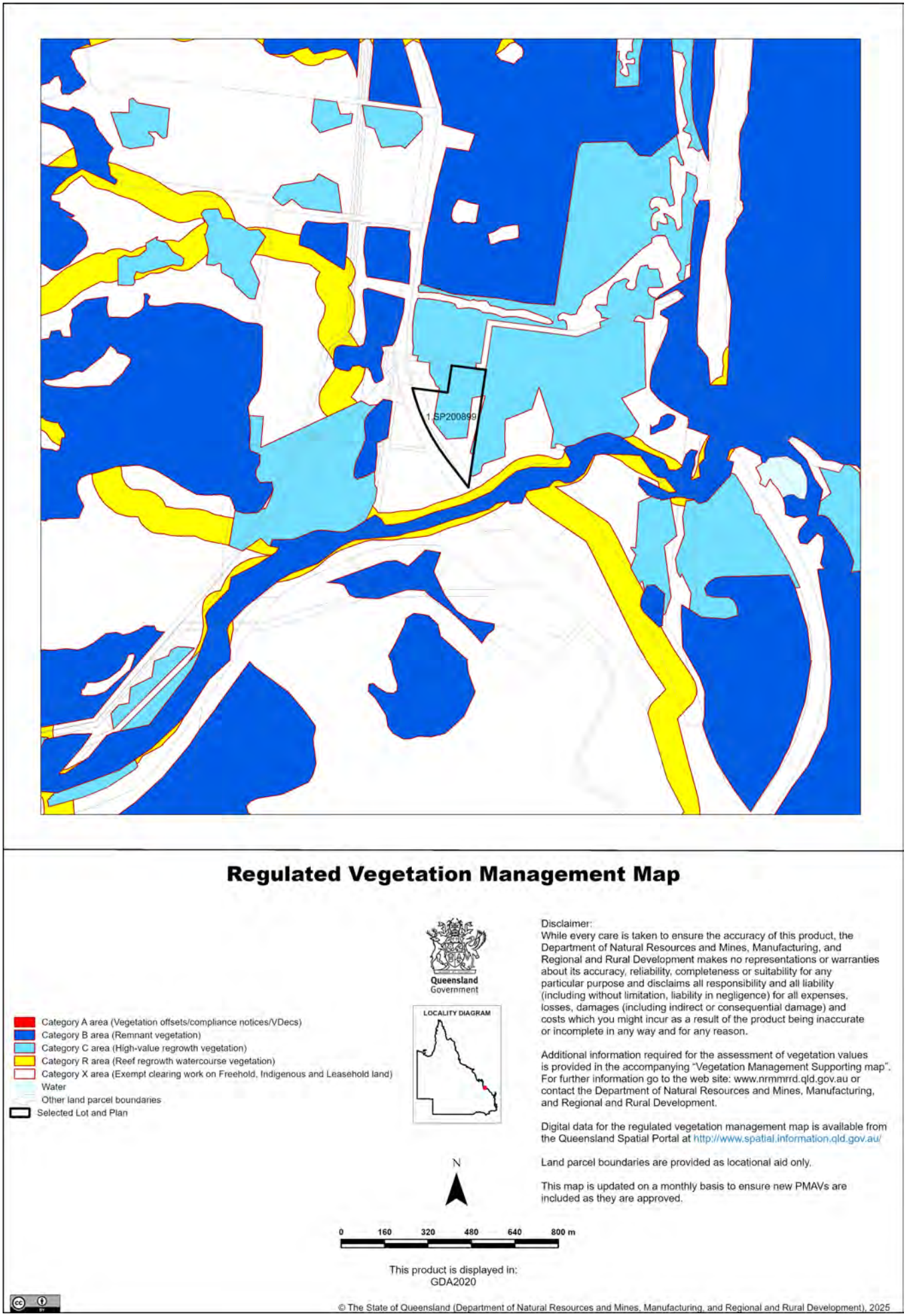
Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

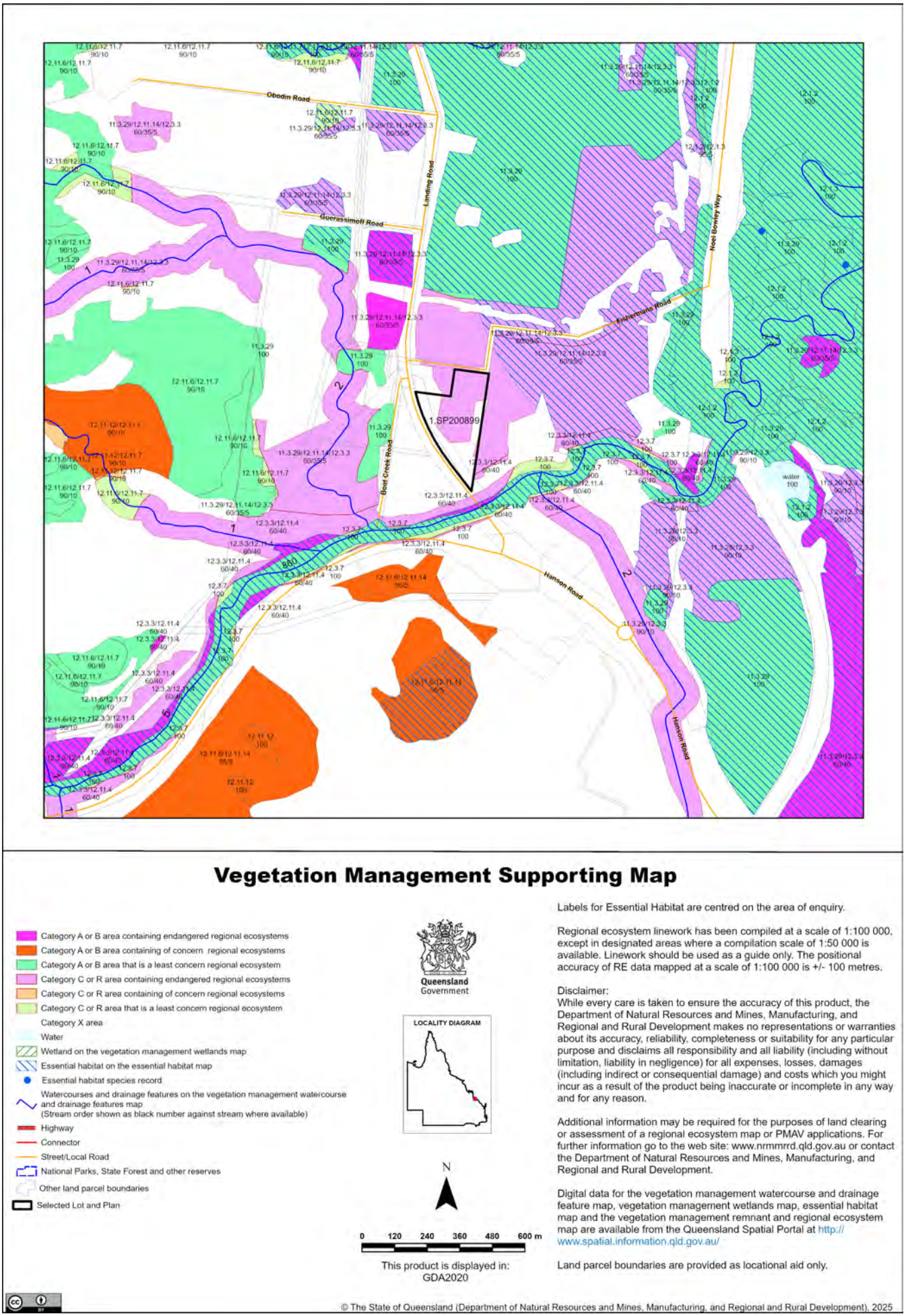
Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

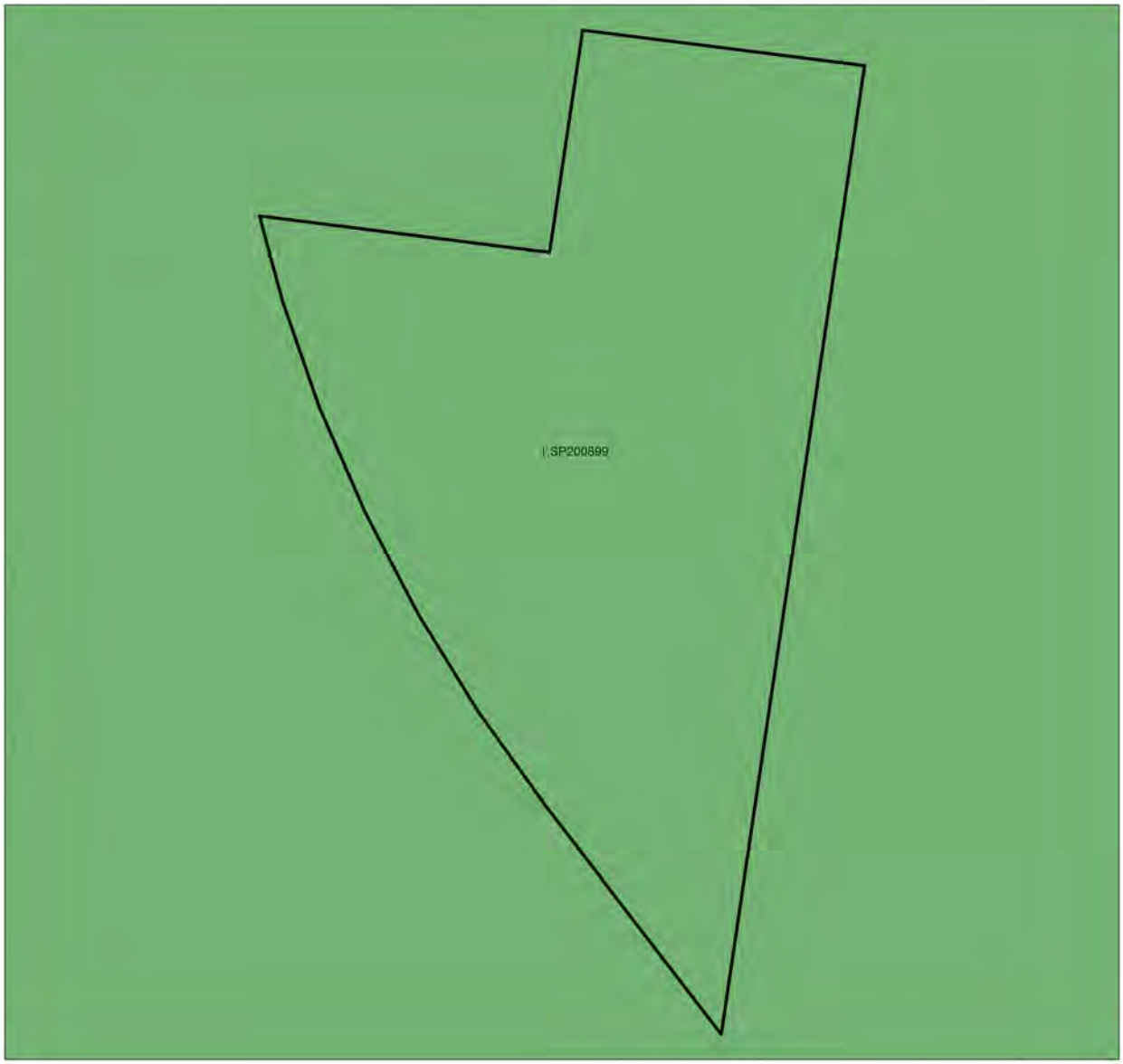
4.1 Regulated vegetation management map



4.2 Vegetation management supporting map



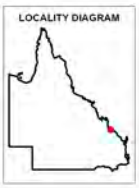
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



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Land parcel boundaries shown are provided as a locational aid only.

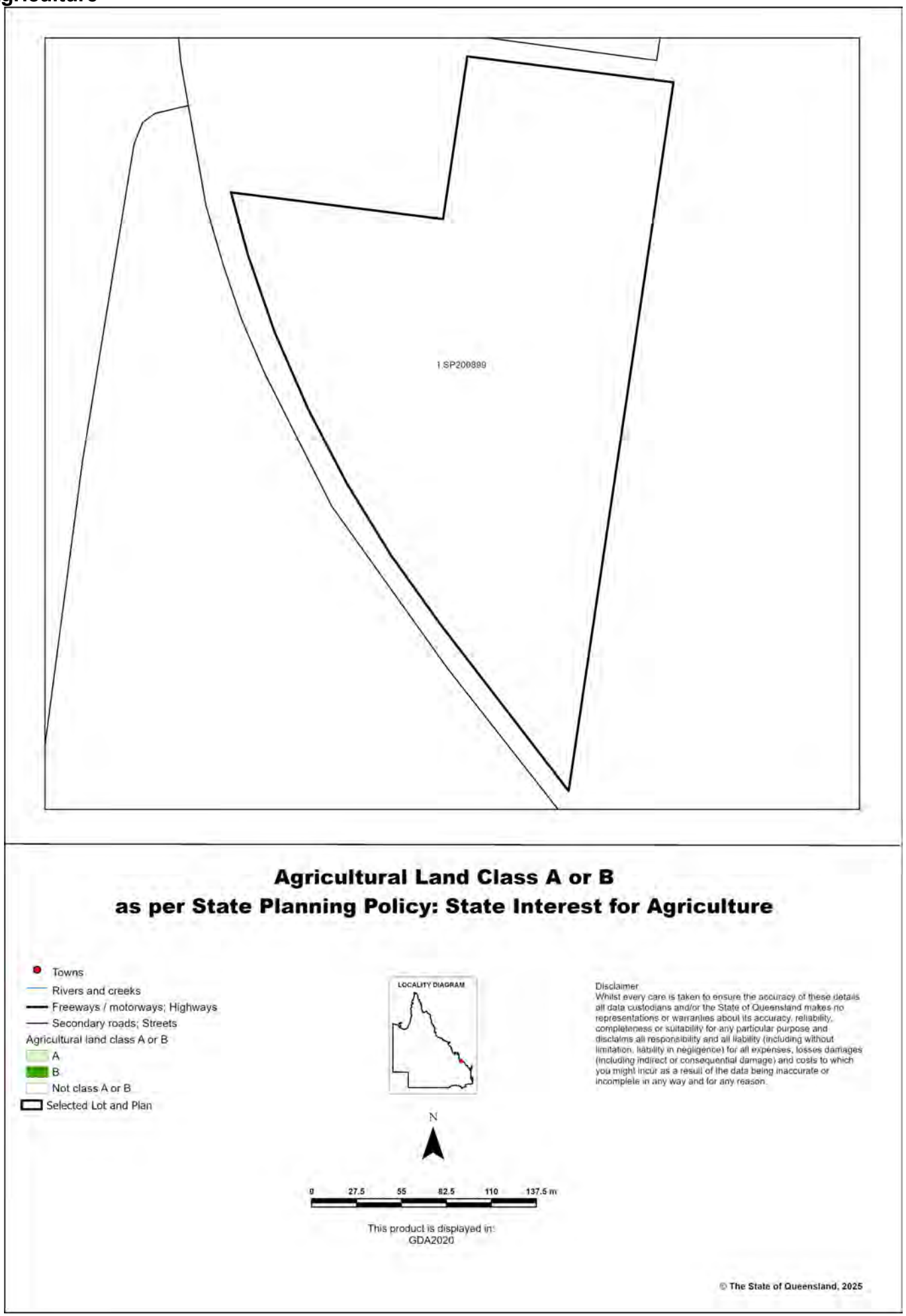
N

0 27.5 55 82.5 110 137.5 m

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4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



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

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of Endangered, Vulnerable, Near-Threatened (EVNT) plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of the Environment, Tourism, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DETSI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@detsi.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

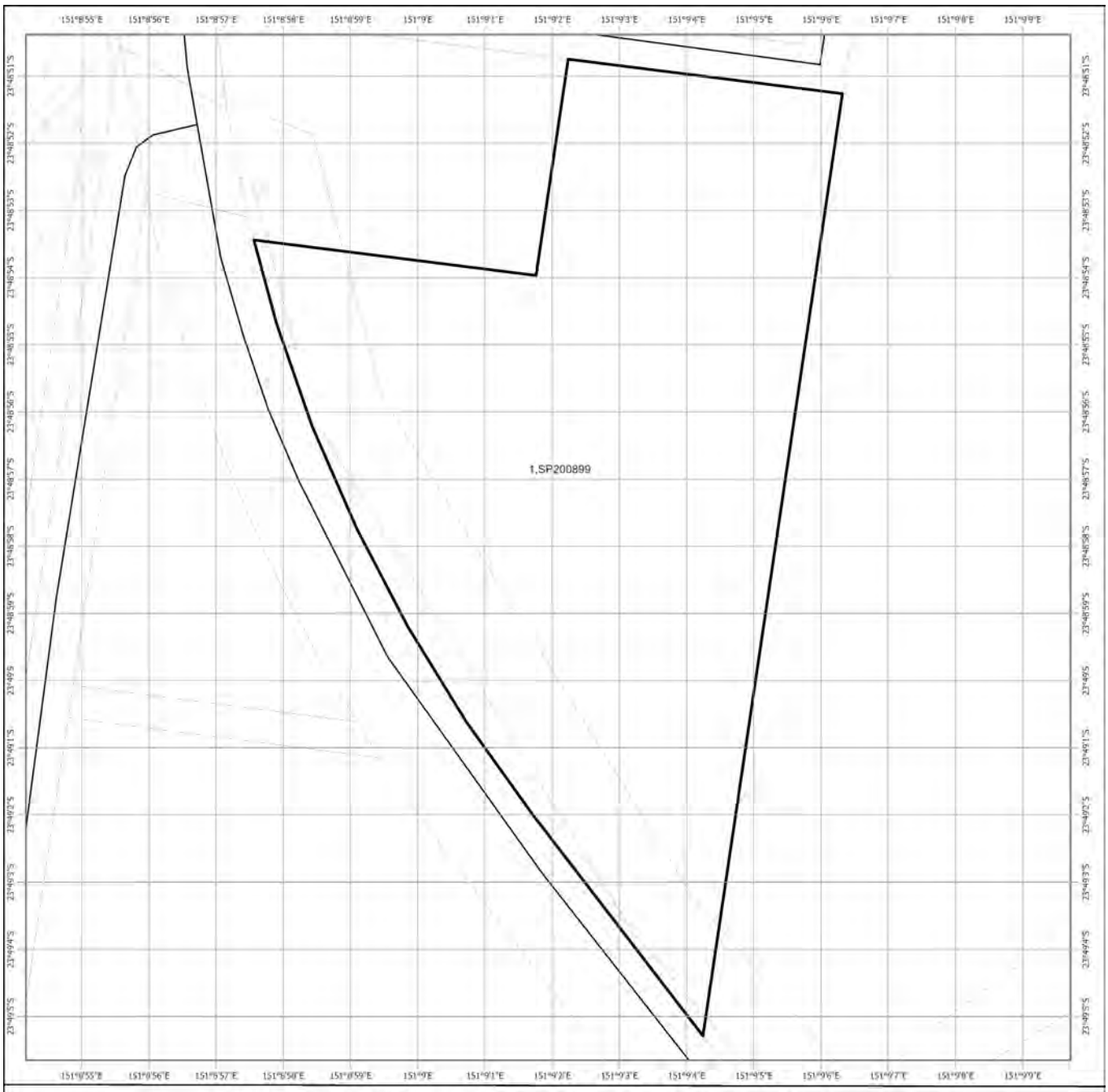
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of the Environment, Tourism, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



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0 18 36 54 72 90 m

This product is displayed in:
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This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of the Environment, Tourism, Science and Innovation at palm@detsi.qld.gov.au

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

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DETSI

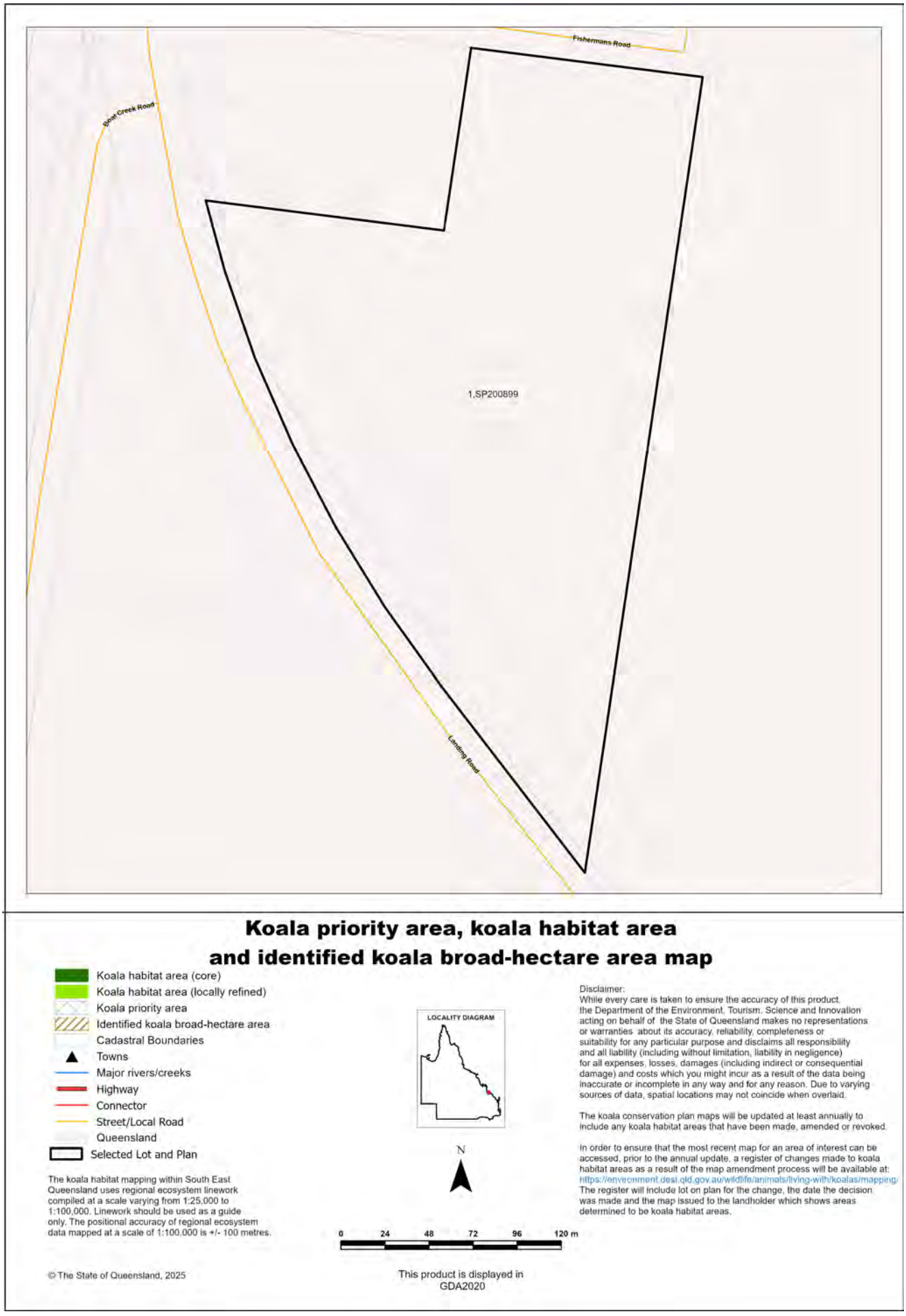
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 1 Plan: SP200899

7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



7.3 Koala habitat regional ecosystems for core koala habitat areas



Koala habitat regional ecosystems for core koala habitat areas

Koala habitat area (core)
Towns
Highway
Connector
Street/Local Road
Major rivers/creeks
Queensland
Selected Lot and Plan

LOCALITY DIAGRAM

N

0 24 48 72 96 120 m

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Due to varying sources of data, spatial locations may not coincide when overlaid.

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

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8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
Interference with overland flow	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.qld.gov.au
Mining and environmentally relevant activities Infrastructure development (coastal) Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 803 772 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory

WildNet Records
Conservation Significant Species List

For the selected area of interest Lot: 1 Plan: SP200899
Current as at 26/08/2025 WildNetCSSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 1 Plan: SP200899

Table 1. Area of interest details

Size (ha)	
5.75	
Local Government(s)	
Gladstone Regional	
Catchment(s)	
Calliope	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges

Protected Area(s)

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

World Heritage Area(s)

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

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

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

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

The WildNet Application may provide additional information on species occurence within your area of interest.

Conservation significant species are species listed:

- as threatened or near threatened under the *Nature Conservation Act 1992*;
- as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* or
- migratory species protected under the following international agreements:
    - Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
    - China-Australia Migratory Bird Agreement
    - Japan-Australia Migratory Bird Agreement
    - Republic of Korea-Australia Migratory Bird Agreement

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

Map 1. Locality Map

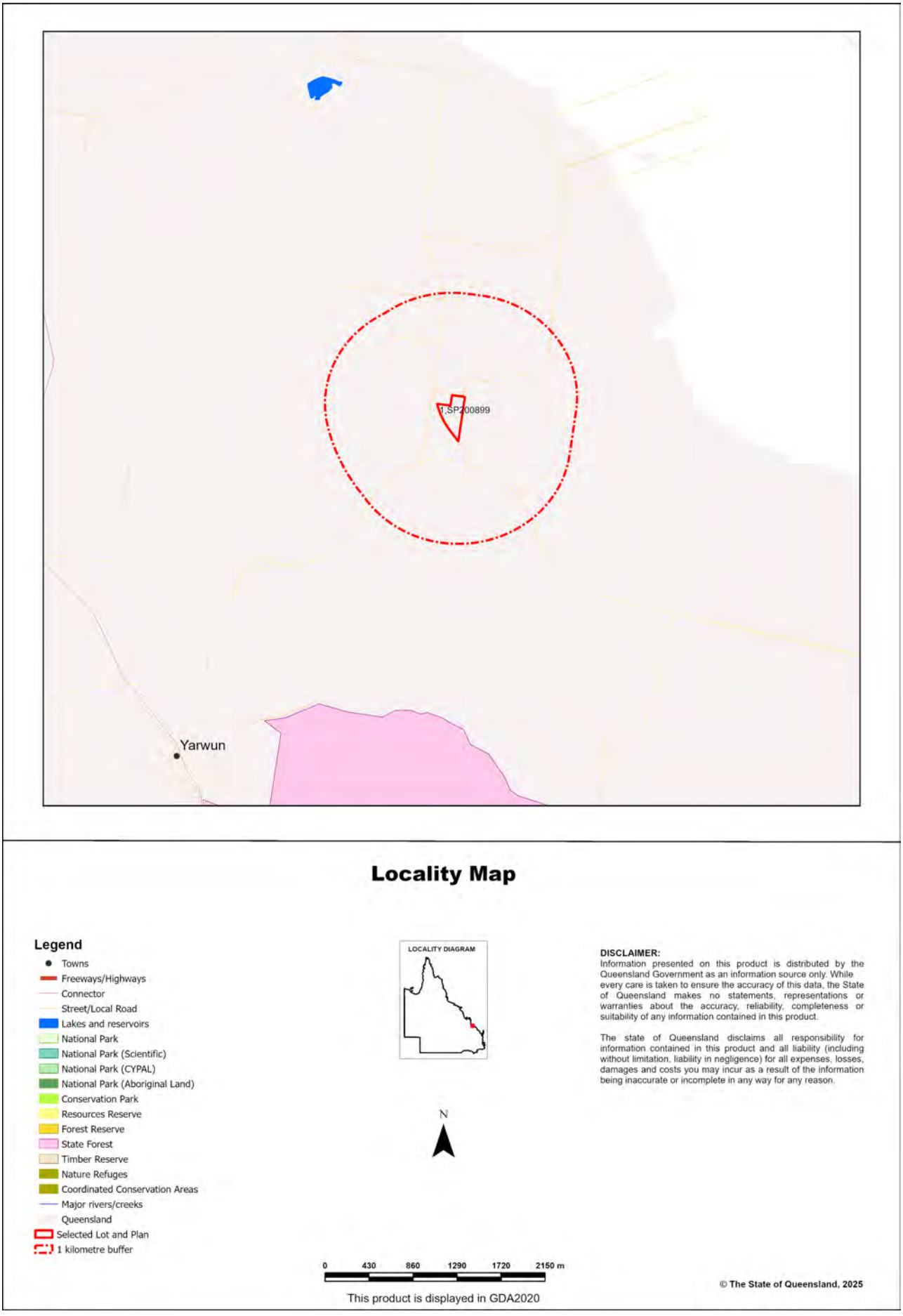


Table 2. Conservation significant species recorded within the area of interest and its one kilometre buffer

Taxon Id	Kingdom	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
15513	Plantae	Equisetopsida	Amaryllidaceae	*Crinum pedunculatum*	river lily	SL		0	1	31/01/2003
16766	Plantae	Equisetopsida	Campanulaceae	*Lobelia purpurascens*	white root	SL		0	1	31/01/2003
14339	Plantae	Equisetopsida	Hydrocharitaceae	*Ottelia ovalifolia*	swamp lily	SL		0	1	31/01/2003
14327	Plantae	Equisetopsida	Menyanthaceae	*Nymphoides indica*	water snowflake	SL		0	1	31/01/2003
17505	Plantae	Equisetopsida	Orchidaceae	*Cymbidium canaliculatum*		SL		0	1	31/01/2003
15934	Plantae	Equisetopsida	Xanthorrhoeaceae	*Xanthorrhoea johnsonii*		SL		0	1	31/01/2003
16707	Plantae	Equisetopsida	Zamiaceae	*Macrozamia miquelii*		SL		0	1	31/01/2003

Taxon Id: Unique identifier of the taxon from the WildNet database.
NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).
EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).
Specimens: The number of specimen-backed records of the taxon.
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- Queensland Globe - view spatial information, including WildNet records approved for publication
- Qld WildNet Data API - access WildNet species information approved for publication such as notes, images and records etc.
- Wetland*Maps* - view species records, survey locations etc. approved for publication
- Wetland*Summary* - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- WildNet wildlife records - published - Queensland - spatial layer of WildNet records approved for publication generated weekly
- Generalised distribution and densities of Queensland wildlife - Queensland species distributions and densities generalised to a 10 km grid resolution
- Conservation status of Queensland wildlife - access current lists of priority species for Queensland including nomenclature and status information
- Queensland Confidential Species - the list of species flagged as confidential in the WildNet database.

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

Other useful sites for accessing Queensland biodiversity data include:

- Useful wildlife resources
- Queensland Government Data
- Atlas of Living Australia (ALA)
- Online Zoological Collections of Australian Museums (OZCAM)
- Australasian Virtual Herbarium (AVH)
- Protected Matters Search Tool

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WildNet Records
Introduced Species List

For the selected area of interest 5.75 Lot: 1 Plan: SP200899
Current as at 26/08/2025 WildNetIntroducedSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 1 Plan: SP200899

Table 1. Area of interest details

Size (ha)	
5.75	
Local Government(s)	
Gladstone Regional	
Catchment(s)	
Calliope	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges

Protected Area(s)

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

World Heritage Area(s)

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

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The WildNet Application may provide additional information on species occurence within your area of interest.

Species data

Contextual location information is presented in Map 1.

A summary of the Introduced species recorded within the area of interest and its one kilometre buffer is presented in Tables 2 and 3.

Map 1. Locality Map

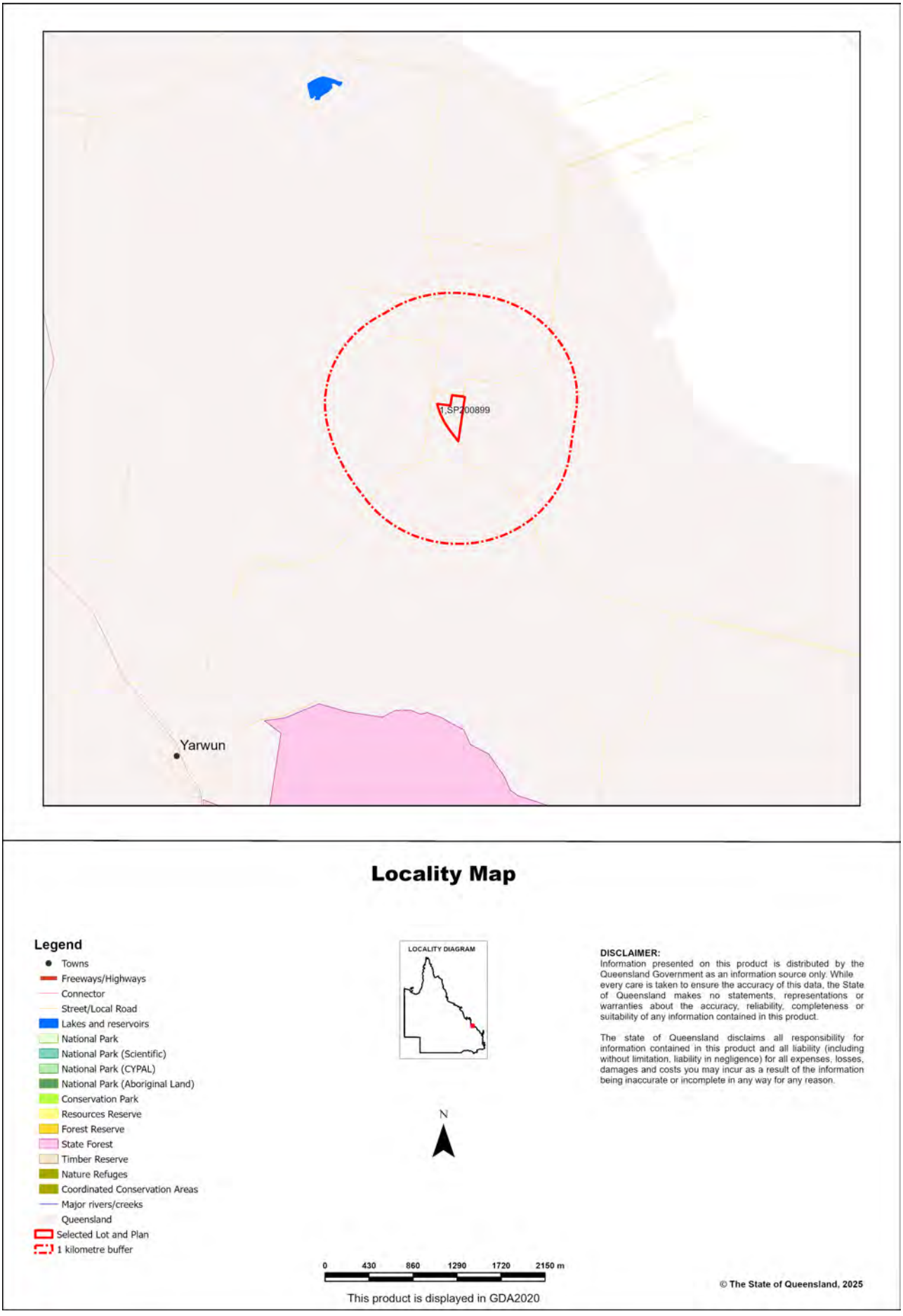


Table 2. Introduced animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Kingdom	Class	Family	Scientific Name	Common Name	Specimens	Records	Last record	Establishment Code
27055	Animalia	Actinopterygii	Poeciliidae	*Gambusia holbrooki*	mosquitofish	0	2	31/01/1999	II
716	Animalia	Amphibia	Bufonidae	*Rhinella marina*	cane toad	0	3	31/12/1999	II
834	Animalia	Mammalia	Leporidae	*Oryctolagus cuniculus*	rabbit	0	1	31/12/1999	II
764	Animalia	Mammalia	Muridae	*Mus musculus*	house mouse	0	1	31/12/1999	II

Taxon Id: Unique identifier of the taxon from the WildNet database.
Specimens: The number of specimen-backed records of the taxon.
Records: The total number of records of the taxon.
Last record: Date of most recent record of the taxon.
Establishment: Code describing how the taxon is established in Queensland. The list of code description can be accessed from the WildNet Data API.

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

Taxon Id	Kingdom	Class	Family	Scientific Name	Common Name	Specimens	Records	Last record	Establishment Code
19722	Plantae	Equisetopsida	Agavaceae	*Agave americana*		0	1	31/01/2003	NAQ
11849	Plantae	Equisetopsida	Amaranthaceae	*Alternanthera pungens*	khaki weed	0	1	31/01/2003	NAQ
17981	Plantae	Equisetopsida	Amaranthaceae	*Amaranthus viridis*	green amaranth	0	1	31/01/2003	NAQ
17051	Plantae	Equisetopsida	Amaranthaceae	*Gomphrena celosioides*	gomphrena weed	0	1	31/01/2003	NAQ
16720	Plantae	Equisetopsida	Anacardiaceae	*Mangifera indica*	mango	0	1	31/01/2003	NAQ
17935	Plantae	Equisetopsida	Apocynaceae	*Asclepias curassavica*	red-head cottonbush	0	1	31/01/2003	NAQ
17710	Plantae	Equisetopsida	Apocynaceae	*Catharanthus roseus*	pink periwinkle	0	1	31/01/2003	NAQ
15479	Plantae	Equisetopsida	Apocynaceae	*Cryptostegia grandiflora*	rubber vine	0	1	31/01/2003	NAQ
17050	Plantae	Equisetopsida	Apocynaceae	*Gomphocarpus physocarpus*	balloon cottonbush	0	1	31/01/2003	NAQ
11155	Plantae	Equisetopsida	Apocynaceae	*Nerium oleander*	oleander	0	1	31/01/2003	NAQ
22101	Plantae	Equisetopsida	Arecaceae	*Syagrus romanzoffiana*	Queen palm	0	1	31/01/2003	NAQ
14051	Plantae	Equisetopsida	Asteraceae	*Ageratum houstonianum*	blue billygoat weed	0	1	31/01/2003	NAQ
15612	Plantae	Equisetopsida	Asteraceae	*Baccharis halimifolia*	groundsel bush	0	1	31/01/2003	NAQ
14045	Plantae	Equisetopsida	Asteraceae	*Bidens bipinnata*	bipinnate beggar's ticks	0	1	31/01/2003	NAQ
7691	Plantae	Equisetopsida	Asteraceae	*Bidens pilosa*		0	1	31/01/2003	NAQ

15574	Plantae	Equisetopsida	Asteraceae	*Carduus thoermeri*	nodding thistle	0	1	31/01/2003	NAQ
14001	Plantae	Equisetopsida	Asteraceae	*Cirsium vulgare*	spear thistle	0	1	31/01/2003	NAQ
15401	Plantae	Equisetopsida	Asteraceae	*Emilia sonchifolia*		0	1	31/01/2003	NAQ
35896	Plantae	Equisetopsida	Asteraceae	*Erigeron bonariensis*		0	1	31/01/2003	NAQ
15039	Plantae	Equisetopsida	Asteraceae	*Sonchus oleraceus*	common sowthistle	0	1	31/01/2003	NAQ
35909	Plantae	Equisetopsida	Asteraceae	*Symphyotrichum subulatum*		0	1	31/01/2003	NAQ
14987	Plantae	Equisetopsida	Asteraceae	*Tridax procumbens*	tridax daisy	0	1	31/01/2003	NAQ
9090	Plantae	Equisetopsida	Balsaminaceae	*Impatiens walleriana*	balsam	0	1	31/01/2003	NAQ
19352	Plantae	Equisetopsida	Cactaceae	*Opuntia stricta*		0	1	31/01/2003	NAQ
13988	Plantae	Equisetopsida	Caricaceae	*Carica papaya*	pawpaw	0	1	31/01/2003	NAQ
21934	Plantae	Equisetopsida	Crassulaceae	*Bryophyllum delagoense*		0	1	31/01/2003	NAQ
11062	Plantae	Equisetopsida	Cyperaceae	*Cyperus papyrus*	papyrus	0	1	31/01/2003	NAQ
17160	Plantae	Equisetopsida	Euphorbiaceae	*Euphorbia cyathophora*	dwarf poinsettia	0	1	31/01/2003	NAQ
18679	Plantae	Equisetopsida	Lamiaceae	*Leucas lavandulifolia*		0	1	31/01/2003	NAQ
10918	Plantae	Equisetopsida	Leguminosae	*Bauhinia variegata*		0	1	31/01/2003	NAQ
18779	Plantae	Equisetopsida	Leguminosae	*Crotalaria pallida*		0	1	31/01/2003	NAQ
9165	Plantae	Equisetopsida	Leguminosae	*Delonix regia*	poinciana	0	1	31/01/2003	NAQ
15461	Plantae	Equisetopsida	Leguminosae	*Desmodium triflorum*		0	1	31/01/2003	NAQ
15235	Plantae	Equisetopsida	Leguminosae	*Macroptilium atropurpureum*	siratro	0	1	31/01/2003	NAQ
9873	Plantae	Equisetopsida	Leguminosae	*Medicago polymorpha*	burr medic	0	1	31/01/2003	NAQ
14990	Plantae	Equisetopsida	Leguminosae	*Trifolium repens var. repens*	white clover	0	1	31/01/2003	NAQ
14927	Plantae	Equisetopsida	Malvaceae	*Abutilon grandifolium*		0	1	31/01/2003	NAQ
16195	Plantae	Equisetopsida	Malvaceae	*Sida cordifolia*		0	1	31/01/2003	NAQ
16146	Plantae	Equisetopsida	Malvaceae	*Sida rhombifolia*		0	2	22/07/2010	NAQ

15990	Plantae	Equisetopsida	Malvaceae	*Urena lobata*	urena weed	0	1	31/01/2003	NAQ
19941	Plantae	Equisetopsida	Nymphaeaceae	*Nymphaea caerulea*		0	1	31/01/2003	NAQ
9457	Plantae	Equisetopsida	Oxalidaceae	*Oxalis corniculata*		0	1	31/01/2003	NAQ
19740	Plantae	Equisetopsida	Papaveraceae	*Argemone ochroleuca*		0	1	31/01/2003	NAQ
16530	Plantae	Equisetopsida	Passifloraceae	*Passiflora foetida*		0	1	22/07/2010	NAQ
16532	Plantae	Equisetopsida	Passifloraceae	*Passiflora suberosa*	corky passion flower	0	1	31/01/2003	NAQ
12030	Plantae	Equisetopsida	Pinaceae	*Pinus elliottii*	slash pine	0	1	31/01/2003	NAQ
18225	Plantae	Equisetopsida	Plantaginaceae	*Mecardonia procumbens*		1	1	25/02/2014	NAQ
15541	Plantae	Equisetopsida	Poaceae	*Cenchrus echinatus*	Mossman River grass	0	1	31/01/2003	NAQ
15551	Plantae	Equisetopsida	Poaceae	*Chloris gayana*	rhodes grass	0	1	31/01/2003	NAQ
15527	Plantae	Equisetopsida	Poaceae	*Chloris virgata*	feathertop rhodes grass	0	1	31/01/2003	NAQ
15486	Plantae	Equisetopsida	Poaceae	*Cynodon dactylon*		0	1	31/01/2003	NAQ
11066	Plantae	Equisetopsida	Poaceae	*Digitaria didactyla*	Queensland blue couch	0	1	31/01/2003	NAQ
15378	Plantae	Equisetopsida	Poaceae	*Eragrostis tenuifolia*	elastic grass	0	1	31/01/2003	NAQ
10578	Plantae	Equisetopsida	Poaceae	*Hyparrhenia rufa*		0	1	22/07/2010	NAQ
15803	Plantae	Equisetopsida	Poaceae	*Hyparrhenia rufa subsp. rufa*		0	1	31/01/2003	NAQ
29093	Plantae	Equisetopsida	Poaceae	*Megathyrsus maximus*		0	1	31/01/2003	NAQ
15242	Plantae	Equisetopsida	Poaceae	*Melinis minutiflora*	molasses grass	0	1	22/07/2010	NAQ
9154	Plantae	Equisetopsida	Poaceae	*Melinis repens*	red natal grass	0	2	22/07/2010	NAQ
15134	Plantae	Equisetopsida	Poaceae	*Paspalum dilatatum*	paspalum	0	1	31/01/2003	NAQ
15043	Plantae	Equisetopsida	Poaceae	*Sorghum halepense*	Johnson grass	0	1	31/01/2003	NAQ
2359	Plantae	Equisetopsida	Poaceae	*Urochloa mutica*		0	1	31/01/2003	NAQ
16359	Plantae	Equisetopsida	Portulacaceae	*Portulaca oleracea*	pigweed	0	1	31/01/2003	NAQ
14109	Plantae	Equisetopsida	Rosaceae	*Eriobotrya japonica*	loquat	0	1	31/01/2003	NAQ

21837	Plantae	Equisetopsida	Rutaceae	*Murraya paniculata 'Exotica'*		0	1	31/01/2003	NAQ
17496	Plantae	Equisetopsida	Solanaceae	*Datura stramonium*	common thornapple	0	1	31/01/2003	NAQ
13788	Plantae	Equisetopsida	Solanaceae	*Solanum nigrum*		0	1	31/01/2003	NAQ
16120	Plantae	Equisetopsida	Solanaceae	*Solanum seaforthianum*	Brazilian nightshade	0	1	31/01/2003	NAQ
16126	Plantae	Equisetopsida	Solanaceae	*Solanum torvum*	devil's fig	0	1	31/01/2003	NAQ
15983	Plantae	Equisetopsida	Sparrmanniaceae	*Triumfetta rhomboidea*	chinese burr	0	1	31/01/2003	NAQ
19905	Plantae	Equisetopsida	Verbenaceae	*Lantana camara*	lantana	0	2	22/07/2010	NAQ
13853	Plantae	Equisetopsida	Verbenaceae	*Lantana montevidensis*	creeping lantana	0	1	31/01/2003	NAQ
16143	Plantae	Equisetopsida	Verbenaceae	*Stachytarpheta jamaicensis*	Jamaica snakeweed	0	1	31/01/2003	NAQ
15951	Plantae	Equisetopsida	Verbenaceae	*Verbena bonariensis*	purpletop	0	1	31/01/2003	NAQ

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

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest
Lot: 1 Plan: SP200899

Environmental Reports - General Information

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

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

Figures in tables may be affected by rounding.

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

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

Important Note to User

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

For matters relevant to vegetation management under the VMA, please refer to the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development website https://www.nrmmrrd.qld.gov.au/

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

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Summary Information

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

Table 1: Details for area of interest:
Lot: 1 Plan: SP200899, with area 5.75 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Gladstone Regional	Calliope	Southeast Queensland	Burnett - Curtis Hills and Ranges

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

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

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

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

Regional Ecosystems

1. Introduction

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

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

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

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

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

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

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

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

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

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

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

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

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

2. Remnant Regional Ecosystems

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

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

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
non-remnant	None	None	5.75	100.02

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

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

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

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
non-remnant	None	None	None	None

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

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

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

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

Regional Ecosystem	Special Values
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

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

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

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

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

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	5.75	100.02

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

4. Technical and BioCondition Benchmark Descriptions

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

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

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

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

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

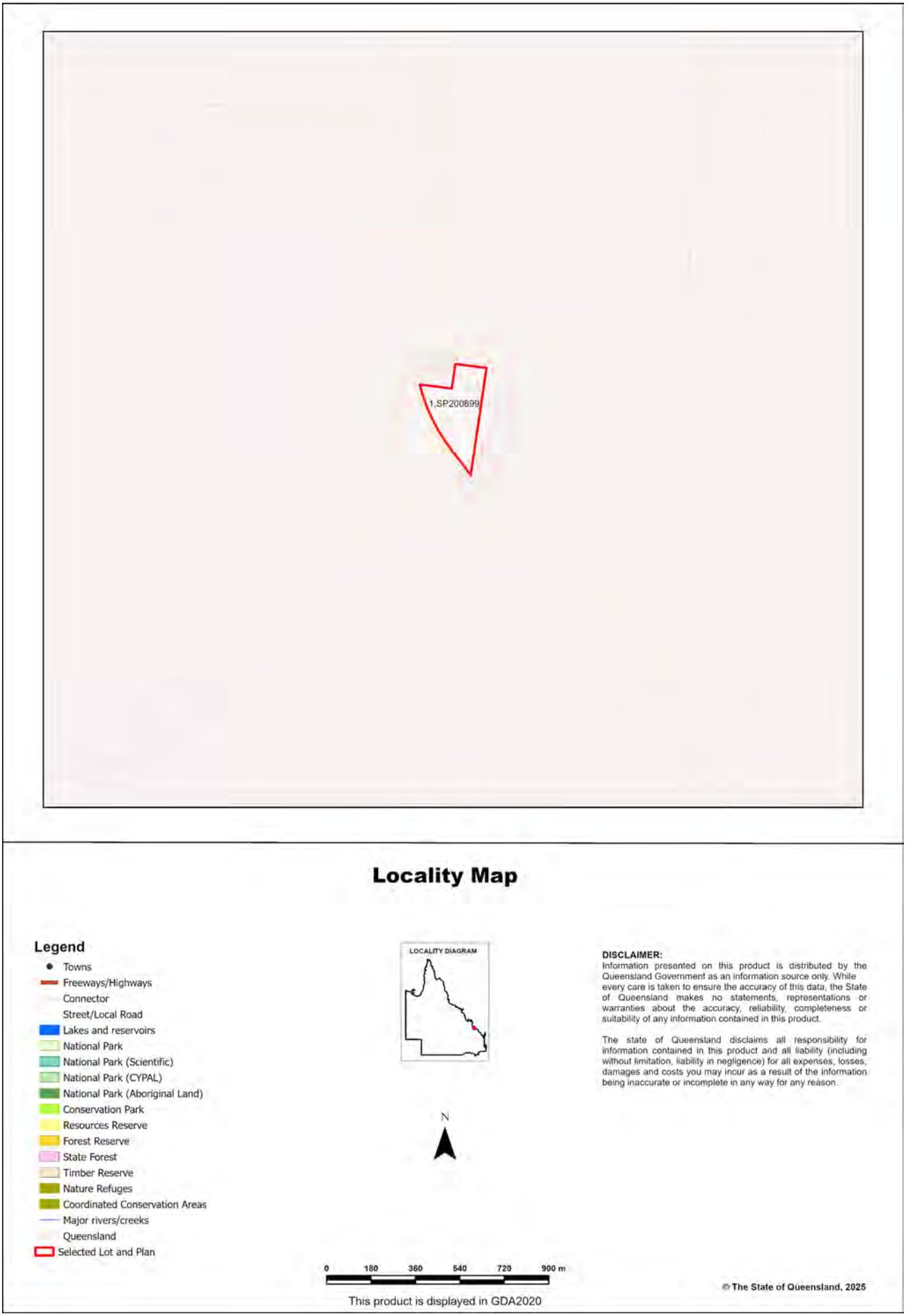
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance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

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

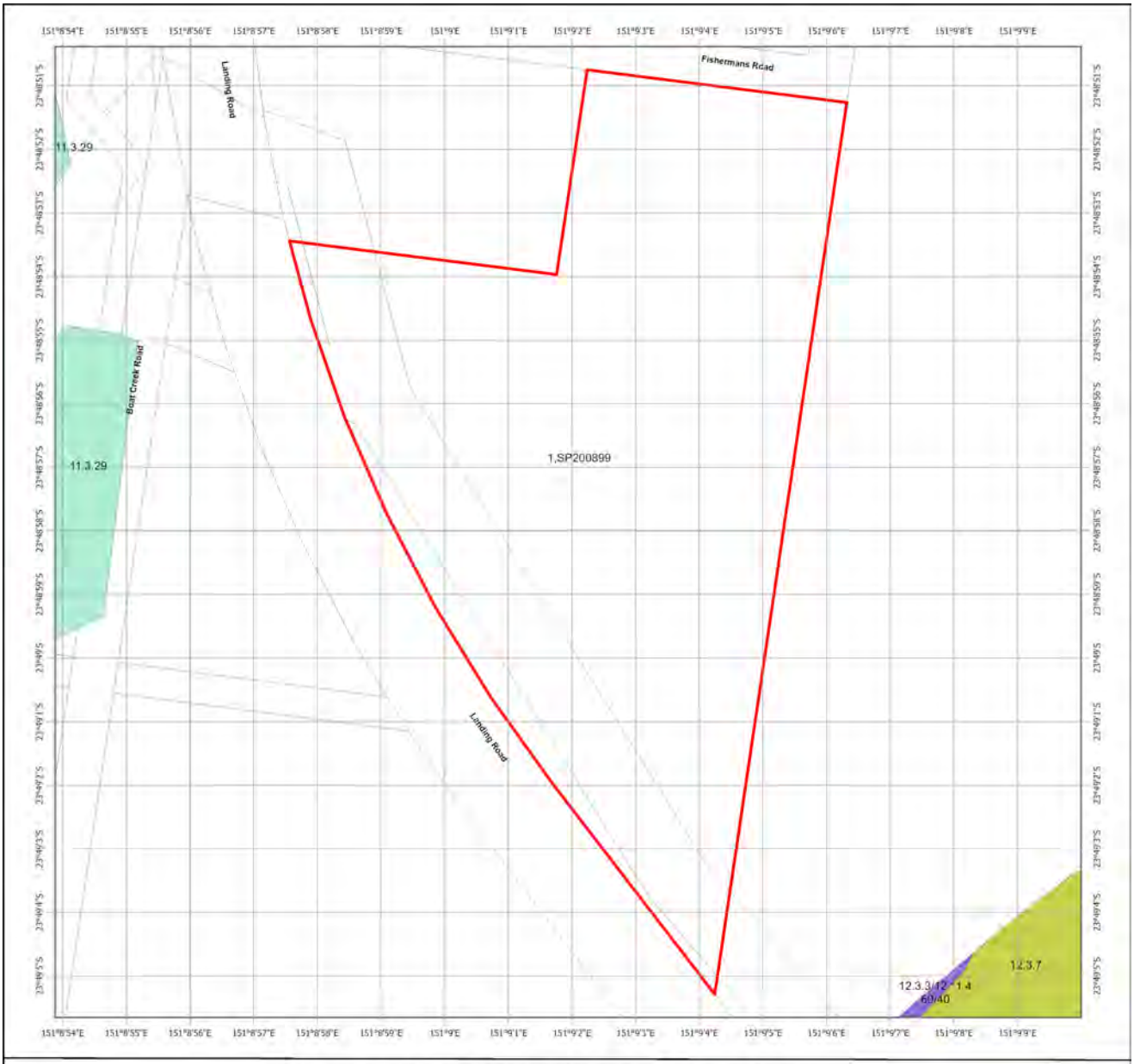
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
non-remnant	Not currently available	Not currently available

Maps

Map 1 - Location



Map 2 - Remnant 2021 regional ecosystems



Remnant 2021 Regional Ecosystems

Biodiversity Status

- Endangered - Dominant vegetation
- Endangered - Sub-dominant
- Of Concern - Dominant
- Of Concern - Sub-dominant
- No concern at present
- Non-remnant vegetation, cultivated or built environment
- Plantation
- Water
- Cadastral Boundaries
- Selected Lot and Plan

LOCALITY DIAGRAM



N

0 0.03 0.06 0.09 0.12 km

This product is projected into GDA2020

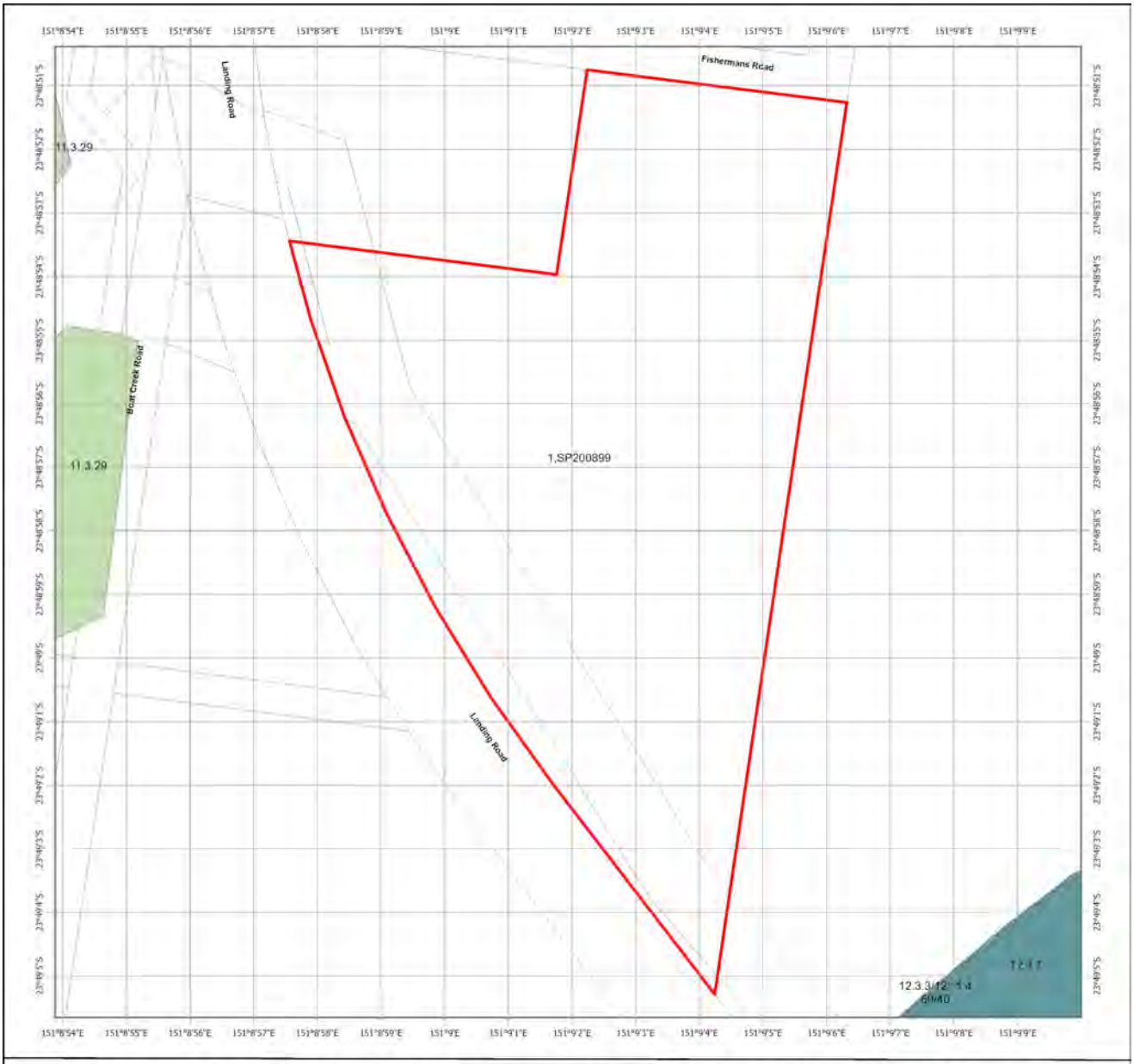
Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres.
Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The polygons are labelled by regional ecosystem (RE); where more than one RE occurs, the percentage of each is labelled. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework".
Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records.

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Map 3 - Pre-clearing regional ecosystems



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



Remnant 2021 Regional Ecosystems coloured by Broad Vegetation Groups

Broad Vegetation Groups
BVG5M Description (BVG1M codes)

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

Non-remnant vegetation, cultivated or built environment
Water
Cadastral Boundaries
Selected Lot and Plan

LOCALITY DIAGRAM

N

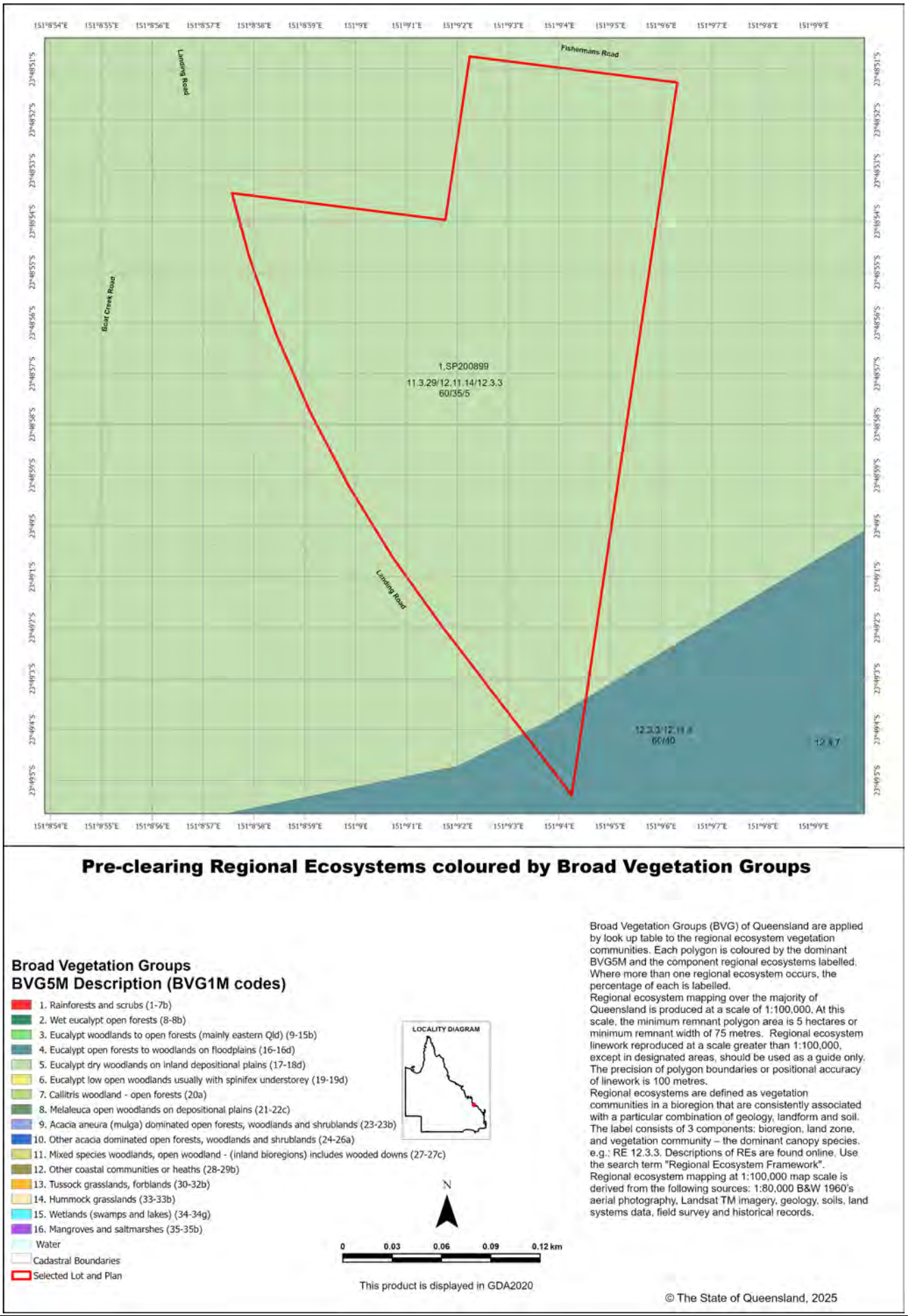
0 0.03 0.06 0.09 0.12 km

This product is displayed in GDA2020

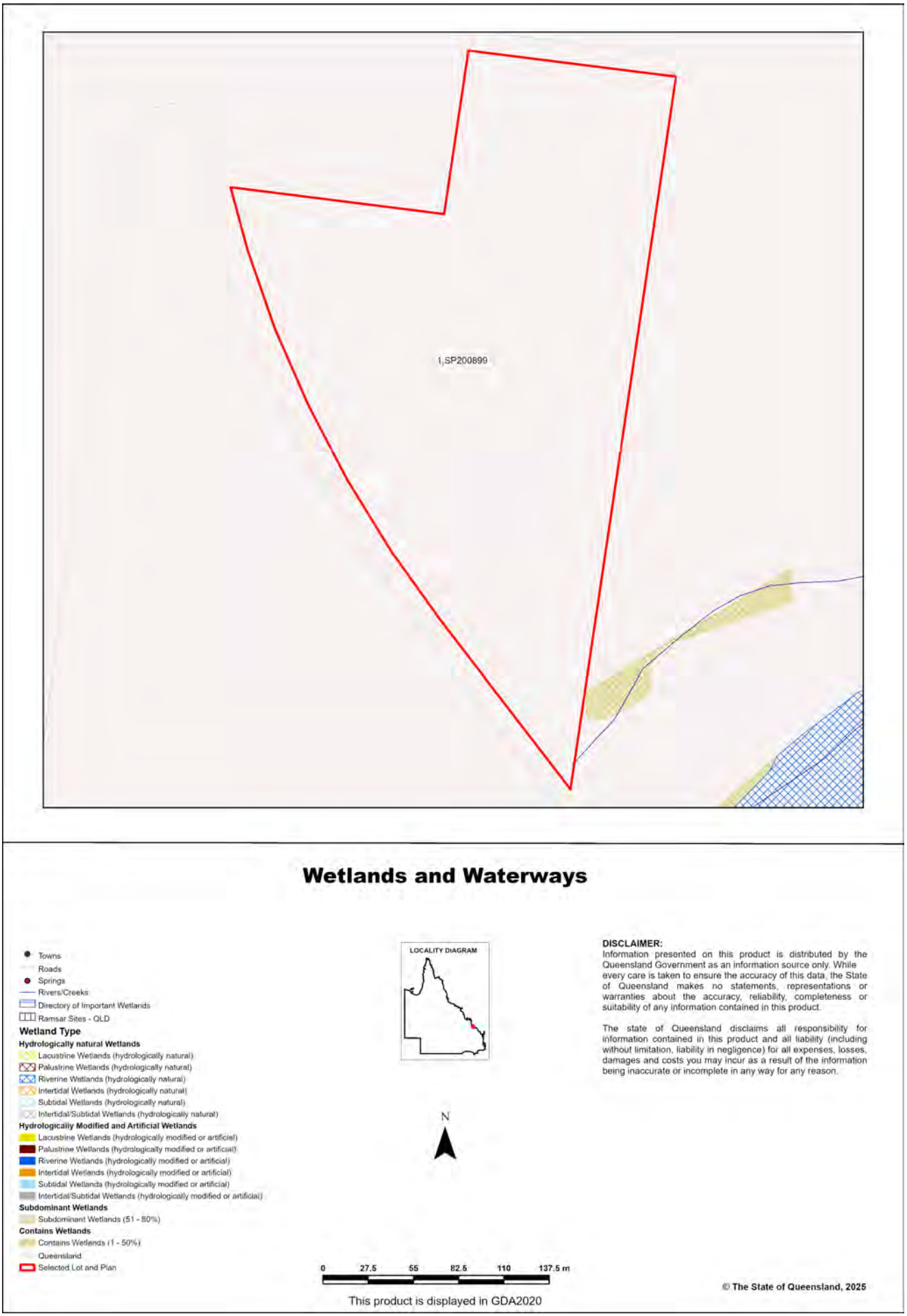
Broad Vegetation Groups (BVG) of Queensland are applied by look up table to the regional ecosystem vegetation communities. Each polygon is coloured by the dominant BVG5M and the component regional ecosystems labelled. Where more than one regional ecosystem occurs, the percentage of each is labelled.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

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



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of the Environment, Tourism, Science and Innovation's Website - http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/ provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from: https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation

The methodology for mapping regional ecosystems can be downloaded from: https://www.qld.gov.au/__data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from: http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/

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

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

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

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science. (https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086)

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F, Richter,D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane. (https://www.qld.gov.au/__data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf).

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

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:
http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/

- Regional Ecosystem Description Database

The datasets listed below are available for download from:
Queensland Spatial Catalogue : Queensland Government (information.qld.gov.au)

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

Appendix 2 - Acronyms and Abbreviations

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

Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 1 Plan: SP200899

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@detsi.qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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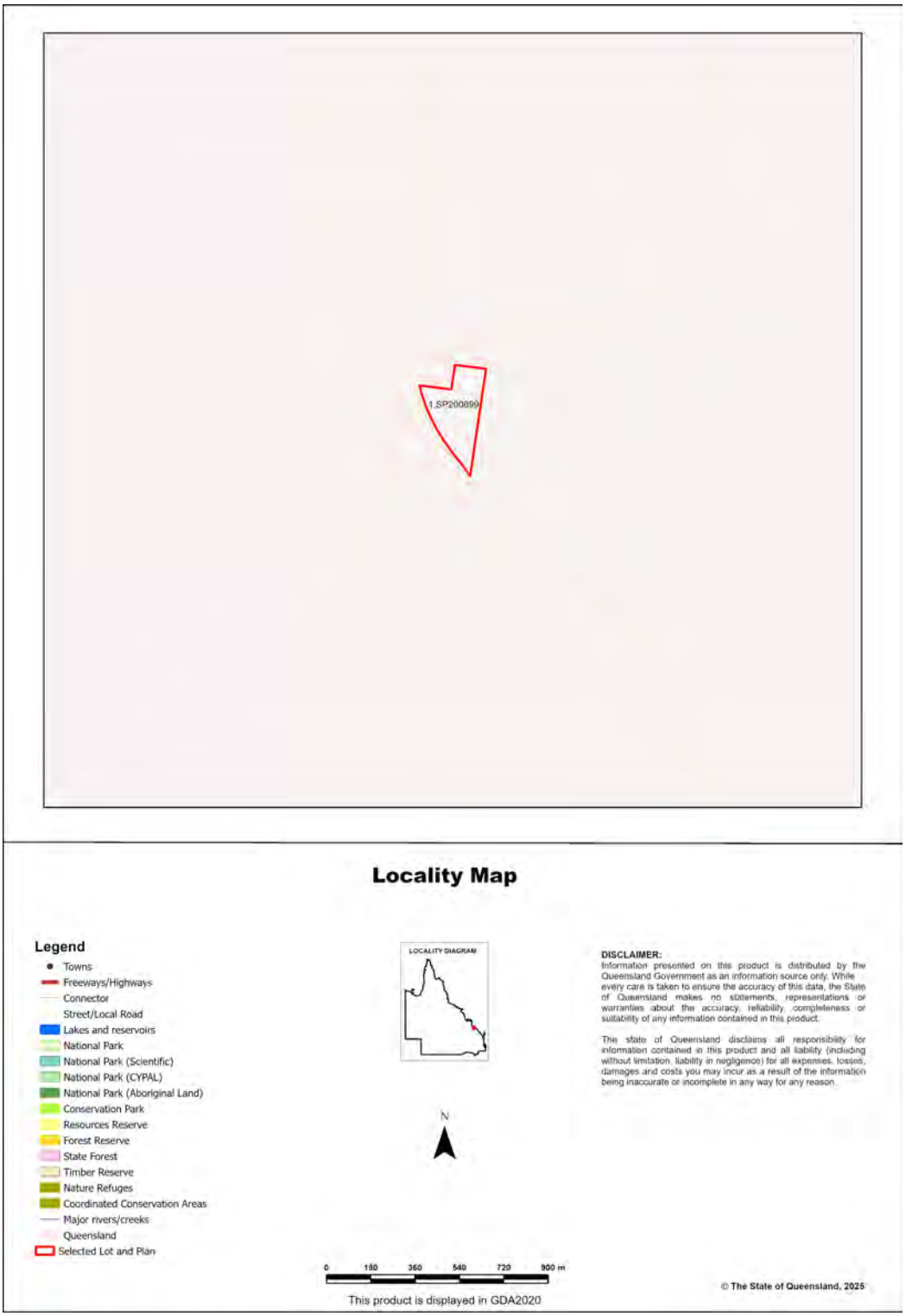
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Assessment Area Details

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

Table 1: Summary table, details for AOI: Lot: 1 Plan: SP200899, with area 5.75 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Gladstone Regional	Calliope	Southeast Queensland	Burnett - Curtis Hills and Ranges



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	0 ha	0.0%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	0 ha	0.0%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	3.07 ha	53.4%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0 ha	0.0%
8d Regulated Vegetation - Essential habitat	0 ha	0.0%
8e Regulated Vegetation - intersecting a watercourse	0 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

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

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(No results)

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

(no results)

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

(no results)

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

(no results)

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

MSES - Species

7a. Threatened (endangered or vulnerable) wildlife

Not applicable

7b. Special least concern animals

Not applicable

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

Not applicable

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

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

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

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

Threatened (endangered or vulnerable) wildlife species records

(No results)

Special least concern animal species records

(No results)

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

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

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

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

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

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

MSES - Regulated Vegetation

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

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

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

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

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

Not applicable

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

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.29/12.11.14/12.3.3	E-subdom	hvr_end

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

Not applicable

8d. Regulated Vegetation - Essential habitat

Not applicable

8e. Regulated Vegetation - intersecting a watercourse**

Not applicable

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland
Not applicable

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

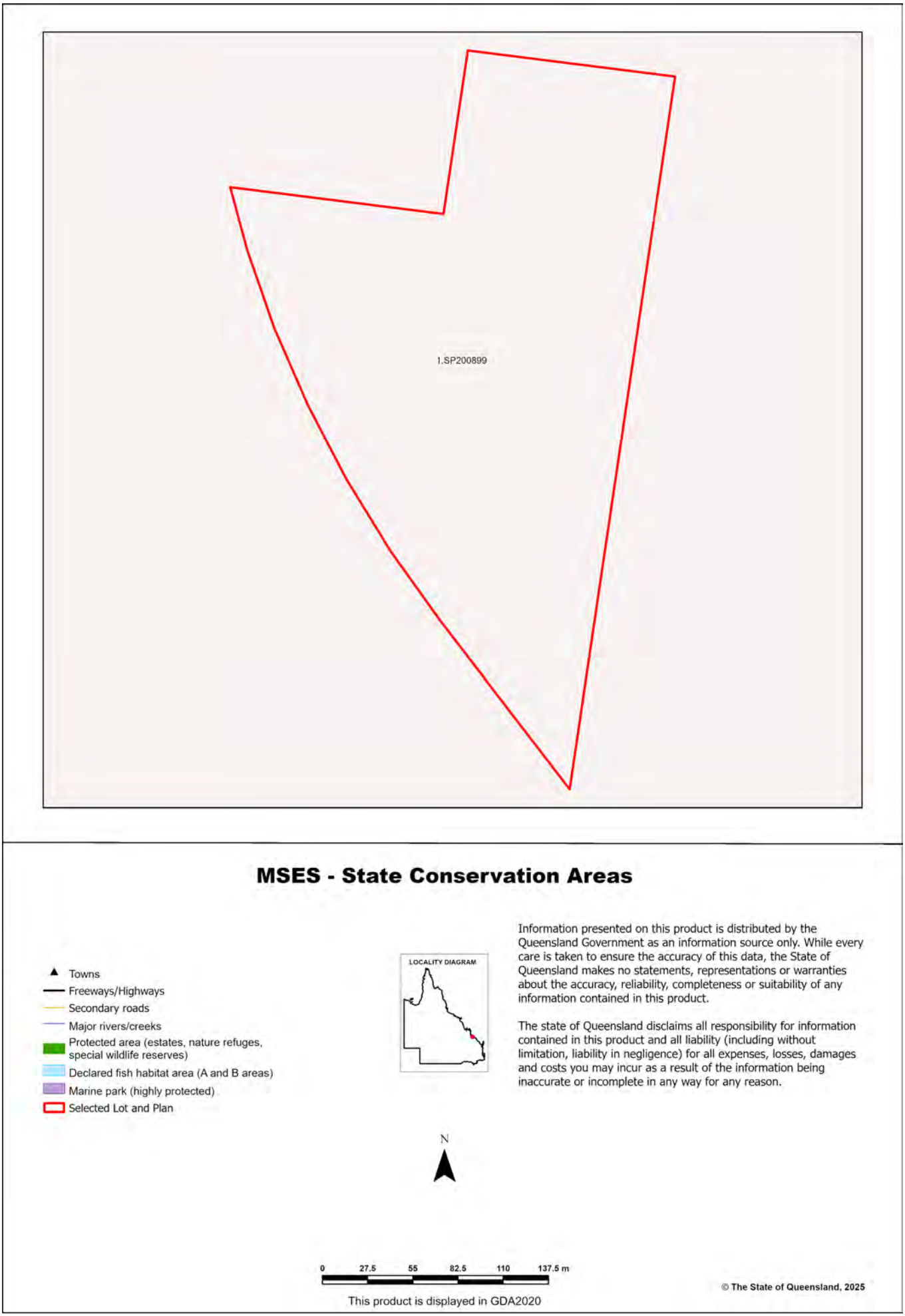
MSES - Offsets

9a. Legally secured offset areas - offset register areas
(No results)

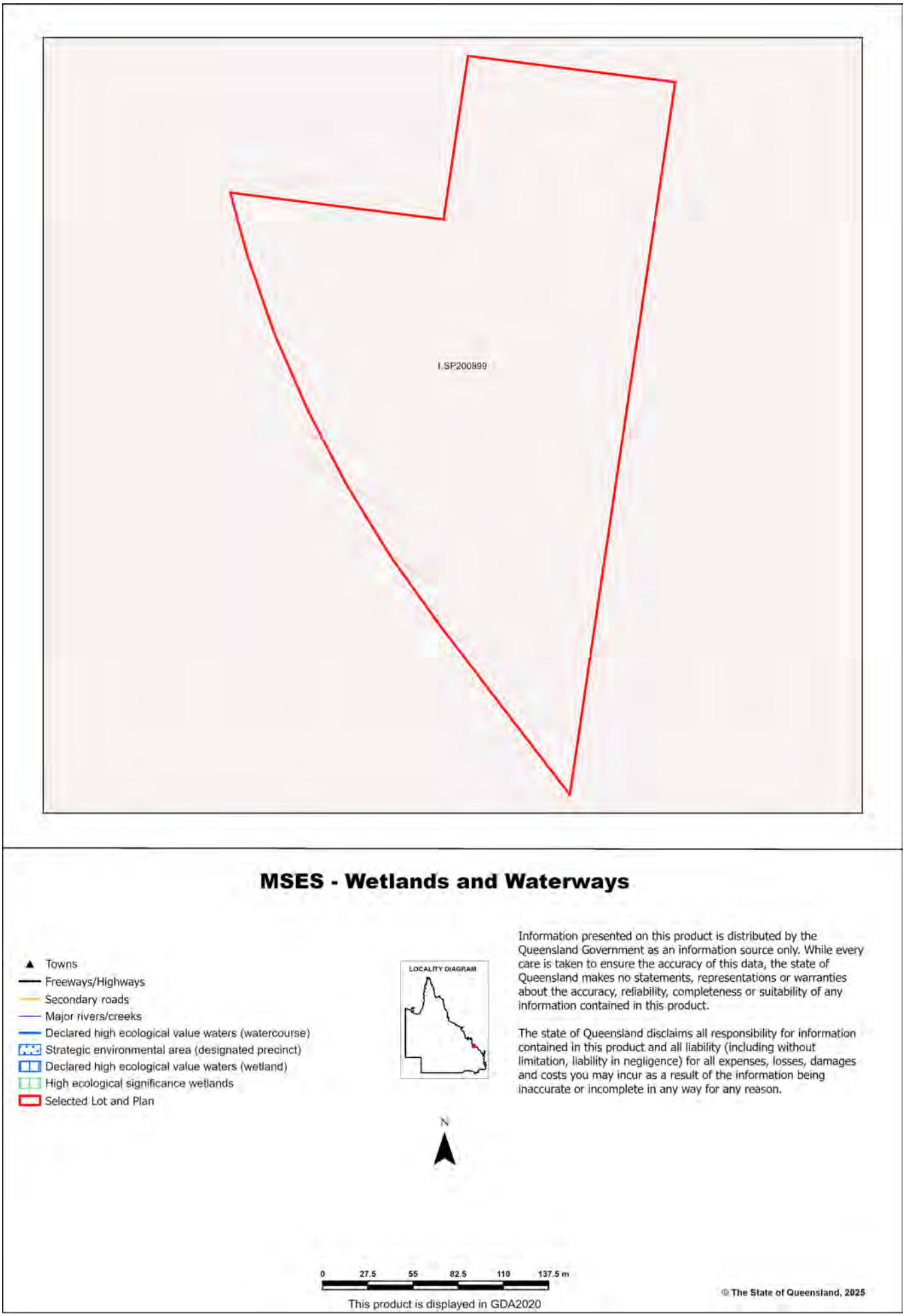
9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation
(No results)

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

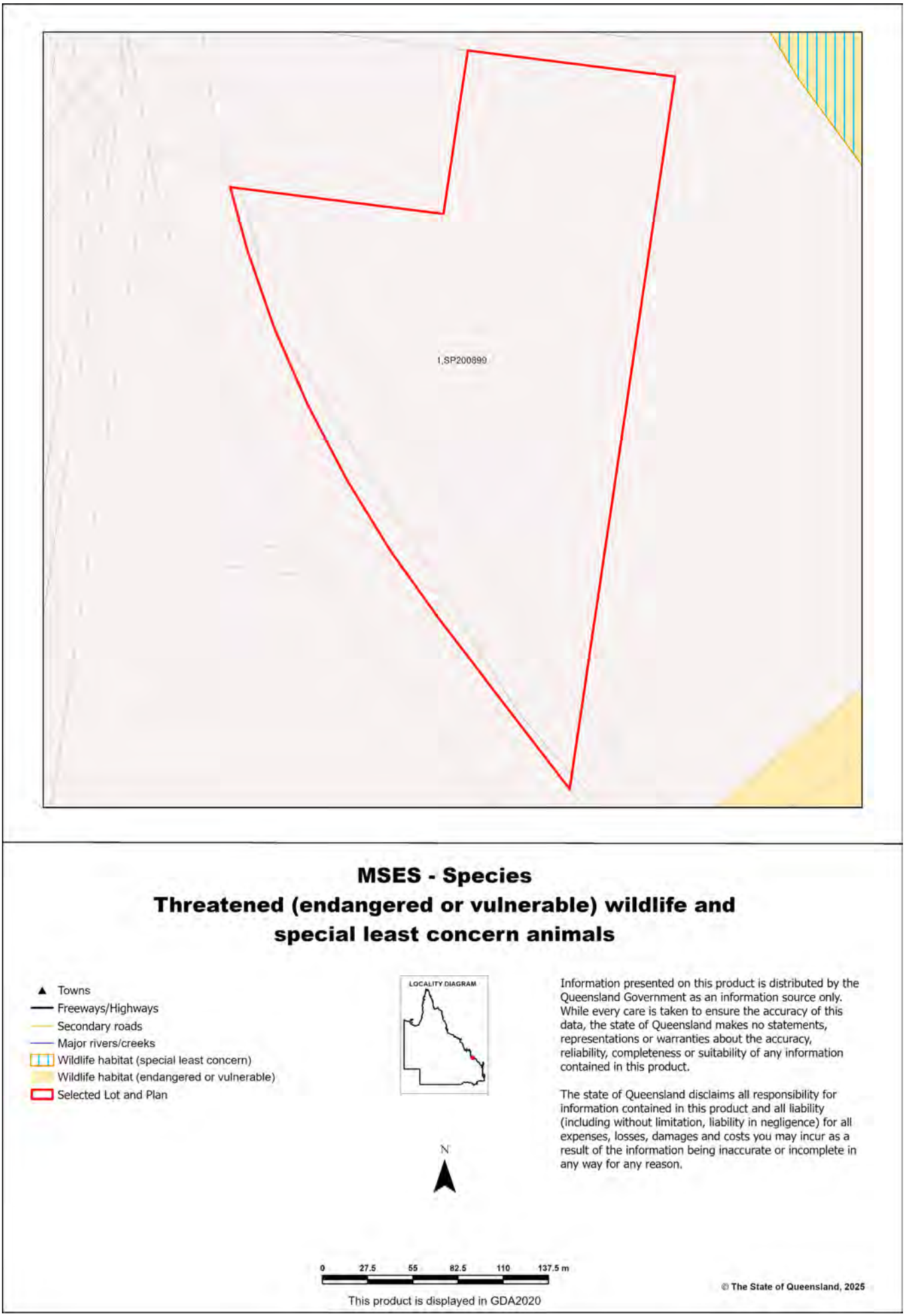
Map 1 - MSES - State Conservation Areas



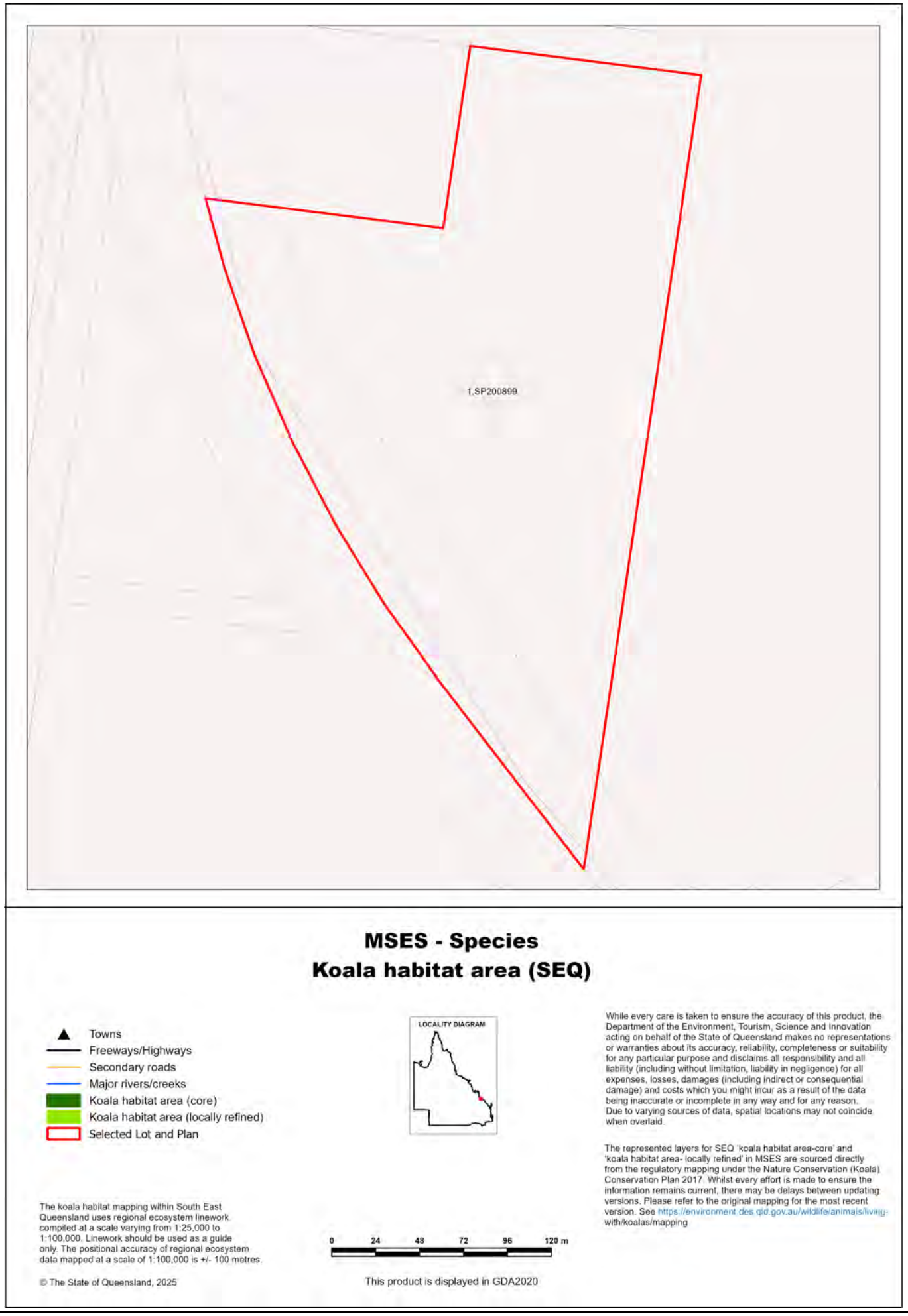
Map 2 - MSES - Wetlands and Waterways



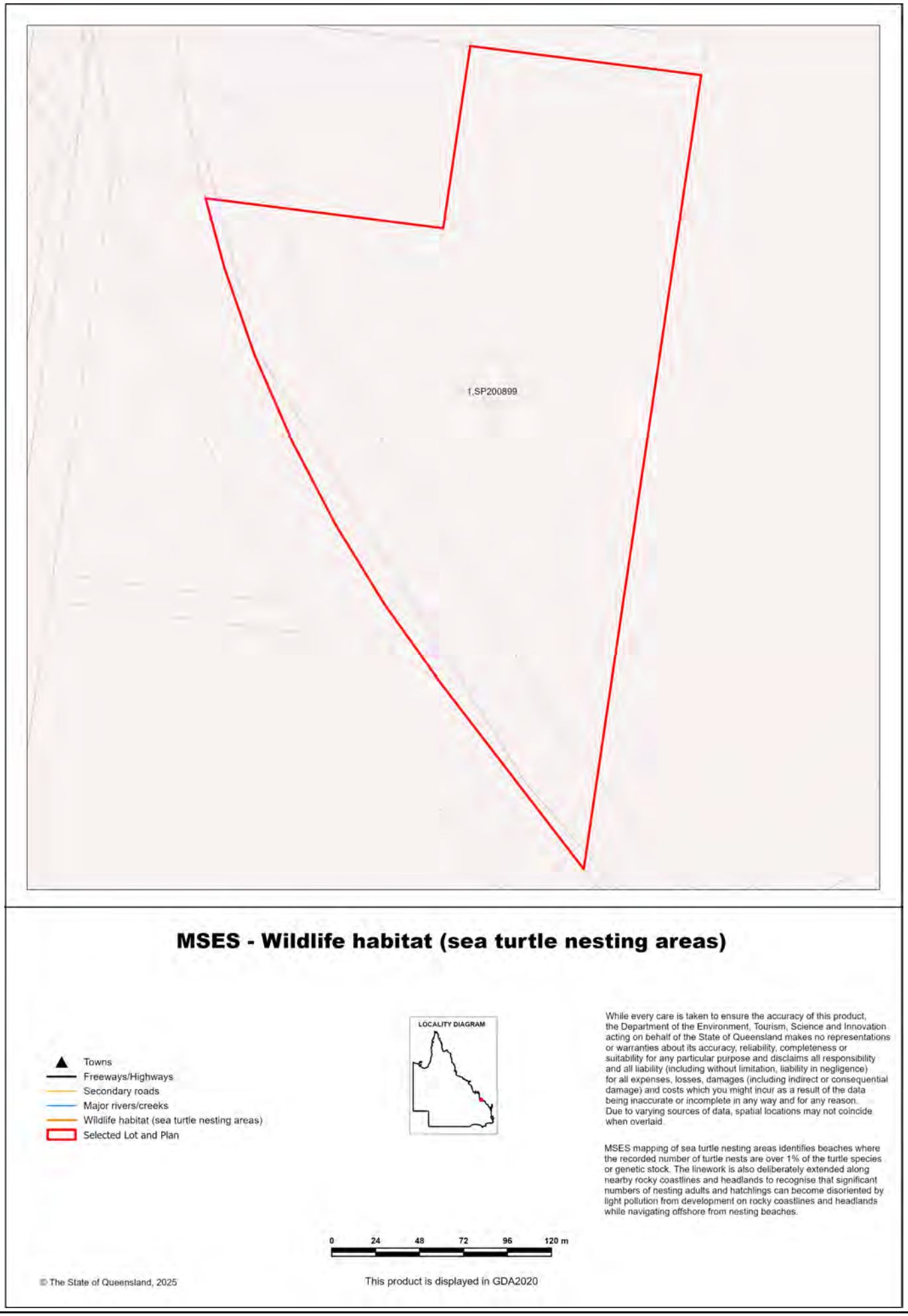
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



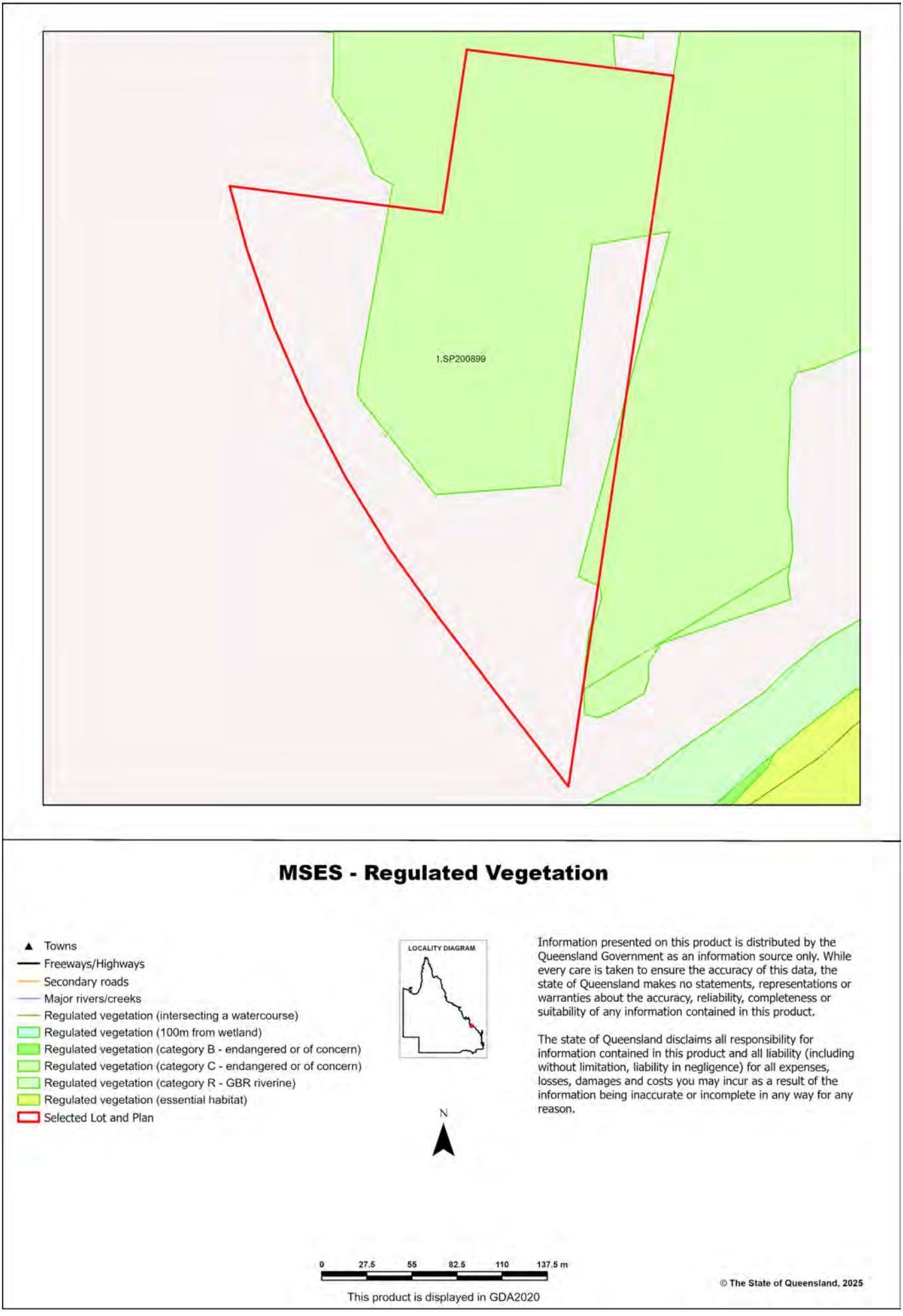
Map 3b - MSES - Species - Koala habitat area (SEQ)



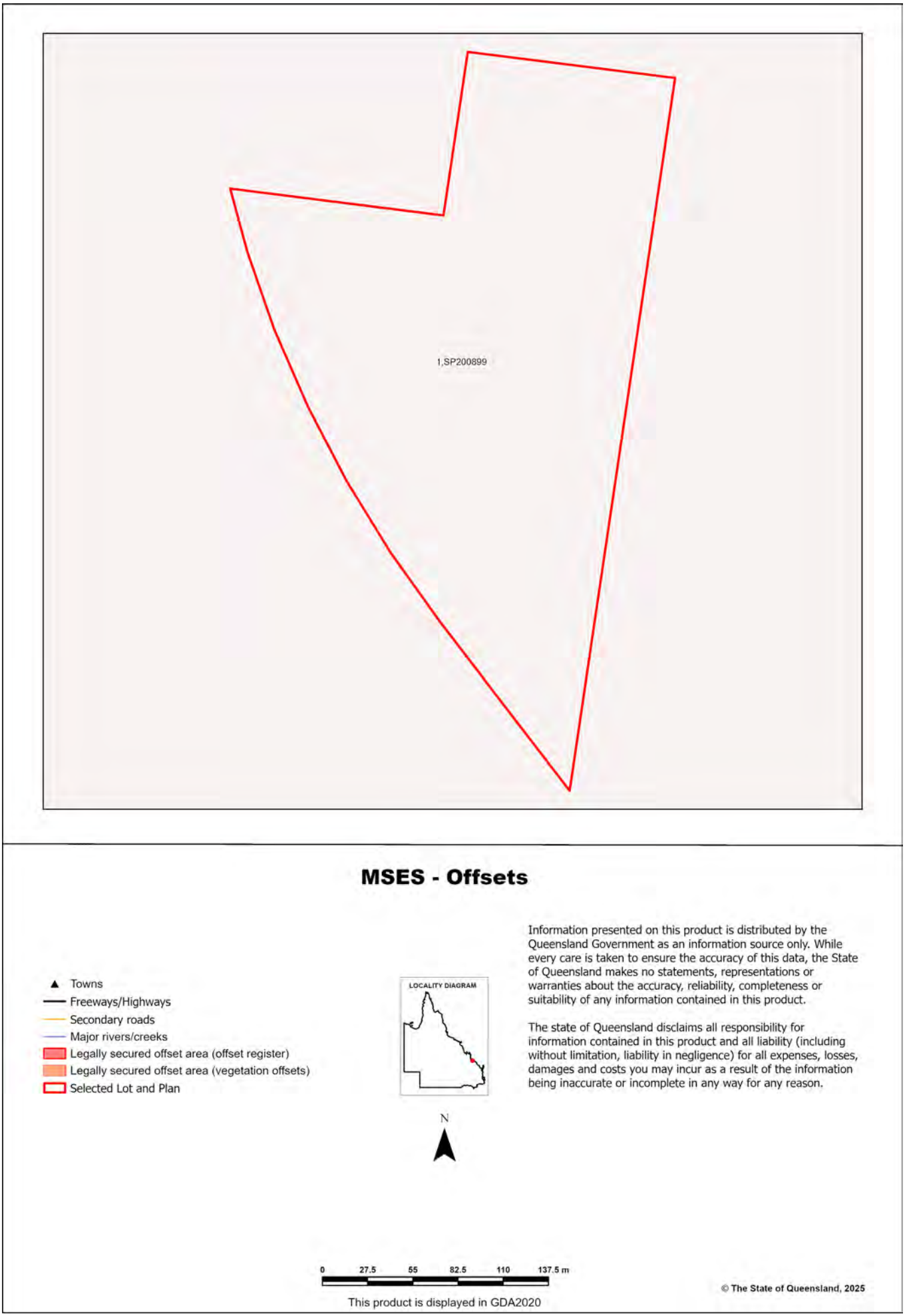
Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



Appendices

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

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

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

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

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

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

Appendix 2 - Source Data

The datasets listed below are available on request from:

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

- Matters of State environmental significance

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

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

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

Appendix 3 - Acronyms and Abbreviations

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

Queensland Government

Department of the Environment, Tourism, Science and Innovation

Environmental Reports

Biodiversity and Conservation Values

Biodiversity Planning Assessments and Aquatic Conservation Assessments

For the selected area of interest

Lot: 1 Plan: SP200899

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 co-ordinates" option, the resulting assessment area encompasses an area extending from 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 field survey may be required to validate values on the ground.

Please direct queries about these reports to: biodiversity.planning@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

Tables 1 to 8 provide an overview of the AOI with respect to selected topographic and environmental values.

Table 1: Details for area of interest: Lot: 1 Plan: SP200899, with area 5.75 ha

Local Government(s)	
Gladstone Regional	
Bioregion(s)	**Subregion(s)**
Southeast Queensland	Burnett - Curtis Hills and Ranges
Catchment(s)	
Calliope	

The following table identifies available Biodiversity Planning Assessments (BPAs) and Aquatic Conservation Assessments (ACAs) with respect to the AOI.

Table 2: Available Biodiversity Planning and Aquatic Conservation Assessments

Biodiversity Planning Assessment(s)	Aquatic Conservation Assessment(s) (riverine)	Aquatic Conservation Assessment(s) (non-riverine)
Southeast Queensland v4.1	Great Barrier Reef Catchments v1.1	Great Barrier Reef Catchments v.1.3

Table 3: Remnant regional ecosystems within the AOI as per the Qld Herbarium's 'biodiversity status'

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.00	0.00
Of concern	0.00	0.00
No concern at present	0.00	0.00

The following table identifies the extent and proportion of the user specified area of interest (AOI) which is mapped as being of "State", "Regional" or "Local" significance via application of the Queensland Department of the Environment, Tourism, Science and Innovation's *Biodiversity Assessment and Mapping Methodology* (BAMM).

Table 4: Summary table, biodiversity significance

(No Records)

Table 5: Non-riverine wetlands intersecting the AOI

(No Records)

NB. The figures presented in the table above are derived from the relevant non-riverine Aquatic Conservation Assessment(s). Later releases of wetland mapping produced via the Queensland Wetland Mapping Program may provide more recent information in regards to wetland extent.

Table 6: Named waterways intersecting the AOI

(No Records)

Refer to **Map 1** for general locality information.

The following two tables identify the extent and proportion of the user specified AOI which is mapped as being of "Very High", "High", "Medium", "Low", or "Very Low" aquatic conservation value for riverine and non-riverine wetlands via application of the Queensland Department of the Environment, Tourism, Science and Innovation's *Aquatic Biodiversity Assessment and Mapping Method* (AquaBAMM).

Table 7: Summary table, aquatic conservation significance (riverine)

Aquatic conservation significance (riverine wetlands)	Area (Ha)	% of AOI
High	5.75	100.02

Table 8: Summary table, aquatic conservation significance (non-riverine)

(No Records)

Biodiversity Planning Assessments

Introduction

The Department of the Environment, Tourism, Science and Innovation (DETSI) attributes biodiversity significance on a bioregional scale through a Biodiversity Planning Assessment (BPA). A BPA involves the integration of ecological criteria using the *Biodiversity assessment and Mapping Methodology* (BAMM) and is developed in two stages: 1) **diagnostic criteria**, and 2) **expert panel criteria**. The diagnostic criteria are based on existing data which is reliable and uniformly available across a bioregion, while the expert panel criteria allows for the refinement of the mapped information from the diagnostic output by incorporating local knowledge and expert opinion.

The BAMM methodology has application for identifying areas with various levels of significance solely for biodiversity reasons. These include threatened ecosystems or taxa, large tracts of habitat in good condition, ecosystem diversity, landscape context and connection, and buffers to wetlands or other types of habitat important for the maintenance of biodiversity or ecological processes. While natural resource values such as dryland salinity, soil erosion potential or land capability are not dealt with explicitly, they are included to some extent within the biodiversity status of regional ecosystems recognised by the DETSI. Biodiversity Planning Assessments (BPAs) assign three levels of overall biodiversity significance.

- **State significance** - areas assessed as being significant for biodiversity at the bioregional or state scales. They also include areas assessed by other studies/processes as being significant at national or international scales. In addition, areas flagged as being of State significance due to the presence of endangered, vulnerable and/or near threatened taxa, are identified as "State Habitat for EVNT taxa".
- **Regional significance** - areas assessed as being significant for biodiversity at the subregional scale. These areas have lower significance for biodiversity than areas assessed as being of State significance.
- **Local significance and/or other values** - areas assessed as not being significant for biodiversity at state or regional scales. Local values are of significance at the local government scale.

For further information on released BPAs and a copy of the underlying methodology, go to:

http://www.qld.gov.au/environment/plants-animals/biodiversity/planning/

The GIS results can be downloaded from the Queensland Spatial Catalogue at:

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

The following table identifies the extent and proportion of the user specified AOI which is mapped as being of "State", "Regional" or "Local" significance via application of the BAMM.

Table 9: Summary table, biodiversity significance

(No Records)

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

Diagnostic Criteria

Diagnostic criteria are based on existing data which is reliable and uniformly available across a bioregion. These criteria are diagnostic in that they are used to filter the available data and provide a "first-cut" or initial determination of biodiversity significance. This initial assessment is then combined through a second group of other essential criteria.

A description of the individual diagnostic criteria is provided in the following sections.

Criteria A. Habitat for EVNT taxa: Classifies areas according to their significance based on the presence of endangered, vulnerable and/or rare (EVNT) taxa. EVNT taxa are those scheduled under the *Nature Conservation Act 1992* and/or the *Environment Protection and Biodiversity Conservation Act 1999*. It excludes highly mobile fauna taxa which are instead considered in Criterion H and brings together information on EVNT taxa using buffering of recorded sites or habitat suitability models (HSM) where available.

Criteria B. Ecosystem value: Classifies on the basis of biodiversity status of regional ecosystems, their extent in protected areas (presence of poorly conserved regional ecosystems), the presence of significant wetlands; and areas of national importance such as the presence of Threatened Ecological Communities, World Heritage areas and Ramsar

sites. Ecosystem value is applied at a bioregional (**B1**) and regional (**B2**) scale.

Criteria C. Tract size: Measures the relative size of tracts of vegetation in the landscape. The size of any tract is a major indicator of ecological significance, and is also strongly correlated with the long-term viability of biodiversity values. Larger tracts are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller tracts.

Criteria D. Relative size of regional ecosystems: Classifies the relative size of each regional ecosystem unit within its bioregion (**D1**) and its subregion (**D2**). Remnant units are compared with all other occurrences with the same regional ecosystem. Large examples of a regional ecosystem are more significant than smaller examples of the same regional ecosystem because they are more representative of the biodiversity values particular to the regional ecosystem, are more resilient to the effects of disturbance, and constitute a significant proportion of the total area of the regional ecosystem.

Criteria F. Ecosystem diversity: Is an indicator of the number of regional ecosystems occurring within an area. An area with high ecosystem diversity will have many regional ecosystems and ecotones relative to other areas within the bioregion.

Criteria G. Context and connection: Represents the extent to which a remnant unit incorporates, borders or buffers areas such as significant wetlands, endangered ecosystems; and the degree to which it is connected to other vegetation.

A summary of the biodiversity status based upon the diagnostic criteria is provided in the following table.

Table 10: Summary of biodiversity significance based upon diagnostic criteria with respect to the AOI

(No Records)

Assessment of diagnostic criteria with respect to the AOI

The following table reflects an assessment of the individual diagnostic criteria noted above in regards to the AOI.

Table 11: Assessment of individual diagnostic criteria with respect to the AOI

Diagnostic Criteria	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
A: Habitat for EVNT Taxa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1: Ecosystem Value (Bioregion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B2: Ecosystem Value (Subregion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C: Tract Size	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D1: Relative RE Size (Bioregion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D2: Relative RE Size (Subregion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F: Ecosystem Diversity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
G: Context and Connection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Essential Criteria

Other essential criteria (also known as expert panel criteria) are based on non-uniform information sources and which may rely more upon expert opinion than on quantitative data. These criteria are used to provide a "second-cut" determination of biodiversity significance, which is then combined with the diagnostic criteria for an overall assessment of relative biodiversity significance. A summary of the biodiversity status based upon the other essential criteria is provided in the following table.

Table 12: Summary of biodiversity significance based upon other essential criteria with respect to the AOI

(No Records)

A description of each of the other essential criteria and associated assessment in regards to the AOI is provided in the following sections.

Criteria H. Essential and general habitat for priority taxa: Priority taxa are those which are at risk or of management concern, taxa of scientific interest as relictual (ancient or primitive), endemic taxa or locally significant populations (such as a flying fox camp or heronry), highly specialised taxa whose habitat requirements are complex and distributions are not well correlated with any particular regional ecosystem, taxa important for maintaining genetic diversity (such as complex spatial patterns of genetic variation, geographic range limits, highly disjunct populations), taxa critical for management or monitoring of biodiversity (functionally important or ecological indicators), or economic and culturally important taxa.

Criteria I. Special biodiversity values: areas with special biodiversity values are important because they contain multiple taxa in a unique ecological and often highly biodiverse environment. Areas with special biodiversity values can include the following:

- Ia - centres of endemism - areas where concentrations of taxa are endemic to a bioregion or subregion are found.
- Ib - wildlife refugia (Morton *et al*. 1995), for example, islands, mound springs, caves, wetlands, gorges, mountain ranges and topographic isolates, ecological refuges, refuges from exotic animals, and refuges from clearing. The latter may include large areas that are not suitable for clearing because of land suitability/capability.
- Ic - areas with concentrations of disjunct populations.
- Id - areas with concentrations of taxa at the limits of their geographic ranges.
- Ie - areas with high species richness.
- If - areas with concentrations of relictual populations (ancient and primitive taxa).
- Ig - areas containing REs with distinct variation in species composition associated with geomorphology and other environmental variables.
- Ih - an artificial waterbody or managed/manipulated wetland considered by the panel/s to be of ecological significance.
- Ii - areas with a high density of hollow-bearing trees that provide habitat for animals.
- Ij - breeding or roosting sites used by a significant number of individuals.
- Ik - climate change refuge.

The following table identifies the value and extent area of the Other Essential Criteria H and I within the AOI.

Table 13: Relative importance of expert panel criteria (H and I) used to access overall biodiversity significance with respect to the AOI

Expert Panel	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
H: Core Habitat Priority Taxa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ia: Centres of Endemism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ib: Wildlife Refugia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ic: Disjunct Populations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Expert Panel	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
Id: Limits of Geographic Ranges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ie: High Species Richness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
If: Relictual Populations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ig: Variation in Species Composition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ih: Artificial Wetland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ii: Hollow Bearing Trees	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ij: Breeding or Roosting Site	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ik: Climate Refugia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NB. Whilst biodiversity values associated with Criteria I may be present within the site (refer to tables 12 and 15), for the New England Tableland and Central Queensland Coast BPAs, area and % area figures associated with Criteria Ia through to Ij cannot be listed in the table above (due to slight variations in data formats between BPAs).

Criteria J. Corridors: areas identified under this criterion qualify either because they are existing vegetated corridors important for contiguity, or cleared areas that could serve this purpose if revegetated. Some examples of corridors include riparian habitats, transport corridors and "stepping stones".

Bioregional and subregional conservation corridors have been identified in the more developed bioregions of Queensland through the BPAs, using an intensive process involving expert panels. Map 3 displays the location of corridors as identified under the Statewide Corridor network. The Statewide Corridor network incorporates BPA derived corridors and for bioregions where no BPA has been assessed yet, corridors derived under other planning processes. *Note: as a result of updating and developing a statewide network, the alignment of corridors may differ slightly in some instances when compared to those used in individual BPAs.*

The functions of these corridors are:

- **Terrestrial** Bioregional corridors, in conjunction with large tracts of remnant vegetation, maintain ecological and evolutionary processes at a landscape scale, by:

  - Maintaining long term evolutionary/genetic processes that allow the natural change in distributions of species and connectivity between populations of species over long periods of time;
  - Maintaining landscape/ecosystems processes associated with geological, altitudinal and climatic gradients, to allow for ecological responses to climate change;
  - Maintaining large scale seasonal/migratory species processes and movement of fauna;
  - Maximising connectivity between large tracts/patches of remnant vegetation;
  - Identifying key areas for rehabilitation and offsets; and

- **Riparian** Bioregional Corridors also maintain and encourage connectivity of riparian and associated ecosystems.

The location of the corridors is determined by the following principles:

- Terrestrial

  - Complement riparian landscape corridors (i.e. minimise overlap and maximise connectivity);
  - Follow major watershed/catchment and/or coastal boundaries;
  - Incorporate major altitudinal/geological/climatic gradients;

- Include and maximise connectivity between large tracts/patches of remnant vegetation;
- Include and maximise connectivity between remnant vegetation in good condition; and

- Riparian

- Located on the major river or creek systems within the bioregion in question.

The total extent of remnant vegetation triggered as being of "State", "Regional" or "Local" significance due to the presence of an overlying BPA derived terrestrial or riparian corridor within the AOI, is provided in the following table. For further information on how remnant vegetation is triggered due to the presence of an overlying BPA derived corridor, refer to the relevant landscape BPA expert panel report(s).

Table 14: Extent of triggered remnant vegetation due to the presence of BPA derived corridors with respect to the AOI

(No Records)

NB: area figures associated with the extent of corridor triggered remnant vegetation are only available for those bioregions where a BPA has been undertaken.

Refer to **Map 3** for further information.

Threatening process/condition (Criteria K) - areas identified by experts under this criterion may be used to amend (upgrade or downgrade) biodiversity significance arising from the "first-cut" analysis. The condition of remnant vegetation is affected by threatening processes such as weeds, ferals, grazing and burning regime, selective timber harvesting/removal, salinity, soil erosion, and climate change.

Assessment of Criteria K with respect to the AOI is not currently included in the "Biodiversity and Conservation Values" report, as it has not been applied to the majority of Queensland due to data/information limitations and availability.

Special Area Decisions

Expert panel derived "Special Area Decisions" are used to assign values to Other Essential Criteria. The specific decisions which relate to the AOI in question are listed in the table below.

Table 15: Expert panel decisions for assigning levels of biodiversity significance with respect to the AOI

Decision Number	Description	Panel Recommended Significance	Criteria Values
(No Records)			

Expert panel decision descriptions:

Decision Number	Description
(No Records)	

Aquatic Conservation Assessments

Introduction

The Aquatic Biodiversity Assessment and Mapping Method or AquaBAMM (Clayton *et al.* 2006), was developed to assess conservation values of wetlands in queensland, and may also have application in broader geographical contexts. It is a comprehensive method that uses available data, including data resulting from expert opinion, to identify relative wetland conservation/ecological values within a specified study area (usually a catchment). The product of applying this method is an Aquatic Conservation Assessment (ACA) for the study area.

An ACA using AquaBAMM is non-social, non-economic and identifies the conservation/ecological values of wetlands at a user-defined scale. It provides a robust and objective conservation assessment using criteria, indicators and measures that are founded upon a large body of national and international literature. The criteria, each of which may have variable numbers of indicators and measures, are naturalness (aquatic), naturalness (catchment), diversity and richness, threatened species and ecosystems, priority species and ecosystems, special features, connectivity and representativeness. An ACA using AquaBAMM is a powerful decision support tool that is easily updated and simply interrogated through a geographic information system (GIS).

Where they have been conducted, ACAs can provide a source of baseline wetland conservation/ecological information to support natural resource management and planning processes. They are useful as an independent product or as an important foundation upon which a variety of additional environmental and socio-economic elements can be added and considered (i.e. an early input to broader 'triple-bottom-line' decision-making processes). An ACA can have application in:

- determining priorities for protection, regulation or rehabilitation of wetlands and other aquatic ecosystems
- on-ground investment in wetlands and other aquatic ecosystems
- contributing to impact assessment of large-scale development (e.g. dams)
- water resource and strategic regional planning prcesses

For a detailed explanation of the methodology please refer to the summary and expert panel reports relevant to the ACA utilised in this assessment. These reports can be accessed at Wetland *Info*:

http://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca

The GIS results can be downloaded from the Queensland Spatial Catalogue at:

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

Explanation of Criteria

Under the AquaBAMM, eight criteria are assessed to derive an overall conservation value. Similar to the Biodiversity Assessment and Mapping Methodology, the criteria may be primarily diagnostic (quantitative) or primarily expert opinion (qualitative) in nature. The following sections provide a brief description of each of the 8 criteria.

Criteria 1. Naturalness - Aquatic: This attribute reflects the extent to which a wetland's (riverine, non-riverine, estuarine) aquatic state of naturalness is affected through relevant influencing indicators which include: presence of exotic flora and fauna; presence of aquatic communities; degree of habitat modification and degree of hydrological modification.

Criteria 2. Naturalness - Catchment: The naturalness of the terrestrial systems of a catchment can have an influence on many wetland characteristics including: natural ecological processes e.g. nutrient cycling, riparian vegetation, water chemistry, and flow. The indicators utilised to assess this criterion include: presence of exotic flora and/or fauna; riparian, catchment and flow modification.

Criteria 3. Naturalness - Diversity and Richness: This criterion is common to many ecological assessment methods and can include both physical and biological features. It includes such indicators as species richness, riparian ecosystem richness and geomorphological diversity.

Criteria 4. Threatened Species and Ecosystems: This criterion evaluates ecological rarity characteristics of a wetland. This includes both species rarity and rarity of communities / assemblages. The communities and assemblages are best represented by regional ecosystems. Species rarity is determined by NCA and EPBC status with Endangered, Vulnerable or Near-threatened species being included in the evaluation. Ecosystem rarity is determined by regional ecosystem biodiversity status i.e. Endangered, Of Concern, or Not of Concern.

Criteria 5. Priority Species and Ecosystems: Priority flora and fauna species lists are expert panel derived. These are aquatic, semi-aquatic and riparian species which exhibit at least 1 particular trait in order to be eligible for consideration. For flora species the traits included:

- It forms significant macrophyte beds (in shallow or deep water).
- It is an important food source.
- It is important/critical habitat.
- It is implicated in spawning or reproduction for other fauna and/or flora species.
- It is at its distributional limit or is a disjunct population.
- It provides stream bank or bed stabilisation or has soil binding properties.
- It is a small population and subject to threatening processes.

Fauna species are included if they meet at least one of the following traits:

- It is endemic to the study area (>75 per cent of its distribution is in the study area/catchment).
- It has experienced, or is suspected of experiencing, a serious population decline.
- It has experienced a significant reduction in its distribution and has a naturally restricted distribution in the study area/catchment.
- It is currently a small population and threatened by loss of habitat.
- It is a significant disjunct population.
- It is a migratory species (other than birds).
- A significant proportion of the breeding population (>one per cent for waterbirds, >75 per cent other species) occurs in the waterbody (see Ramsar criterion 6 for waterbirds).
- Limit of species range.

See the individual expert panel reports for the priority species traits specific to an ACA.

Criteria 6. Special Features: Special features are areas identified by flora, fauna and ecology expert panels which exhibit characteristics beyond those identified in other criteria and which the expert panels consider to be of the highest ecological importance. Special feature traits can relate to, but are not solely restricted to geomorphic features, unique ecological processes, presence of unique or distinct habitat, presence of unique or special hydrological regimes e.g. spring-fed streams. Special features are rated on a 1 - 4 scale (4 being the highest).

Criteria 7. Connectivity: This criterion is based on the concept that appropriately connected aquatic ecosystems are healthy and resilient, with maximum potential biodiversity and delivery of ecosystem services.

Criteria 8. Representativeness: This criterion applies primarily to non-riverine assessments, evaluates the rarity and uniqueness of a wetland type in relation to specific geographic areas. Rarity is determined by the degree of wetland protection within "protected Areas" estate or within an area subject to the *Fisheries Act 1994*, *Coastal Protection and Management Act 1995*, or *Marine Parks Act 2004*. Wetland uniqueness evaluates the relative abundance and size of a wetland or wetland management group within geographic areas such as catchment and subcatchment.

Riverine Wetlands

Riverine wetlands are all wetlands and deepwater habitats within a channel. The channels are naturally or artificially created, periodically or continuously contain moving water, or connecting two bodies of standing water. AquaBAMM, when applied to riverine wetlands uses a discrete spatial unit termed subsections. A subsection can be considered as an area which encompasses discrete homogeneous stream sections in terms of their natural attributes (i.e. physical, chemical, biological and utilitarian values) and natural resources. Thus in an ACA, an aquatic conservation significance score is calculated for each subsection and applies to all streams within a subsection, rather than individual streams as such.

Please note, the area figures provided in Tables 16 and 17, are derived using the extent of riverine subsections within the AOI. Refer to **Map 5** for further information. A summary of the conservation significance of riverine wetlands within the AOI is provided in the following table.

Table 16: Overall level/s of riverine aquatic conservation significance

Aquatic conservation significance (riverine wetlands)	Area (Ha)	% of AOI
High	5.75	100.02

The individual aquatic conservation criteria ratings for riverine wetlands within the AOI are listed below.

Table 17: Level/s of riverine aquatic conservation significance based on selected criteria

Criteria	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
1. Naturalness aquatic	0.00	0.00	0.00	0.00	0.00	0.00	5.75	100.02
2. Naturalness catchment	0.00	0.00	5.75	100.02	0.00	0.00	0.00	0.00
3. Diversity and richness	0.00	0.00	5.75	100.02	0.00	0.00	0.00	0.00
4. Threatened species and ecosystems	0.00	0.00	5.75	100.02	0.00	0.00	0.00	0.00
5. Priority species and ecosystems	5.75	100.02	0.00	0.00	0.00	0.00	0.00	0.00
6. Special features	0.00	0.00	5.75	100.02	0.00	0.00	0.00	0.00
7. Connectivity	0.00	0.00	0.00	0.00	0.00	0.00	5.75	100.02
8. Representativeness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The table below lists and describes the relevant expert panel decisions used to assign conservation significance values to riverine wetlands within the AOI.

Table 18: Expert panel decisions for assigning overall levels of riverine aquatic conservation significance

Decision number	Special feature	Catchment	Criteria/Indicator/Measure	Conservation rating (1-4)
ca_r_fl_01	Creeks flowing off Mt Larcom	Calliope	6.3.1	3
ca_r_fl_02	Regional ecosystem 12.3.7	Calliope	5.2.1	4

4 is the highest rating/value

Expert panel decision descriptions:

Decision number	Description
ca_r_fl_01	Cherry Creek contains rare and threatened species including *Actephila sessilifolia, Atalaya rigida, Cupaniopsis shirleyana* and also has patches of rainforest dominated by Mueller's redheart (*Dissiliaria muelleri*). Mueller's redheart (*Dissiliaria muelleri*) is not currently listed as rare or threatened but has a very restricted distribution. The vegetation along these creeks is part of a large remnant area that contains significant patches of dry rainforest as well as the rocky outcrops of Mt Larcom that are habitat to rare and endemic species. This area was previously a national park proposal and is currently under threat from industrial development and lack of appropriate ecological management.
ca_r_fl_02	Regional ecosystem 12.3.7 is the southeast Queensland bioregion equivalent of 11.3.25 and 8.3.3. That is, it is one of the only ecosystems where you can find black ironbox (*Eucalyptus raveretiana*) providing important habitat for many fauna species.

Non-riverine Wetlands

Non-riverine wetlands include both lacustrine and palustrine wetlands, however, do not currently incorporate estuarine, marine or subterranean wetland types. A summary of the conservation significance of non-riverine wetlands within the AOI is provided in the following table. Refer to **Map 6** for further information.

Table 19: Overall level/s of non-riverine aquatic conservation significance

(No Records)

The following table provides an assessment of non-riverine wetlands within the AOI and associated aquatic conservation criteria values.

Table 20: Level/s of non-riverine aquatic conservation significance based on selected criteria

Criteria	Very High Rating - Area (Ha)	Very High Rating - % of AOI	High Rating - Area (Ha)	High Rating - % of AOI	Medium Rating - Area (Ha)	Medium Rating - % of AOI	Low Rating - Area (Ha)	Low Rating - % of AOI
1. Naturalness aquatic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. Naturalness catchment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Diversity and richness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. Threatened species and ecosystems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Priority species and ecosystems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. Special features	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7. Connectivity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. Representativeness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The table below lists and describes the relevant expert panel decisions used to assign conservation significance values to non-riverine wetlands within the AOI.

Table 21: Expert panel decisions for assigning overall levels of non-riverine aquatic conservation significance.

Decision number	Special feature	Catchment	Criteria/Indicator/ Measure	Conservation rating (1-4)
(No Records)				

4 is the highest rating/value

Expert panel decision descriptions:

Decision number	Description
(No Records)	

Threatened and Priority Species

Introduction

This chapter contains a list of threatened and priority flora and/or fauna species that have been recorded on, or within 4km of the Assessment Area.

The information presented in this chapter with respect to species presence is derived from compiled databases developed primarily for the purpose of BPAs and ACAs. Data is collated from a number of sources and is updated periodically.

It is important to note that the list of species provided in this report, may differ when compared to other reports generated from other sources such as the State government's WildNet, Herbrecs or the federal government's EPBC database for a number of reasons.

Records for threatened and priority species are filtered and checked based on a number of rules including:

- Taxonomic nomenclature - current scientific names and status,
- Location - cross-check co-ordinates with location description,
- Taxon by location - requires good knowledge of the taxon and history of the record,
- Duplicate records - identify and remove,
- Expert panels - check records and provide new records,
- Flora cultivated records excluded,
- Use precise records less than or equal to 2000m,
- Use recent records greater than or equal to 1975 animals, greater than or equal to 1950 plants.

Threatened Species

Threatened species are those species classified as "Endangered" or "Vulnerable" under the *Environment Protection and Biodiversity Conservation Act 1999* or "Endangered", "Vulnerable" or "Near threatened" under the *Nature Conservation Act 1992*.

The following threatened species have been recorded on, or within approximately 4km of the AOI.

Table 22: Threatened species recorded on, or within 4km of the AOI

Species	Common name	NCA status	EPBC status	Migratory species*	Wetland species**	Identified flora/fauna
Aceratium sericoleopsis	silky aceratium	NT				FL
Bosistoa transversa	three-leaved bosistoa	C	V			FL
Calidris acuminata	sharp-tailed sandpiper	SL	V	Y	I	FA
Calidris ferruginea	curlew sandpiper	CR	CE	Y	I	FA
Charadrius mongolus	lesser sand plover	E	E	Y	I	FA
Cycas megacarpa		E	E			FL
Dugong dugon	dugong	V		Y	I	FA
Geophaps scripta scripta	squatter pigeon (southern subspecies)	V	V			FA
Hernandia bivalvis	cudgerie	NT				FL
Limnodromus semipalmatus	Asian dowitcher	SL	V	Y	I	FA

Species	Common name	NCA status	EPBC status	Migratory species*	Wetland species**	Identified flora/fauna
Limosa lapponica baueri	Western Alaskan bar-tailed godwit	V	E	Y	I	FA
Ninox strenua	powerful owl	V				FA
Numenius madagascariensis	eastern curlew	E	CE	Y	I	FA
Petauroides volans volans	southern greater glider	E	E			FA
Petaurus australis australis	yellow-bellied glider (southern subspecies)	V	V			FA
Phascolarctos cinereus	koala	E	E			FA
Pluvialis squatarola	grey plover	SL	V	Y	I	FA
Pteropus poliocephalus	grey-headed flying-fox	C	V			FA
Taphozous australis	coastal sheathtail bat	NT				FA
Tringa nebularia	common greenshank	SL	E	Y	I	FA
Xenus cinereus	terek sandpiper	SL	V	Y	I	FA
Xeromys myoides	water mouse	V	V		I	FA

NB. Please note that the threatened species listed in this section are based upon the most recently compiled DETSI internal state-wide threatened species dataset. This dataset may contain additional records that were not originally available for inclusion in the relevant individual BPAs and ACAs.

**JAMBA - Japan-Australia Migratory Bird Agreement; CAMBA - China-Australia Migratory Bird Agreement; ROKAMBA - Republic of Korea-Australia Migratory Bird Agreement; CMS - Convention on the Conservation of Migratory Species.*

***I - wetland indicator species; D - wetland dependent species.*

BPA Priority Species

A list of BPA priority species that have been recorded on, or within approximately 4km of the AOI is contained in the following table.

Table 23: Priority species recorded on, or within 4km of the AOI

Species	Common name	Identified flora/fauna
Chlamydosaurus kingii	frilled lizard	FA
Kuhlia rupestris	jungle perch	FA
Lampropholis adonis	diamond-shielded sunskink	FA
Melaleuca nervosa		FL
Melaleuca viridiflora		FL
Mogurnda adspersa	southern purplespotted gudgeon	FA

Species	Common name	Identified flora/fauna
Mormopterus norfolkensis	east coast freetail bat	FA
Mugil cephalus	sea mullet	FA
Ninox connivens	barking owl	FA
Notamacropus agilis	agile wallaby	FA
Notamacropus dorsalis	black-striped wallaby	FA
Petaurus australis australis	yellow-bellied glider (southern subspecies)	FA
Petrogale herberti	Herbert's rock-wallaby	FA
Pomatostomus temporalis	grey-crowned babbler	FA
Pteropus alecto	black flying-fox	FA
Scagacola cavernula	Rockhampton Carnivorous Snail	FA
Scoteanax rueppellii	greater broad-nosed bat	FA
Varanus semiremex	rusty monitor	FA
Varanus varius	lace monitor	FA

NB. Please note that the list of priority species is based on those species identified in the BPAs, however records for these species may be more recent than the originals used. furthermore, the BPA priority species databases are updated from time to time. At each update, the taxonomic details for all species are amended as necessary to reflect current taxonomic name and/or status changes.

ACA Priority Species

A list of ACA priority species used in riverine and non-riverine ACAs that have been recorded on, or within approximately 4km of the AOI are contained in the following tables.

Table 24: Priority species recorded on, or within 4 km of the AOI - riverine

Species	Common name	Identified flora/fauna
Ardea alba modesta	Eastern Great Egret	FA
Casuarina cunninghamiana		FL
Eucalyptus tereticornis		FL
Kuhlia rupestris	Jungle Perch	FA
Lates calcarifer	Barramundi	FA
Lomandra longifolia		FL
Megalops cyprinoides	Oxeye Herring/Tarpon	FA
Melaleuca leucadendra	broad-leaved tea-tree	FL
Melaleuca viminalis		FL
Mugil cephalus	Sea Mullet	FA
Nymphoides indica	water snowflake	FL

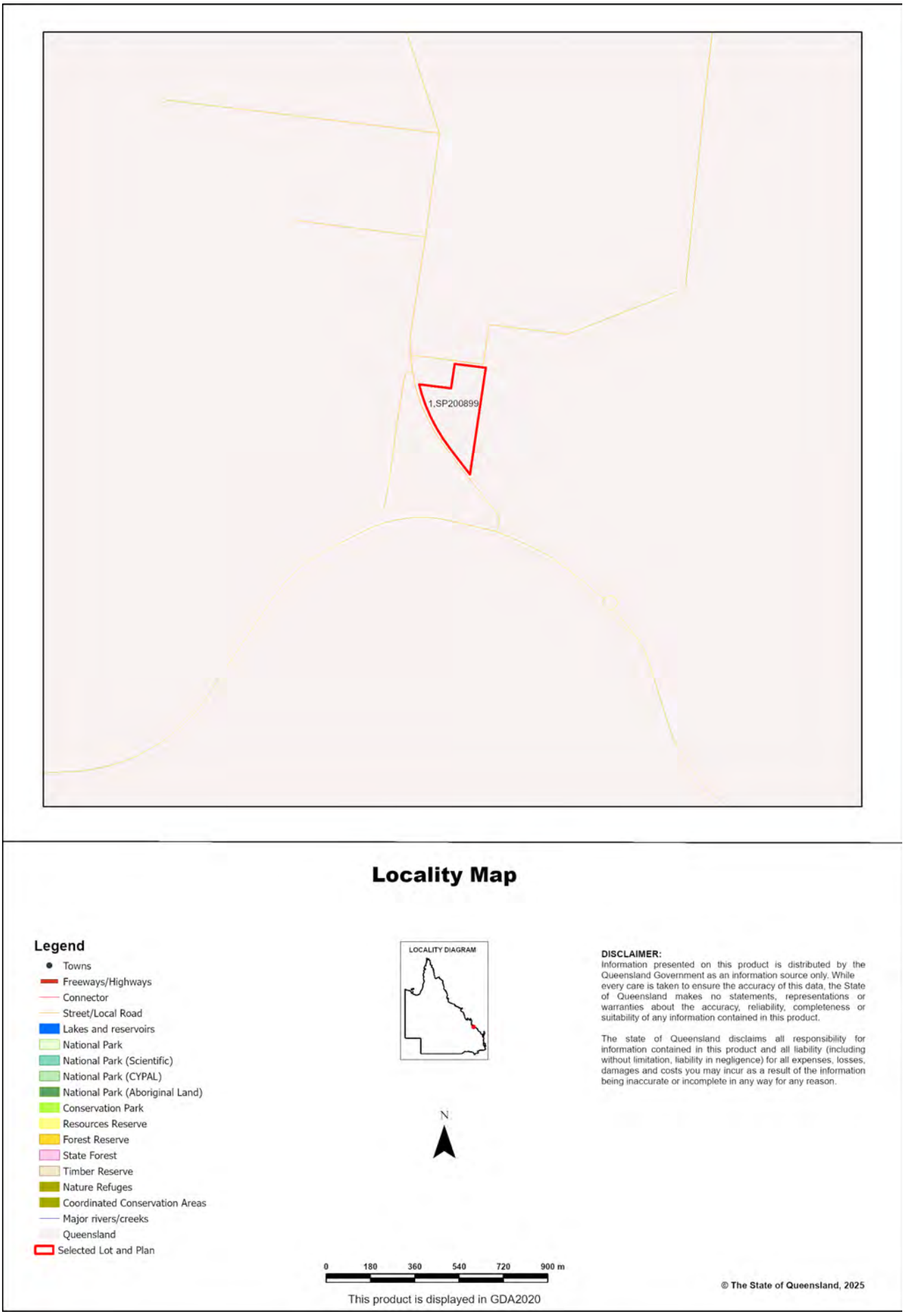
Table 25: Priority species recorded on, or within 4 km of the AOI - non-riverine

Species	Common name	Identified flora/fauna
Ardea alba modesta	Eastern Great Egret	FA
Cyperus exaltatus	tall flatsedge	FL
Eucalyptus tereticornis		FL
Lates calcarifer	Barramundi	FA
Machaerina articulata	jointed twigrush	FL
Megalops cyprinoides	Oxeye Herring/Tarpon	FA
Melaleuca leucadendra	broad-leaved tea-tree	FL
Melaleuca viminalis		FL
Mugil cephalus	Sea Mullet	FA
Nymphoides indica	water snowflake	FL

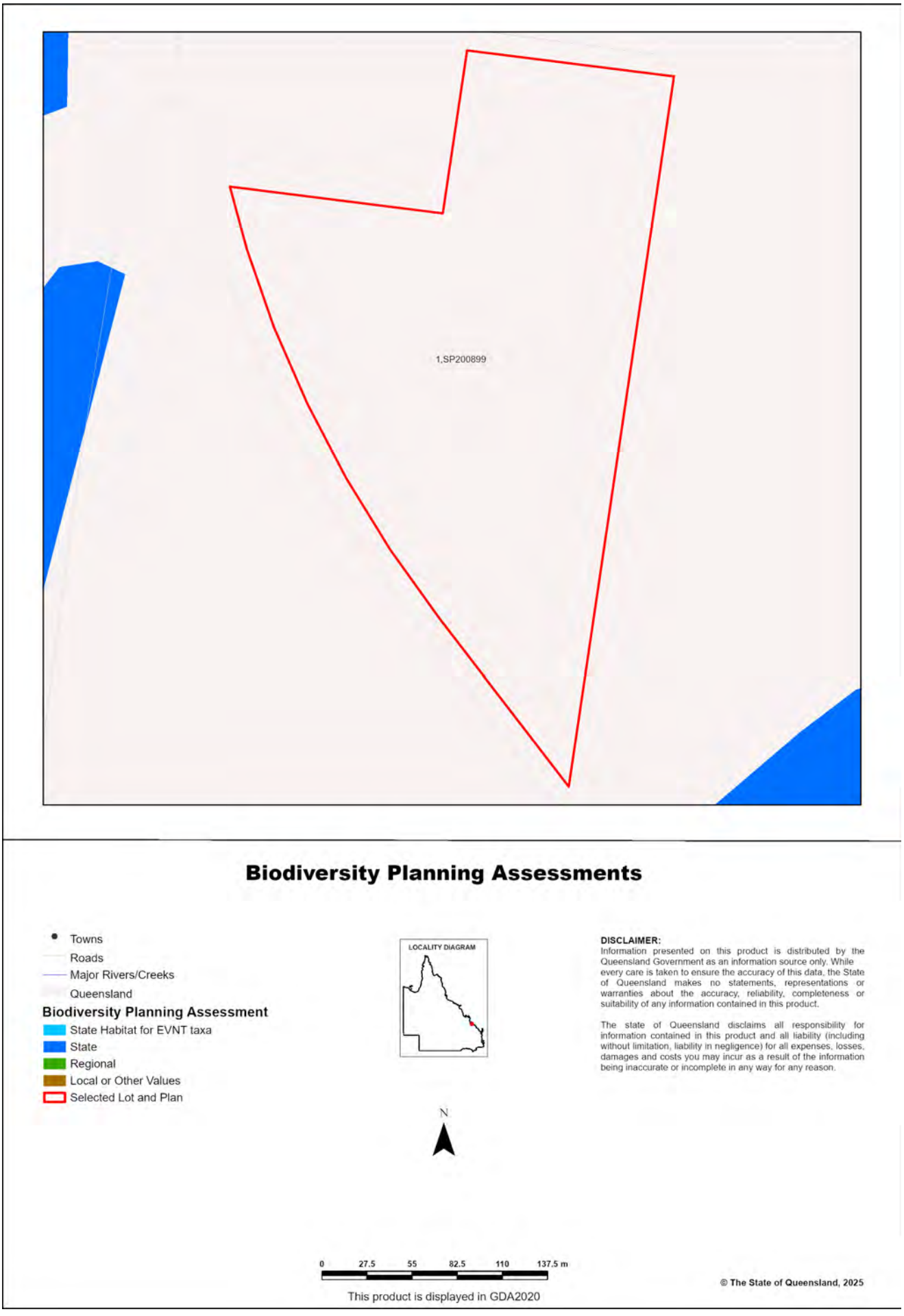
NB. Please note that the priority species records used in the above two tables are comprised of those adopted for the released individual ACAs. The ACA riverine and non-riverine priority species databases are updated from time to time to reflect new release of ACAs. At each update, the taxonomic details for all ACAs records are amended as necessary to reflect current taxonomic name and/or status changes.

Maps

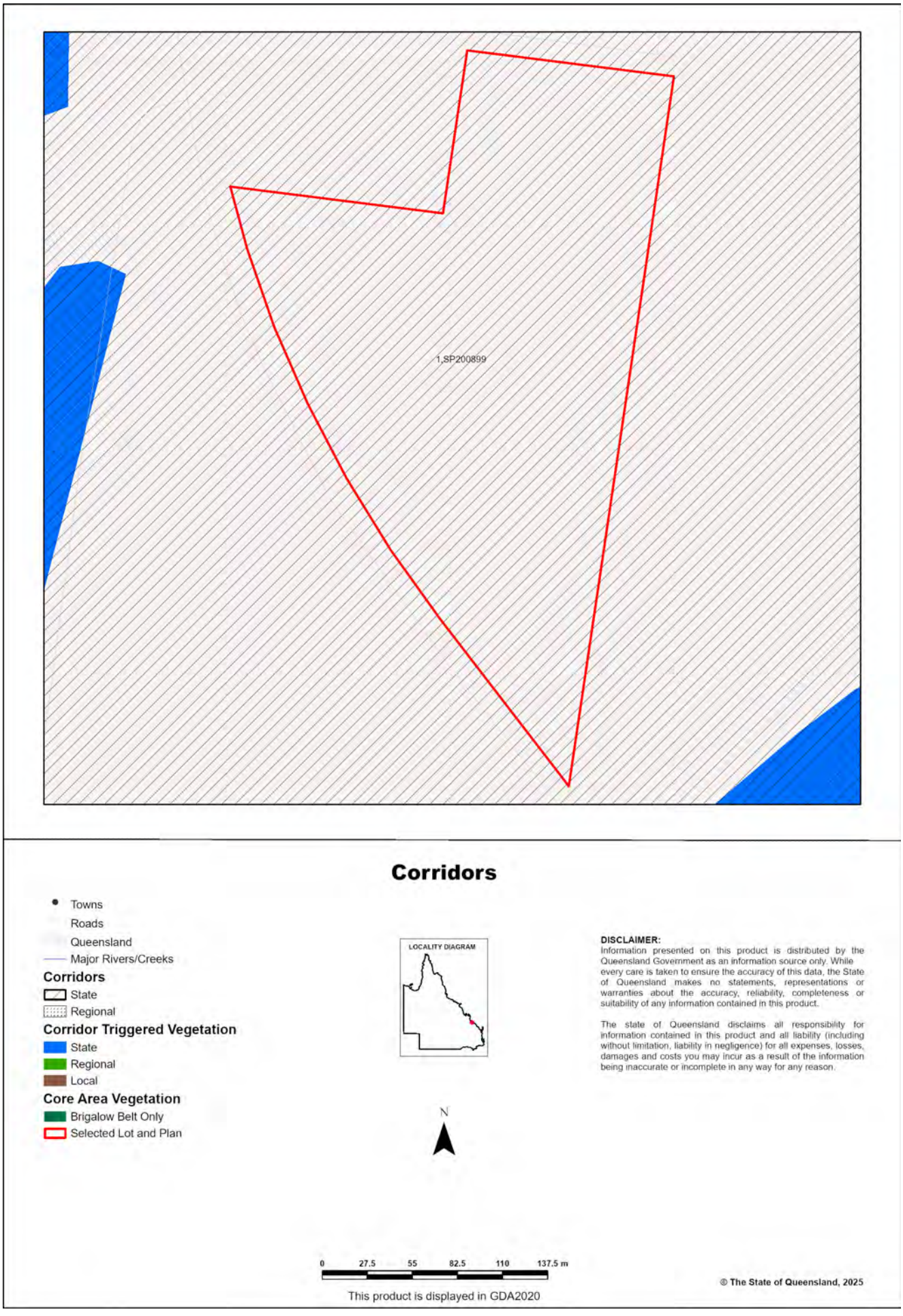
Map 1 - Locality Map



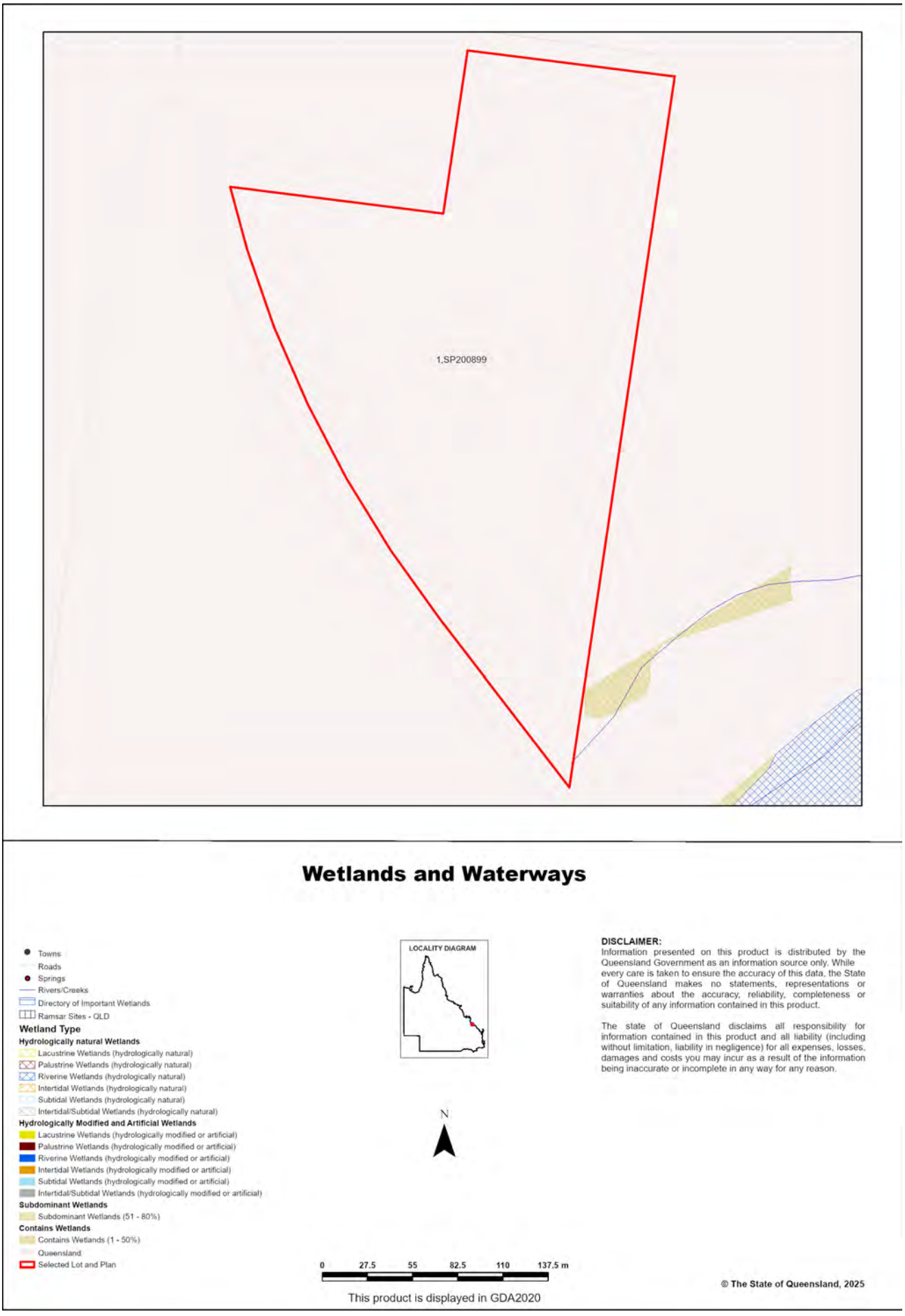
Map 2 - Biodiversity Planning Assessment (BPA)



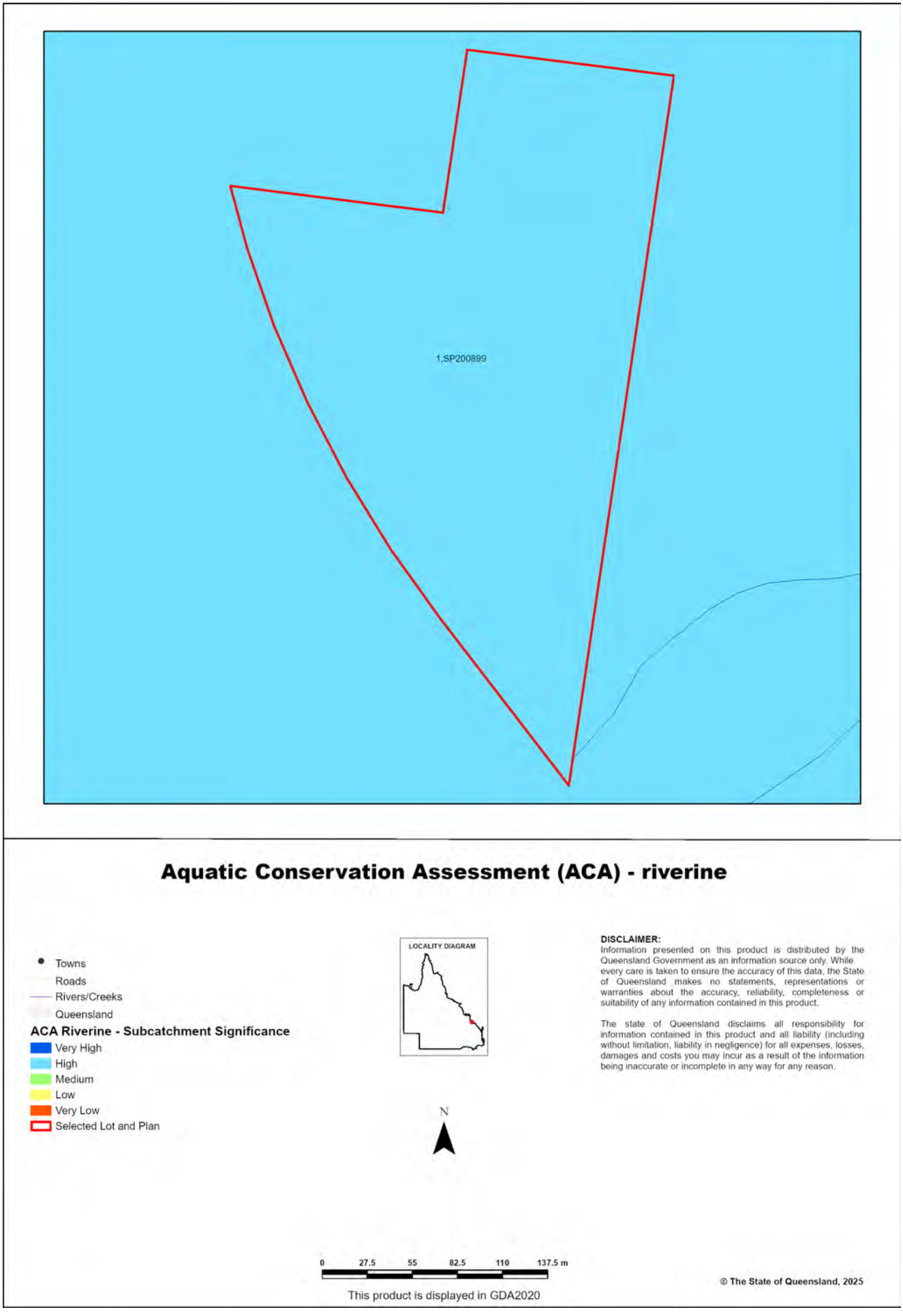
Map 3 - Corridors



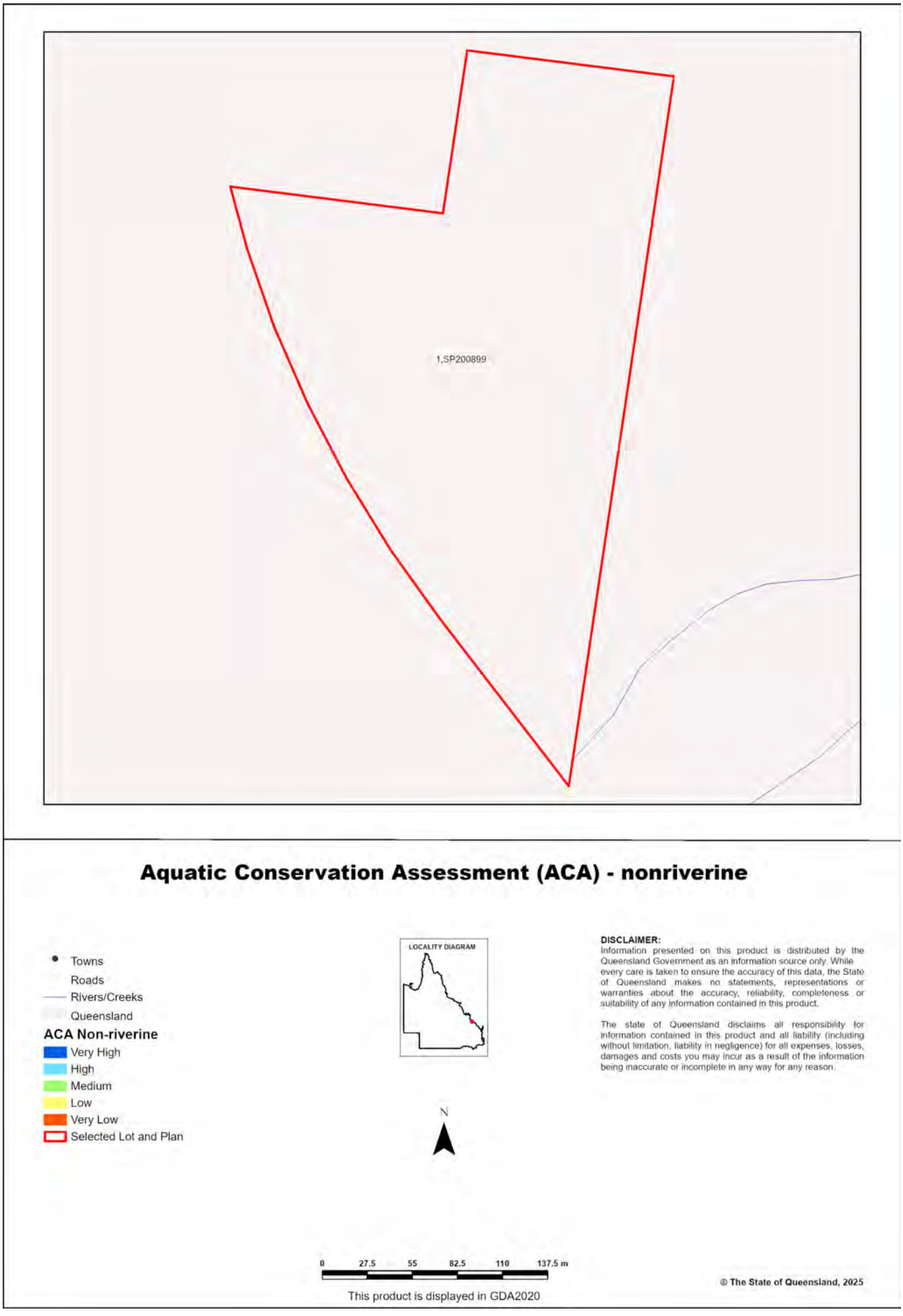
Map 4 - Wetlands and waterways



Map 5 - Aquatic Conservation Assessment (ACA) - riverine



Map 6 - Aquatic Conservation Assessment (ACA) - non-riverine



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Appendices

Appendix 1 - Source Data

Theme	Datasets
Aquatic Conservation Assessments Non-riverine*	Combination of the following datasets: Cape York Peninsula Non-riverine v1.1 Eastern Gulf of Carpentaria v1.1 Great Barrier Reef Catchment Non-riverine v1.3 Lake Eyre and Bulloo Basins v1.1 QMDBB Non-riverine ACA v2.1 Southeast Queensland ACA v1.1 WBB Non-riverine ACA v1.1 Southern Gulf Catchments Non-riverine ACA v1.1 WBBGBRCC Non-riverine ACA v2.1
Aquatic Conservation Assessments Riverine*	Combination of the following datasets: Cape York Peninsula Riverine v1.1 Eastern Gulf of Carpentaria v1.1 Great Barrier Reef Catchment Riverine v1.1 Lake Eyre and Bulloo Basins v1.1 QMDBB Riverine ACA v2.1 Southeast Queensland ACA v1.1 WBB Riverine ACA v1.1 Southern Gulf Catchments Riverine ACA v1.1 WBBGBRCC Riverine ACA v2.1
Biodiversity Planning Assessments*	Combination of the following datasets: Brigalow Belt BPA v2.1 Cape York Peninsula BPA v1.1 Central Queensland Coast BPA v1.3 Channel Country BPA v1.1 Desert Uplands BPA v1.3 Einasleigh Uplands BPA v1.1 Gulf Plains BPA v1.1 Mitchell Grass Downs BPA v1.1 Mulga Lands BPA v1.4 New England Tableland v3.1 Northwest Highlands v1.1 Southeast Queensland v4.1 Wet Tropics v1.1
Statewide BPA Corridors*	Statewide corridors v1.7
Threatened Species	An internal DETSI database compiled from Wildnet, Herbrecs, Corveg, the QLD Museum, as well as other incidental sources.
BPA Priority Species	An internal DETSI database compiled from Wildnet, Herbrecs, Corveg, the QLD Museum, as well as other incidental sources.
ACA Priority Species	An internal DETSI database compiled from Wildnet, Herbrecs, Corveg, the QLD Museum, as well as other incidental sources.

These datasets are available at:
http://dds.information.qld.gov.au/DDS

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
ACA	- Aquatic Conservation Assessment
AQUABAMM	- Aquatic Biodiversity Assessment and Mapping Methodology
BAMM	- Biodiversity Assessment and Mapping Methodology
BoT	- Back on Track
BPA	- Biodiversity Planning Assessment
CAMBA	- China-Australia Migratory Bird Agreement
DETSI	- Department of the Environment, Tourism, Science and Innovation
EPBC	- *Environment Protection and Biodiversity Conservation Act 1999*
EVNT	- Endangered, Vulnerable, Near Threatened
GDA2020	- Geocentric Datum of Australia 2020
GIS	- Geographic Information System
JAMBA	- Japan-Australia Migratory Bird Agreement
NCA	- *Nature Conservation Act 1992*
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
ROKAMBA	- Republic of Korea-Australia Migratory Bird Agreement

APPENDIX B:

Preliminary Likelihood of Occurrence Assessment

CQG Consulting

Likelihood of Occurrence Assessment							CQG's Verification
Threatened Ecological Community		EPBC Status		Habitat Description	PMST Search Likelihood of Occurrence	Associated REs mapped	Likelihood of Occurrence
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community		Endangered		It is characterised by the dominance of Casuarina glauca in the canopy, with an understory of rushes, sedges, forbs and grasses. Coastal Swamp Oak Forest is typically found on loose or alluvial soil on coastal flats, floodplains, drainage lines, lake margins, wetlands and estuarine fringes where soils are at least occasionally saturated, water-logged or inundated. Sometimes the ecological community can integrate with mangroves or saltmarsh communities (on the seaward site), or with Melaleuca species and eucalypts (more landward). Remnant patches retain mature trees and/or with diverse and good native understory, particularly those that are more closely connected with another area of native vegetation have very high conservation value. Associated with RE 12.1.1 and 12.3.20.	May occur.	No associated REs mapped	U
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland		Endangered		The Coastal Swamp Sclerophyll Forest community includes the plants, animals and other organisms typically associated with forested palustrine wetlands, or swamp forests, found in the temperate to subtropical coastal valleys of Australia's east coast. This community often has a layered canopy, dominated by Melaleucas and/or Eucalyptus robusta. In some areas the canopy may be dominated by other Melaleuca species including M. dealbata (SEQ bioregion) (rarely). This community occurs between the Great Dividing Range and the coastline from near Gladstone in QLD, through to the south coast of NSW where it is found on the mainland and islands near to the coast (within 20 km). It typically occurs in low-lying coastal alluvial areas with minimal relief, such as swamps, floodplain pockets, depressions, alluvial flats, back- barrier flats, fans, terraces, and behind fore-dunes. Its structure varies from open woodland to closed forest with a crown cover of at least 10% and typically no more than 70%. Associated with RE 12.2.7, 12.3.4/12.3.4a, 12.3.5, 12.3.6, 12.3.20	May occur.	No associated REs mapped	U
Lowland Rainforest of Subtropical Australia		Critically Endangered		This ecological community primarily occurs from Maryborough in Queensland to the Clarence River (near Grafton) in New South Wales (NSW). The ecological community also includes isolated areas between the Clarence River and Hunter River such as the Bellinger and Hastings valleys. The ecological community occurs in South Eastern Queensland Bioregion and NSW North Coast Bioregion. The ecological community occurs on basalt and alluvial soils, including sand and old or elevated alluvial soils as well as floodplain alluvia. It also occurs occasionally on enriched rhyolitic soils and basaltically enriched metasediments. Lowland Rainforest mostly occurs in areas <300 m above sea level. Aspect can result in the ecological community being found at >300 m altitude on north-facing slopes, but typically 300 m defines the extent of the lowlands. In addition, Lowland Rainforest typically occurs in areas with high annual rainfall (>1300 mm). Queensland State equivelants are 12.3.1; 12.5.13; 12.8.3; 12.8.4; 12.8.13; 12.11.1; 12.11.10; 12.12.1 and 12.12.16.	May occur.	No associated REs mapped	U
Poplar Box Grassy Woodland on Alluvial Plains		Endangered		The Poplar Box Grassy Woodland on Alluvial Plains ecological community is typically a grassy woodland with a canopy dominated by Eucalyptus populnea and understory mostly of grasses and other herbs. The ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. This TEC is scattered across a broad distribution within an area that is roughly: south of Charters Towers (QLD); north of Leeton (NSW); west of Ipswich (QLD) and Armidale (NSW); and east of Longreach (QLD) and Hillston (NSW). This TEC occurs within the Brigalow Belt North, Brigalow Belt South, Southeast QLD, Cobar Peneplain, Darling Riverine Plains, NSW South Western Slopes and Riverina IBRA bioregions. In Queensland it is commonly associated with the following REs: 11.3.2; 11.3.17; 11.4.7; 11.4.12 & 12.3.10.	May occur.	No associated REs mapped	U
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions		Endangered		The subtropical eucalypt floodplain forest and woodland TEC is a floodplain forest community dominated by eucalyptus and other myrtaceous tree species. This community occurs in the NSW North Coast and SE QLD IBRA bioregions and on Curtis Island in the Brigalow Belt north IBRA Bioregion. It encompasses an area from just north of Newcastle, NSW in the south, to just north of Gladstone in QLD. It occurs in catchments of the eastern watershed of the Great Dividing Range, typically in their lower reaches at elevations up to 250 ASL. It occurs on alluvial landforms including river floodplains, riparian zones (i.e. along riverbanks, lake foreshores and creek lines), the floors of tributary gullies, floodplain pockets, alluvial flats, fans, terraces, and localised colluvial fans. It occurs on alluvial soils of varying textures including silts, clay loams, sandy loams, gravel and cobbles. It occurs as a tall closed-forest, tall open forest, closed forest with a canopy that has at least 20% crown cover. The canopy is dominated by Angophora, Corymbia, Eucalyptus, Lophostemon and/or Syncarpia tree species, but NOT dominated by Eucalyptus robusta. The mid-layer may be present, sparse or absent. Associated with RE 12.3.2, 12.3.2a, 12.3.3, 12.3.3a, 12.3.3b, 12.3.3d, 12.3.4a, 12.3.7, 12.3.7c, 12.3.7d, 12.3.10, 12.3.11, 12.3.11a, 12.3.11b, 12.3.12, 12.3.14, 12.3.15, 12.3.19.	Likely to Occur.	12.3.3 & 12.3.7	L
Weeping Myall Woodlands		Endangered		The Weeping Myall Woodlands occur in a range from open woodlands to woodlands, generally 4-12 m high, in which Weeping Myall (Acacia pendula) trees are the sole or dominant overstorey species. Other vegetation may also occur in the ecological community, though not as dominant species. These include Western Rosewood (Alectryon oleifolius subsp. elongatus); Poplar Box (Eucalyptus populnea); or Black Box (Eucalyptus largiflorens). The understorey of Weeping Myall Woodlands often includes an open layer of shrubs above an open ground layer of grasses and herbs, though the ecological community can exist naturally either as a shrubby or a grassy woodland. Although the species Acacia pendula occurs widely in Queensland, the Weeping Myall Woodlands ecological community is restricted to small patches that occur within two REs in Queensland. These are 11.3.2 and 11.3.28.	May occur.	No associated REs mapped	U
Subtropical and Temperate Coastal Saltmarsh		Vulnerable		The ecological community consists of organisms including and associated with saltmarsh in coastal regions of sub-tropical and temperate Australia. The community occurs within a relatively narrow margin of the Australian coastline, within the subtropical and temperate climatic zones in coastal areas under regular or intermittent tidal influence. The vegetation consists mainly of salt-tolerant vegetation (halophytes) including: grasses, herbs, sedges, rushes and shrubs. Succulent herbs, shrubs and grasses generally dominate and vegetation is generally of less than 0.5 m height. Associated with RE 12.1.2	Likely to Occur.	No associated REs mapped	U
Common Name	**Scientific name**	**EPBC Status**	**NC Status**	**Habitat Description**	**PMST Search Likelihood of Occurrence**	**ALA Records**	**Verified Likelihood of Occurrenace**
Birds							
Australian Painted Snipe	*Rostratula australis*	E, Ma	E	Inhabits well-vegetated shallows and margins of wetlands, dams, sewage ponds and other water courses; wet pastures, marshy areas, irrigation systems, lignum, tea-tree scrub and open timber (Geering et al., 2007; Pizzey and Knight 1999). Occurs mostly in south-eastern Australia but dispersive in response to rainfall. The species has a broad range of distribution throughout Australia but has a close association with brackish or freshwater terrestrial wetlands, especially temporary ones which have muddy margins (www.birdlife.org.au).	Likely to Occur.	No records within 5 km of Site.	U
Black-breasted Button-quail	*Turnix melanogaster*	V	V	Inhabits leaf-litter in drier rainforests, vine thickets; scrubby woodlands of eucalypts, she-oaks, bottle-brushes, brush box, Brigalow and other Acacias; thickets of lantana on rainforest fringes, hoop pine plantations; grain stubbles (Pizzey and Knight 1999). Its distribution is patchy in southeast QLD to northern NSW (Pizzey and Knight 1999).	Likely to Occur.	No records within 5 km of Site.	U
Common Sandpiper	*Actitis hypoleucos*	Mi, Ma	-	Shallow, pebbly, muddy or sandy edges of rivers and streams, coastal to far inland; dams, lakes, sewage ponds; margins of tidal rivers; waterways in mangroves or saltmarsh; mudflats; rocky or sandy beaches; causeways, riverside drains and street gutters (Pizzey and Knight 199	Known to occur.	2 records within 5 km of site, most recently i 2006. Habitat unlikely on sit	U
Coxen's Fig-Parrot	*Cyclopsitta diophthalma coxeni*	E	E	The distribution of the Coxen's Fig-Parrot is poorly known. Based on accepted records, the core distribution extends from Gympie in south-eastern QLD to Richmond River in north-eastern NSW. They occupy habitats that occur from sea level to approximately 900m above sea level. They occur in rainforest habitats including subtropical rainforest, dry rainforest, litorial and developing littoral rainforests and vine forests (SPRAT 2010).	May occur.	No records within 5 km of Site.	U
Curlew Sandpiper	*Calidris ferruginea*	CE, Mi, Ma	CR	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms (Pizzey and Knight 1999). They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They generally roost on bare dry shingle, shell or sand beaches, sandpits and islets in or around coastal or near-coastal lagoons and other wetlands (SPRAT 2015).	Known to occur.	2 records within 5 km of Site, most recently in 2006. Habitat unlikely on site	U
Eastern Curlew	*Numenius madagascariensis*	CE, Mi, Ma	E	Inhabits estuaries, tidal mudflats, sandspits, saltmarshes, mangroves; occasionally fresh or brackish lakes; bare grasslands near water (Pizzey and Knight 1999). The Eastern Curlew breeds in northeast Asia and is a common summer migrant to Australian coastlines, although about 25% of the population remains all year round (Finn et al., 2001 and 2007; Geering et al., 2007).	Known to occur.	14 records within 5 km of Site, most recently in 2022. Habitat unlikely on site	U
Fork-tailed Swift	*Apus pacificus*	Mi, Ma	-	Almost exclusively aerial species, flying from less than 1m to at least 300m above the ground. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh (SPRAT 2010).	Likely to Occur.	No records within 5 km of Site.	P
Greater Sand Plover	*Charadrius leschenaultii*	V, Mi, Ma	V	In Australia, the Greater Sand Plover occurs in coastal areas in all states, through the greatest numbers occur in northern Australia, especially the north-west. This species breeds in central Asia. In the nonbreeding ground in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons, inshore reefs, rock platforms, small rocky islands or sandy cays on coral reefs. They are also occasionally recorded on near-coastal saltworks and salt lakes, including marginal saltmarsh, and on brackish swamps. They seldom occur at shallow freshwater wetlands (SPRAT, 2023).	Likely to Occur.	3 records within 5 km of Site, most recently in 2019.	U
Grey Falcon	*Falco hypoleucos*	V	V	They Grey Falcon's habitat includes lightly treed inland plains; gibber deserts, sandridges, pastoral lands, timbered watercourses; seldom in driest deserts. Resident or nomadic visitor to inland parts of all mainland states (Pizzey an 1999).	Likely to Occur.	No records within 5 km of Site.	U
Latham's Snipe	*Gallinago hardwickii*	V, Mi, Ma	V	Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. This species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern SA. It occurs in permanent and ephemeral wetlands up to 2000m ASL, where they usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). They can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (SPRAT, 2023).	Likely to Occur.	No records within 5 km of Site.	P
Oriental Cuckoo	*Cuculus optatus*	Mi	-	Within Australia, this species uses a range of vegetated habitats such as monsoon rainforests, wet sclerophyll forest, open woodlands and appears quite often along edges of forests, or ecotones between forest types (DoE, 2015; Menkhorst et al,. 2017). This cuckoo species feeds arboreal, foraging for invertebrates on loose bark on the trunks and branches of trees, and among the foliage, including in mistletoes. It will forage from the ground, but requires shrubs or trees from which it sallies and returns to consume prey items. (DoE, 2015).	May occur.	No records within 5 km of Site.	U
Osprey	*Pandion haliaetus*	Mi, Ma	-	The Osprey is thinly distributed around the coast of Australia where they forage for fish in fresh, brackish, or saline waters of rivers, lakes, estuaries and inshore coastal waters (Schodde and Tidemann, 1993; NPWS, 2000). Nests are usually located near a suitable area of foraging habitat and are a bulky structure made from piled sticks, often positioned in a tall dead tree or artificial structures such as telecommunication towers or poles (Schodde and Tidemann, 1993; NPWS, 2000). Breeding pairs defend breeding territory against other Ospreys, and active nests are usually more than 1 km apart (NPWS, 2005).	Known to Occur.	No records within 5 km of Site.	L
Red Goshawk	*Erythrotriorchis radiatus*	V	E	Inhabits open forests, woodlands especially near rivers, wetlands and rainforest fringes in coastal and subcostal north and northeast Australia from the Kimberley (WA) to the QLD/NSW border (Pizzey and Knight 1999).	Likely to Occur.	No records within 5 km of Site.	U
Sharp-tailed Sandpiper	*Calidris acuminata*	Mi, Ma	SLC	The sharp-tailed sandpiper breeds in northern Siberia but migrates south to winter in Australia and New Zealand. In the non-breeding season they can be found in tidal mudflats, saltmarshes, mangroves; shallow fresh, brackish or saline inland wetlands; floodwaters, irrigated pastures and crops; sewage ponds and saltfields (Pizzey and Knight 1999).	Known to Occur.	4 records within 5 km of Site, most recently in 2024. Habitat unlikely on site	U
Squatter Pigeon (southern)	*Geophaps scripta scripta*	V	V	The known distribution of the Squatter Pigeon extends south from the Burdekin-Lynd divide in the southern region of Cape York Peninsula to the border Rivers region of northern NSW, and from the east coast to Hughenden, Longreach and Charleville. Their habitat is generally defined as open-forests to sparse, open woodlands and scrub that are mostly dominated by Eucalypts, Corymbia, Acacia or Callitris species. The habitat is generally remnant, regrowth or partly modified vegetation communities and within 3 km of water bodies or courses. Foraging occurs on well-drained, gravelly or loamy soils which support the open-forest to woodland communities with patchy, tussock-grassy understories (SPRAT, 2015).	Known to Occur.	6 records within 5 km of Site, most recently in 2025.	L
Star Finch (eastern) (southern)	*Neochmia ruficauda ruficauda*	E	E	Distribution is poorly known but it only occurs in central Queensland. It resides mainly in grasslands and grassy woodlands that are located close to body of fresh water. It also occurs in cleared or suburban areas such as along rode towns (SPRAT 2017).	Likely to Occur.	No records within 5 km of Site.	U
White-throated Needletail	*Hirundapus caudacutus*	V, Mi, Ma	V	Almost exclusively aerial from heights of less than 1m up to more than 1000m above the ground. Most often recorded above wooded areas, including open forest and rainforest and also are commonly recorded over heathland and cliffs (SPRAT, 2010). Exclusively aerial specie	May occur.	1 record within 5 km of Site, in 1999.	U
Capricorn Yellow Chat	*Epthianura crocea macgregori*	CE	E	The Capricorn yellow chat is known to occur at three localities - Curtis Island, Torilla Plain and the Fitzroy Delta and is most abundant at Torilla Plain.ased on current knowledge, habitat critical to the survival of the Capricorn yello wetlands and associated grasslands on seasonally inundated marine plains. These wetlands have shallow braided channels and depressions with a mosaic of dense sedge-beds, grasslands, tall samphire and areas of mud and/or shallow water. (DCCEEW 2021)	May occur.	No records within 5 km of Site.	U
Western Alaskan Bar-tailed Godwit	*Limosa lapponica baueri*	E	E	Bar-tailed godwits usually forage near the edge of water or in shallow water within tidal estuaries and harbours. Roosting tends to occur on large intertidal sandflats, spits, and banks. Less frequently, roosting occurs within mudflats, coastal lagoons, and bays (SPRAT 2024)	Known to Occur.	4 records within 5 km of Site, most recently ir 1999.	U
Common Greenshank	*Tringa nebularia*	E, Mi	E	The common greenshank forages at the edge of wetlands, in soft mud on mudflats, in channels, or within shallows around the edge of waterbodies. These locations are often situated near or among mangroves or other sparse, emer fringing vegetation such as sedges or saltmarsh. The bird occasionally feeds amongst seagrass beds (SPRAT 202	Likely to Occur.	4 records within 5 km of Site, most recently ir 2020.	P
Asian Dowitcher	*Limnodromus semipalmatus*	V, Mi	V	The species feeds on inter-tidal mudflats. Asian dowicher are carnivorous and feed primarily on small fish, insect larvae, and oligochaetes when breeding, and on polychaetes, insect larvae, and molluscs when migrating or overwintering. During the non-breeding season, the bird roosts in sheltered coastal environments such as estuarine and intertidal mudflats, lagoons, creeks and saltworks (DCCEEW 2024) .	May occur.	No records within 5 km of Site.	U
Red Knot	*Calidris canutus*	V, Mi	V	Whilst in Australia, the species mainly inhabits intertidal mudflats, sandflats, and sandy beaches of sheltered coasts, estuaries, bays, inlets, lagoons, and harbours. They are occasionally seen on terrestrial saline wetlands near the have been recorded on sewage ponds and saltworks (DCCEEW 2024	Known to Occur.	1 record within 5 km of Site, in 1989.	P
Bar-tailed Godwit	*Limosa lapponica*	E, Mi	E	Found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, salt lakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (SPRAT 2025).	Known to Occur.	No records within 5 km of Site.	P
Pectoral Sandpiper	*Calidris melanotos*	Mi	SLC	In the non-breeding seasons (passage and wintering) inhabits wide range of habitats including freshwater and brackish marshes, coastal and inland wetlands (including up to 4,500 m in the Andes), saltmarshes, flooded agricultural fields and grasslands, sewage works and coastal lagoons. Only very rarely uses mudflats (Farmer *et al*. 2020).	May occur.	No records within 5 km of Site.	U
Common Noddy	*Anous stolidus*	Mi	SLC	The species occurs around isolated, bare or vegetated, pantropical and subtropical, inshore or oceanic islands or coral reefs with rocky cliffs or offshore stacks and coral or sand beaches (del Hoyo 1996, Higgins and Davies 1996).	Known to Occur.	No records within 5 km of Site.	P
Mammals							
Ghost Bat	*Macroderma gigas*	V	E	Ghost bats occur in a wide range of habitats from rainforest, monsoon and vine scrub, to open woodlands in arid areas. These habitats are used for foraging, while roost habitat is more specific. Favoured roosting sites of the ghost bat are undisturbed caves or mineshafts which have several openings. Ghost bats occur in tropical regions in Queensland, and along the ventral and northern coast, from Rockhampton north to Cape York (DEHP 2017).	Likely to Occur.	No records within 5 km of Site.	U
Greater Glider (southern and central)	*Petauroides volans*	E	E	The southern and central Greater Glider occurs in eastern Australia, where it has a broad distribution from around Proserpine in QLD, south through NSW and the ACT, to Wombat State Forest in central VIC. This species is largely restricted to eucalypt forests and woodlands of eastern Australia. It is typically found in highest abundance in taller, montane, moist eucalypt forests on fertile soils, with relatively old trees and abundance hollows. It is likely that only a proportion of forest in potential habitat areas is suitable for the species, as the structural attributes of the forest overstorey and forage quality it relies on vary considerably across the landscape (TSSC Conservation Advice, 2022).	Likely to Occur.	Records within 100 km of Site, most recently in 1999.	L
Grey-headed Flying-fox	*Pteropus poliocephalus*	V	-	The Grey-headed Flying-fox occurs in a range of habitats including subtropical and temperate rainforests, dry and wet sclerophyll forests, Banksia woodland, heaths and Melaleuca swamps (Duncan et al, 1999; NPWS, 2001).	May occur.	1 record within 5 km of Site in 1989.	P
Koala	*Phascolarctos cinereus*	E	E	The Koala is endemic to Australia. The biological species range extends from north-eastern QLD to the south-east corner of SA. Koalas naturally inhabit a range of temperate, subtropical and tropical forests, woodland and semi-arid community's dominated by Eucalyptus species. Their habitat can broadly be defined as any forest or woodland containing species that are a known Koala food tree, or shrubland with emergent food trees (SPRAT 2017).	Likely to Occur.	No records within 5 km of Site.	L
Northern Quoll	*Dasyurus hallucatus*	E	-	The northern quoll occurs across much of northern Australia, from south-eastern Queensland to the south-west Kimberley, with a disjunct population in the Pilbara. In the Northern Territory it is restricted to the Top End. The species occupies a diversity of habitats across its range which includes rocky areas, eucalypt forest and woodlands, rainforest, sandy lowlands and beaches, shrubland, grasslands and desert. The habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal (SPRAT 2012).	Likely to Occur.	No records within 5 km of Site.	U
Yellow-bellied Glider (south-eastern)	*Petaurus australis australis*	V	V	The Yellow-bellied Glider is found in tall mature Eucalypt Forest and they feed on a range of sources including winter-flowering Eucalypts which provide nectar and pollen. They also feed upon the sap of Eucalypts in which they chew V-shaped incisions to collect the sap. Yellow-bellied Gliders den in large tree hollows (NPWS, 2000).	May occur.	5 records within 5 km of Site, most recently in 1999.	L
Water Mouse	*Xeromys myoides*	V	V	In central eastern Queensland, the diet is similar and is known to include grapsid crabs (e.g. Neoepisesarma mederi) (Ball 2004). The habitat of the Water Mouse is aquatic environments, including coastal saltmarsh, samphire shrublands, saline reed-beds and saline grasslands, mangroves, and coastal freshwater wetlands, and wet heathlands (DAWE 2021).	Known to Occur.	1 record within 5 km of Site in 2011.	U
Reptiles							
Collared Delma	*Delma torquata*	V	V	Under rocks and in soil cracks on heavy, stony and lightly timbered soils near Kenmore, Brookfield and Mt Crosby. Endemic to South-east Queensland. Also found in numerous disturbed habitats throughout Southeast Queensland (2000).	May occur.	No records within 5 km of Site.	U
Dunmall's Snake	*Furina dunmalli*	V	V	The distribution of the Dunmall's Snake extends from near the QLD border through the Brigalow Belt South and Nandewar bioregions, as far south as Ashford in NSW. In QLD this species occurs primarily in the Brigalow Belt region in the south-eastern interior of QLD. Records indicate sites at elevations between 200-500 m above sea level. The snake is very rare of secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park. It has been found in a broad range of habitats including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow; and other various Blue Spotted Gum, Ironbark, White Cypress and Bulloak open forests and woodland associations on sandstone derived soils (SPRAT).	May occur.	No records within 5 km of Site.	U
Grey Snake	*Hemiaspis damelii*	E	-	Queensland, records are known from near Goondiwindi and the adjacent Darling-Riverine Plain, from the Darling Downs and from the Lockyer Valley. Several isolated records also occur in the Rockhampton area. It favours woodlands, usually on heavier, cracking clay soils, particularly in association with water bodies. They shelter under rocks, logs and other debris as well as in soil cracks (SPRAT 2011).	May occur.	No records within 5 km of Site.	P
Yakka Skink	*Egernia rugosa*	V	V	Endemic to Queensland where its distribution is highly fragmented. Often associated with partly-buried rocks, logs or tree stumps, root cavities and abandoned animal burrows. It is also known to excavate deep burrow systems. The Yakka Skink can persist in cleared habitats if shelter sites such as raked log piles, deep gullies, tunnel erosion/sinkholes and rabbit warrens are available (DEHP 2017).	May occur.	No records within 5 km of Site.	P
Salt-water Crocodile, Estuarine Crocodile	*Crocodylus porosus*	Mi	V	The species mostly occurs in tidal rivers, coastal floodplains and channels, billabongs and swamps up to 150 km inland from the coast. The Salt-water Crocodile usually inhabits the lower (estuarine) reaches of rivers, while the upper reaches are inhabited by*Crocodylus johnstoni* (Fresh-water Crocodile); although, areas of overlap occur in some rivers. In Queensland, the species is usually restricted to coastal waterways and floodplain wetlands. Populations may also be found hundreds of kilometres upstream, such as in the Fitzroy River and the waterways of the southern Gulf of Carpentaria (SPRAT 2025)	Likely to Occur.	No records within 5 km of Site.	U
Plants							
Black Ironbox	*Eucalyptus raveretiana*	V	-	Eucalyptus raveretiana has a wide distribution in coastal and sub-coastal areas of QLD, from south of Townsville to Nebo, around Rockhampton and areas 100 km west of the city. It has been recorded from about 23 sites throughout its range, in two main areas. This species usually grows along water courses, and sometimes on river flats or open woodland. It is found in altitudinal ranges from 0-300 m and the climate of the area is sub-tropical. The species is said to be highly salt tolerant (SPRAT, 2020).	Likely to Occur.	No records within 5 km of Site.	P
Bluegrass	*Dichanthium setosum*	V	-	Dichanthium setosum has been reported from inland NSW to QLD. There are also reports from WA and TAS. The species is associated with heavy basaltic black soils and red-brown loams with clay subsoils (predominantly cracking clays or alluvium, often in gilgai). It is often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. The species may tolerate or benefit from disturbance, otherwise, disturbance is indicative of threatening processes in its habitat (SPRAT 2013).	Likely to Occur.	No records within 5 km of Site.	P
Cossinia	*Cossinia australiana*	E	E	Cossinia australiana is known from fragmented remnant patches of Araucarian vineforests or fine thickets on fertile soils in central and southern QLD. This species' distribution is from Rockhampton to Kingaroy, east of the Dividing Range, a distance of approximately 300km. At most sites it is recorded as uncommon, usually as scattered individuals. This species occurs from 20-520 m in altitude and appears to prefer ecotonal situations around dry rainforest edges, although it also occurs as scattered individual plants within closed forest communities (DES - Species Search).	May occur.	No records within 5 km of Site.	U
Quassia	*Samadera bidwillii*	V	V	Quassia is endemic to QLD and is currently known to occur in several localities including: Scawfell Island, Mackay, Goomboorian and north of Gympie. This species mainly occurs in lowland rainforest margins, but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses (SPRAT 2019).	May occur.	No records within 5 km of Site.	P
Three-leaved Bosistoa	*Bosistoa transversa*	V	-	Three-leaved Bosistoa is found from the Nightcap Range north of Lismore in north-east NSW to Mount Larcom (near Gladstone) in south-east QLD. The species is described in herbarium collection records as locally abundant at Natural Bridge-Springbrook NP and Coalstoun Lakes NP in QLD. This species typically grows in lowland subtropical rainforest. Has been found in closed forests on steep slopes, rainforests along creek lines, on reddish loam over basalt rock on very steep slopes and in notophyll vine forests (SPRAT 2019).	May occur.	1 record within 5 km of Site in 1988.	P
Wedge-leaf Tuckeroo	*Cupaniopsis shirleyana*	V	V	Cupaniopsis shirleyana is restricted to south-east Queensland, from Brisbane, north to Bundaberg. This species occurs at 20-550m in elevation and has been recorded in a variety of rainforest types including vine thicket and dry rai occurs on hillsides, mountain tops, lower slopes of valleys, stream beds and along riverbanks. It grows in a variety of soil types (DES - Species Se	Likely to Occur.	No records within 5 km of Site.	U
	Cycas megacarpa	E	E	Cycas megacarpa is endemic to south-east Queensland where it is found as far south as Woolooga to Bouldercombe in the north. Many surviving populations are small and greatly fragmented, with only a handful of adult plants. This species is typically found in woodland, open woodland and open forests, often in conjunction with a grassy understory. Cycas megacarpa is found in habitats dominated by Eucalyptus crebra and Corymbia citriodora as well as Corymbia erythrophloia, Eucalyptus melanophloia and Lophostemon confertus. There are also reports that it can be found on the edge of rainforest habitat (SPRAT, 2022).	May occur.	No records within 5 km of Site.	P
	Cycas ophiolitica	E	E	Cycas ophiolitica is endemic to Queensland, occurring from Marlborough to Rockhampton in central-eastern Queensland. It occurs in woodland or open eucalypt woodland (SPRAT, 2019).	May occur.	No records within 5 km of Site.	P
Macadamia Nut	*Macadamia integrifolia*	V	V	Macadamia Nut occurs from Mt Bauple, near Gympie, to Currumbin Valley in the Gold Coast hinterland, south-east Queensland. . It occurs as a scattered rare to occasional tree, and population sizes are difficult to estimate (Barry & Thomas, 1994). This species grows in remnant rainforest, including complex mixed notophyll forest, and prefers partially open areas such as rainforest edges (Ryan, 2006).	May occur.	No records within 5 km of Site.	U

Likelihood of Occurrence Ratings and Definitions

Likelihood of Occurrence Rating	Definition (from the Defence Environment Risk Tool)	Code
Known	Listed fauna - Habitat is present in the impact area and the species has been recorded in the impact area, or in connected habitat adjacent to the impact area, in the last 10 years	K
	Threatened flora - Habitat is present in the impact area and the species has been recorded in the impact area during the last 10 years.	
	TEC - Presence of TEC has been confirmed through ground-truthing during surveys undertaken in the last 2 years.	
Likely	Listed fauna - Habitat is present in the impact area and the species has been recorded in the impact area, or in connected habitat adjacent to the impact area, in the last 11 to 30 years; OR Habitat is present in the impact area and the species has been recorded within its dispersal range/limit from the impact area in the last 11 to 30 years, and there are no significant barriers to movement between the records and the impact area.	L
	Threatened flora - Habitat is present in the impact area, and the species has been recorded in the impact area in the last 11 to 30 years; OR Habitat is present in the impact area and adequate surveys to determine presence/ absence have not been undertaken, but the vegetation community composition indicates the species is probably present.	
	TEC - This likelihood category is not applicable to TECs. If there is the potential for a TEC to occur, the vegetation needs to be ground-truthed and presence or absence confirmed.	
Potential	Listed fauna - Habitat is present in the impact area and the species has been recorded in the impact area, or in connected habitat adjacent to the impact area, more than 31 years ago; OR Habitat is in the impact area, the impact area is within the species modelled distribution range, and the species may use the habitat at least occasionally or opportunistically; OR Habitat is in the impact area and it could be used in the future as climate refugia.	P
	Threatened flora - Habitat is present in the impact area and the species has been recorded in the impact area more than 31 years ago; OR Habitat is present in the impact area, the impact area is within the species modelled distribution, and adequate surveys have not been undertaken to prove the species is absent.	
	TEC – The TEC has been identified as potentially present from desktop search results but has yet to be groundtruthed to confirm presence.	
Unlikely	Listed fauna - Habitat is not present within the impact area or adjacent to the impact area and the impact area is within the species distribution; OR Habitat is present in the impact area and the species has been recorded within its dispersal range/limit from the impact area over 30 years ago, and there are no significant barriers to movement between the records and the impact area.	U
	Threatened flora - Habitat is not present within or adjacent to the impact area and robust targeted surveys have not been undertaken to prove if the species is absent.	
	TEC - This likelihood category is not applicable to TECs. If there is the potential for a TEC to occur, the vegetation needs to be ground-truthed and presence or absence confirmed.	
Confirmed absent	Listed fauna - This likelihood category is not applicable to fauna as it is very difficult to prove absence of a species identified in the PMST report as having the potential to occur.	A
	Threatened flora - Habitat is not within or adjacent to the impact area and robust targeted surveys have proven the species to be absent.	
	TEC - Recent ground-truthing of vegetation has determined that that the TEC is not present.	

APPENDIX C:

BioCondition Scores

Attribute	RE 11.3.29a		T1		
	Benchmark	Weighting (%)	Value	Sub-score	Score
Large trees					
Eucalypts	45 cm DBH	15	4 trees >45 cm DBH		10
	14 trees per ha		8 trees per ha		
Non-eucalypts	NA		NA		
	NA		NA		
Tree height (m)					
Canopy	21 m	5	12 m	3	3
Sub-canopy	11 m		5 m	3	
Recruitment of canopy species (%)	100%	5	100%		5
Canopy cover (%)					
Canopy	44%	5	71.10%	3	4
Subcanopy	10%		8.40%	5	
Shrub canopy cover (%)	2%	5	0.00%		0
Coarse wody debris (M/ha)	285 m/ha	5	80 m/ha		2
Native plant spp. Richness					
Trees	7 Spp	20	3 spp	2.5	7.5
Shrubs	7 Spp		3 spp	2.5	
Grass	8 Spp		5 spp	2.5	
Forbs/ other	17 Spp		4 spp	0	
Non-native plant cover (%)	0%	10	5%		10
Native perennial grass cover (%)	40%	5	7%		1
Organic litter cover (%)	30%	5	88.80%		3
Landscape context (fragmented)					
Patch size		10	49.6 ha of regrowth vegetation		5
Context		5	30.2% remnant and 69.8% regrowth		2
Connectivity		5	35.73% connected to remnant vegetation		4
Total Score		**100**			**56.50**
BioCondition Class					**3**

Attribute	RE 11.3.29a		T2		
	Benchmark	Weighting (%)	Value	Sub-score	Score
Large trees					
Eucalypts	45 cm DBH	15	2 trees >45 cm DBH		5
	14 trees per ha		4 trees per ha		
Non-eucalypts	NA		NA		
	NA		NA		
Tree height (m)					
Canopy	21 m	5	13 m	3	3
Sub-canopy	11 m		6 m	3	
Recruitment of canopy species (%)	100%	5	100%		5
Canopy cover (%)					
Canopy	44%	5	28.30%	5	4
Subcanopy	10%		27.70%	3	
Shrub canopy cover (%)	2%	5	4.60%		3
Coarse wody debris (M/ha)	285 m/ha	5	0 m/ha		0
Native plant spp. Richness					
Trees	7 Spp	20	6 spp	5	7.5
Shrubs	7 Spp		2 spp	2.5	
Grass	8 Spp		1 spp	0	
Forbs/ other	17 Spp		1 spp	0	
Non-native plant cover (%)	0%	10	80%		0
Native perennial grass cover (%)	40%	5	0%		0
Organic litter cover (%)	30%	5	69.60%		3
Landscape context (fragmented)					
Patch size		10	49.6 ha of regrowth vegetation		5
Context		5	77.0% remnant and 23.0% regrowth		5
Connectivity		5	29.79% connected to remnant vegetation		2
Total Score		**100**			**42.50**
BioCondition Class					**3**

APPENDIX D:

Regional Ecosystem Verification

Site	T1	T2
Location	-23.813325° 151.154045°	-23.814831° 151.150520°
Mapped RE	11.3.29 - *Eucalyptus crebra, E. exserta,* Melaleuca spp. woodland on alluvial plains (Least concern) 12.11.14 – *E. crebra, E. tereticornis, Corymbia intermedia* woodland on metamorphics +/- interbedded volcanics (Of concern) 12.3.3 – *E. tereticornis* woodland on Quaternary alluvium (Endangered)	11.3.29 - *Eucalyptus crebra, E. exserta,* Melaleuca spp. woodland on alluvial plains (Least concern) 12.11.14 – *E. crebra, E. tereticornis, Corymbia intermedia* woodland on metamorphics +/- interbedded volcanics (Of concern) 12.3.3 – *E. tereticornis* woodland on Quaternary alluvium (Endangered)
Vegetation Cover	Regrowth	Regrowth
Vegetation Structure	Open forest	Low woodland
Vegetation Description	Flat dominated by regrowth *E. crebra* at T1, with emergent remnant *E. crebra* and *Blakella dallachiana* interspersed. Sparse ground cover of native grasses with consistent leaf litter coverage. Minimal shrub layer present.	Flat dominated by regrowth *Melaleuca nervosa* at T3, with remnant *Blakella dallachiana* interspersed at T1 and *Lophostemon suaveolens* and *B. tessellaris* regrowth also observed at T2. Ground layer dominated by Thatch grass.
Dominant vegetation species and strata	*E. crebra* T1	*M. nervosa* T3
Dominant species Height	12 m	6 m
EDL Cover	71.1%	28.3%
Land Zone	3 - Recent Quaternary alluvial systems	3 - Recent Quaternary alluvial systems
RE Verification	Bioregion 11 - Yes. In Gladstone. Landzone 3 - Yes. Recent Quaternary alluvial systems Ecosystem 29a – *E. crebra* and *B. dallachiana* dominant	Bioregion 11 - Yes. In Gladstone. Landzone 3 - Yes. Recent Quaternary alluvial systems Ecosystem 29 – *E. crebra* and *M. nervosa* present.
TEC key characteristics observed	Nil	Nil
Protected Plants or Threatened Species Observed	No	No
Active Habitat Observed	No	No
Mapped essential Habitat	Yes	No
Koala Food Trees Present	Dallachy's gum – *B. dallachiana* Narrow-leaved ironbark – *E. crebra*	Dallachy's gum - *B. dallachiana* Moreton Bay ash – *B. tessellaris* Narrow-leaved ironbark - *E. crebra* Blue gum – *E. tereticornis* Swamp box – *L. suaveolens*
Restricted Invasive species / WoNS observed	No	No

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Site	T1	T2
Representative site photo		

Site	T3	T4
Location	-23.8183167, 151.1514154	-23.8178093, 151.1524762
Mapped RE	12.3.3 - *Eucalyptus tereticornis* woodland on Quaternary alluvium (Endangered) 12.11.4 - Semi-evergreen vine thicket on metamorphics +/- interbedded volcanics (Of concern)	12.3.7 - *Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana* +/- Melaleuca spp. fringing woodland (Of concern)
Vegetation Cover	Remnant	Remnant
Vegetation Structure	Tussock grass	Tussock grass
Vegetation Description	Flat between Boat Creek and an unnamed waterway dominated by Guinea grass to 3 metres tall. Vegetation immediately adjacent to Boat Creek is remnant with the remainder of the flat non-remnant. Heavy rubber vine presence in trees on creek bank.	Flat between Boat Creek and an unnamed waterway dominated by Guinea grass to 3 metres tall. Vegetation immediately adjacent to Boat Creek is remnant with the remainder of the flat non-remnant. Heavy rubber vine presence in trees on creek bank.
Dominant vegetation species and strata	Guinea grass -*Megathyrsus maximus* – G1	Guinea grass -*Megathyrsus maximus*– G1
Dominant species Height	2.5 m	2.5 m
EDL Cover	100%	100%
Land Zone	3 - Recent Quaternary alluvial systems	3 - Recent Quaternary alluvial systems
RE Verification	Bioregion 12 - Yes. In the Gladstone area. Landzone 3 - Yes. Recent Quaternary alluvial systems Ecosystem 3 - Within 20 m of Boat Creek, yes. *E. tereticornis* scattered on creek bank. Beyond that, non-remnant.	Bioregion 12 - Yes. In the Gladstone area. Landzone 3 - Yes. Recent Quaternary alluvial systems Ecosystem 7 – Within 20 m of Boat Creek, yes. *E. tereticornis, C. cunninghamiana subsp. cunninghamiana* and *M. leucadendra* all present. Beyond that, non-remnant.
TEC key characteristics observed	No	No
Protected Plants or Threatened Species Observed	No	No
Active Habitat Observed	No	No
Mapped essential Habitat	Yes	No
Koala Food Trees Present	Dallachy's gum - *B. dallachiana* Moreton Bay ash - *B. tessellaris* Blue gum - *E. tereticornis*	Moreton Bay ash - *B. tessellaris* Blue gum - *E. tereticornis*
Restricted Invasive species / WoNS observed	Rubber vine - *Cryptostegia grandiflora*	Lantana - *Lantana camara* Rubber vine - *Cryptostegia grandiflora*

Site	T3	T4
Representative site photo		

APPENDIX E:

Species Lists

Flora Species List

Family	Scientific Name	Common Name	T1	T2	T3	T4
Apocynaceae	*Gomphocarpus physocarpus*	Balloon cottonbush		x		
Poaceae	*Heteropogon contortus*	Black speargrass	x			
Leguminosae	*Acacia leiocalyx*	Black wattle	x	x		
Hemerocallidaceae	*Dianella caerulea*	Blue flax lily	x	x		
Myrtaceae	*Eucalyptus tereticornis*	Blue gum		x	x	x
Nymphaeaceae	*Nymphaea caerulea*	Blue water lily				x
Typhaceae	*Typha orientalis*	Broad-leaved cambungi				x
Myrtaceae	*Melaleuca leucadendra*	Broad-leaved tea-tree			x	x
Rubiaceae	*Psydrax odorata*	Canthium	x			
Euphorbiaceae	*Ricinus communis*	Castor oil bush			x	x
Sapindaceae	*Cupaniopsis anacardioides*	Coastal tuckeroo			x	
Lecythidaceae	*Planchonia careya*	Cocky apple		x		
Poaceae	*Phragmites australis*	Common reed grass			x	
Juncaceae	*Juncus polyanthemus*	Common rush		x		
Myrtaceae	*Blakella dallachiana*	Dallachy's gum	x	x	x	
Solanaceae	*Solanum torvum*	Devil's fig			x	
Leguminosae	*Senna pendula var. glabrata*	Easter cassia			x	x
Poaceae	*Cenchrus purpureus*	Elephant grass				x
Leguminosae	*Hardenbergia violacea*	False sarsparilla	x			
Cyperaceae	*Fimbristylis dichotoma*	Fringe-rush	x			
Poaceae	*Megathyrsus maximus*	Guinea grass			x	x
Poaceae	*Themeda triandra*	Kangaroo grass	x			
Verbenaceae	*Lantana camara*	Lantana			x	
Laxmanniaceae	*Lomandra longifolia*	Lomandra			x	
Euphorbiaceae	*Macaranga tanarius*	Macaranga			x	
Anacardiaceae	*Mangifera indica*	Mango				x
Pteridaceae	*Acrostichum speciosum*	Mangrove fern				x
Rubiaceae	*Coelospermum reticulatum*	Medicine bush	x			
Myrtaceae	*Blakella tessellaris*	Moreton Bay ash		x	x	x
Moraceae	*Ficus macrophylla forma macrophylla*	Moreton Bay fig			x	
Myrtaceae	*Eucalyptus crebra*	Narrow-leaved ironbark	x	x		
Myrtaceae	*Melaleuca nervosa*	Paperbark	x	x		
Poaceae	*Sarga plumosum*	Plume sorghum			x	
Asteraceae	*Praxelis clematidea*	Prexelis		x		
Malvaceae	*Sida hackettiana*	Queenland hemp	x			
Myrtaceae	*Melaleuca viminalis*	Red bottlebrush			x	x
Casuarinaceae	*Casuarina cunninghamiana*	River sheoak			x	x
Apocynaceae	*Cryptostegia grandiflora*	Rubber vine			x	x
Moraceae	*Ficus opposita*	Sandpaper fig			x	x
Leguminosae	*Macroptilium atropurpureum*	Siratro			x	x
Myrtaceae	*Lophostemon suaveolens*	Swamp box		x		
Poaceae	*Hyparrhenia rufa*	Thatch grass	x	x		
Cyperaceae	*Cyperus alternifolius*	Umbrella sedge			x	
Malvaceae	*Urena lobata*	Urena burr		x	x	
Meliaceae	*Melia azedarach*	White cedar			x	x
Poaceae	*Aristida spuria*	White speargrass	x			
Scrophulariaceae	*Eremophila debilis*	Winter apple	x			
Poaceae	*Aristida utilis*	Wiregrass	x			

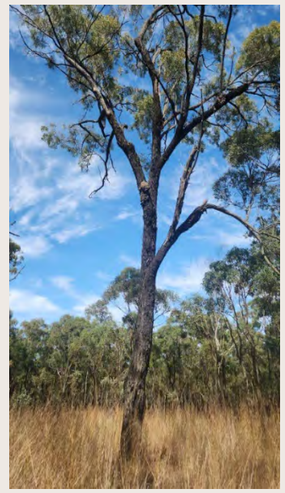
Fauna Species List

Family	Scientific Name	Common Name
Artamidae	*Gymnorhina tibicen*	Australian magpie
Campephagidae	*Coracina novaehollandiae*	Black-faced cuckoo-shrike
Alcedinidae	*Dacelo leachii*	Blue-winged kookaburra
Cuculidae	*Scythrops novaehollandiae*	Channel-billed cuckoo
Estrildidae	*Taeniopygia bichenovii*	Double-barred finch
Macropodidae	*Macropus giganteus*	Eastern grey kangaroo
Scincidae	*Ctenotus robustus*	Eastern striped skink
Alcedinidae	*Todiramphus macleayii*	Forest kingfisher
Cisticolidae	*Cisticola exilis*	Golden-headed cisticola
Rhipiduridae	*Rhipidura albiscapa*	Grey fantail
Meliphagidae	*Philemon citreogularis*	Little friarbird
Falconidae	*Falco cenchroides*	Nankeen kestrel
Psittaculidae	*Platycercus adscitus*	Pale-headed rosella
Columbidae	*Geopelia placida*	Peaceful dove
Cuculidae	*Centropus phasianinus*	Pheasant coucal
Meropidae	*Merops ornatus*	Rainbow bee-eater
Psittaculidae	*Trichoglossus moluccanus*	Rainbow lorikeet
Maluridae	*Malurus melanocephalus*	Red-backed fairy-wren
Cacatuidae	*Calyptorhynchus banksii*	Red-tailed black-cockatoo
Pachycephalidae	*Pachycephala rufiventris*	Rufous whistler
Meliphagidae	*Myzomela sanguinolenta*	Scarlet honeyeater
Accipitridae	*Circus assimilis*	Spotted harrier
Rallidae	*Porphyrio melanotus*	Swamp hen
Macropodidae	*Wallabia bicolor*	Swamp wallaby
Corvidae	*Corvus orru*	Torresian crow
Hirundinidae	*Hirundo neoxena*	Welcome swallow
Ardeidae	*Ardea pacifica*	White-necked heron

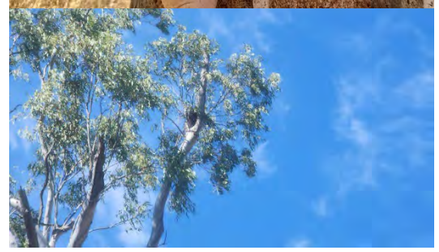
APPENDIX F:

Habitat Features

Significant Habitat Features, Fauna Sign and Food Sources

Name	Location	Status	Observations	Photos
Arboreal hollow Koala/ glider tree Arboreal termite mound	-23.8134438, 151.1546299	Active breeding: No	In *E. crebra*, arboreal termite mound also observed. DBH: 63 cm Height: 18.3 m	
Arboreal hollow Koala/ glider tree Scratches	-23.8144942, 151.1543148	Active breeding: No	Many hollows In large *B. Dallachiana*. Many fresh diggings nearby. Many large scratches also observed in trunk. DBH: 75 cm Height: 23 m	

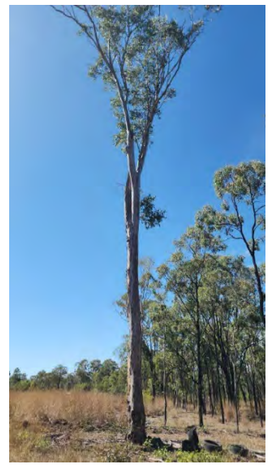
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Name	Location	Status	Observations	Photos
Arboreal hollow Koala/ glider tree	-23.8164435, 151.1539514	Active breeding: No	In *E. crebra*. with dead hollow limb. DBH: 52 cm Height: 17.1 m	
Arboreal hollow Koala/ glider tree Scratches Stick nest	-23.8150898, 151.1537962	Active breeding: No	Scratches. *B. dallachiana*. Stick nest DBH: 75 cm Height: 24.9 m	   

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Name	Location	Status	Observations	Photos
Arboreal hollow Koala/ glider tree	-23.8145993, 151.1535561	Active breeding: No	In *E. crebra.* DBH: 60 cm Height 16 m	
Arboreal hollow Koala/ glider tree	-23.8137105, 151.1532483	Active breeding: No	*E. Crebra* DBH: 74 cm Height: 26 m	
Arboreal hollow Koala/ glider tree	-23.8131912, 151.1533894	Active breeding: No	Dead limb on *E. crebra*, old fire damage and many hollows observed. DBH: 56 cm Height: 16 m	

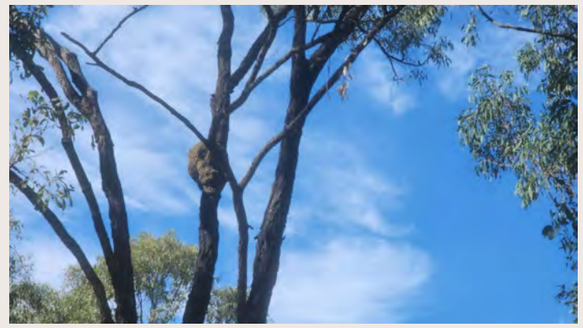
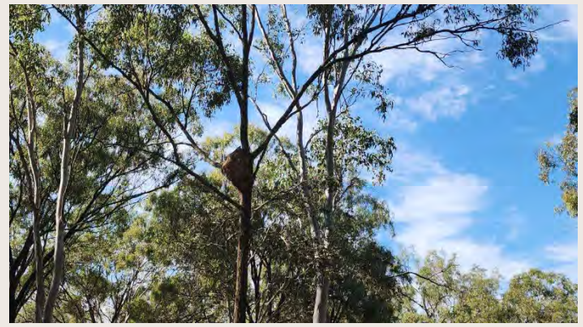
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Name	Location	Status	Observations	Photos
Arboreal hollow Scratches	-23.8131035, 151.1536153	Active breeding: No	*B. dallachiana* with many small scratches DBH: 61 cm Height: 20 m	 
Arboreal hollow Koala/ glider tree	-23.8174772, 151.1517192	Active breeding: No	*B. dallachiana* with arboreal hollow. DBH: 50 cm Height: 15 m	

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Name	Location	Status	Observations	Photos
Arboreal hollow Koala/ glider tree	-23.8177289, 151.1516055	Active breeding:	*B. dallachiana* DBH: 100 cm Height: 30 m	
Arboreal termite mound	-23.8132606, 151.1546177	Active breeding: No	In *Eucalyptus crebra*	
Arboreal termite mound	-23.813317, 151.1546148	Active breeding: No	In *E. crebra*	

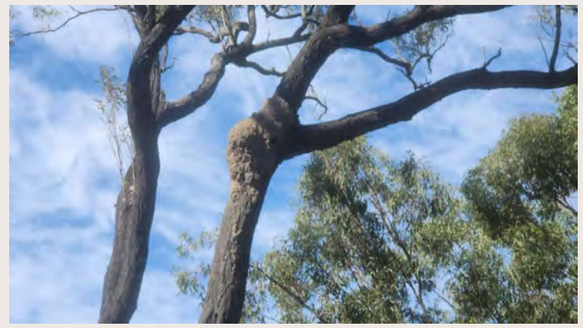
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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8138272, 151.1545884	Active breeding: No	In *E. crebra.*	
Arboreal termite mound	-23.8138408, 151.1545272	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8138419, 151.1545221	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8147818, 151.1543931	Active breeding: No	In *E. crebra*.	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8148695, 151.1544067	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8150881, 151.1544699	Active breeding: No	On fence line.	
Arboreal termite mound	-23.8151244, 151.1544747	Active breeding: No	In *B. dallachiana*.	
Arboreal termite mound	-23.815127, 151.1544668	Active breeding: No	In *E. crebra*.	

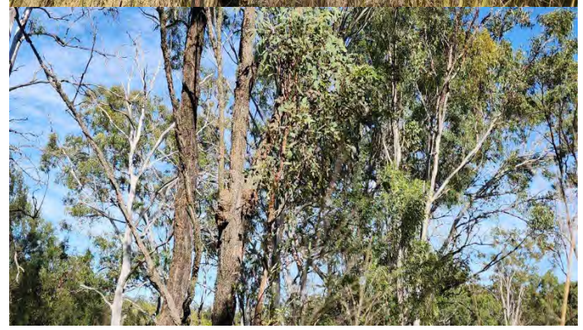
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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8155949, 151.1543183	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8159749, 151.1541721	Active breeding: No	In *B. dallachiana.*	
Arboreal termite mound	-23.8161093, 151.1541213	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.816212, 151.1541175	Active breeding: No	In *E. crebra*.	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8162621, 151.1540545	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8164076, 151.1539927	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8164211, 151.1539968	Active breeding: No	In *E. crebra*.	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.816432, 151.1538964	Active breeding:	In *E. crebra*.	 
Arboreal termite mound	-23.8165458, 151.1539456	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8165127, 151.1534786	Active breeding: No	In *E. crebra*.	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8163925, 151.1532144	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8155205, 151.1537437	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8153172, 151.1537321	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8152155, 151.1538083	Active breeding: No	In *E. crebra*.	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8150894, 151.1537891	Active breeding: No	Two in side-by-side *E. crebra*.	
Arboreal termite mound	-23.814613, 151.1535634	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8143205, 151.1535041	Active breeding: No	In *E. crebra.*	
Arboreal termite mound	-23.8140933, 151.1534587	Active breeding: No	In *E. crebra.*	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8139315, 151.1534404	Active breeding: No	In *E. crebra.*	
Arboreal termite mound	-23.8132143, 151.1527468	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8134319, 151.1528034	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8138366, 151.1529847	Active breeding: No	In *E. crebra*.	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8138916, 151.1530165	Active breeding: No	In *E. crebra*.	
Arboreal termite mound	-23.8146834, 151.1520626	Active breeding: No	In *B. dallachiana*.	
Arboreal termite mound	-23.8154222, 151.1518975	Active breeding: No	In *E. crebra.*	
Arboreal termite mound	-23.8162783, 151.150822	Active breeding:	In *B. dallachiana*	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.816781, 151.1520026	Active breeding: No	In *E. crebra*	
Arboreal termite mound	-23.8169216, 151.1517651	Active breeding: No	In *Corymbia intermedia*.	
Arboreal termite mound	-23.8159366, 151.1503028	Active breeding:	In *C. intermedia*	
Arboreal termite mound	-23.814559, 151.1515581	Active breeding:	In *E. crebra.*	

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Name	Location	Status	Observations	Photos
Arboreal termite mound	-23.8145619, 151.1515609	Active breeding: No	In *E. crebra.*	
Arboreal termite mound	-23.8143546, 151.1517746	Active breeding: No	In *B. dallachiana*, with large opening	
Arboreal termite mound	-23.8144169, 151.152058	Active breeding: No	In *B. dallachiana.*	
Arboreal termite mound	-23.8141771, 151.1520433	Active breeding: No	In *E. crebra.*	

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Name	Location	Status	Observations	Photos
Burrow	-23.8138456, 151.1530013	Active breeding: No		
Dam	-23.8152446, 151.1518119	Active breeding: No	Pig prints all around, active bird life observed in area.	
Diggings	-23.8132684, 151.1545451	Active breeding: No	Small diggings, many in area. Likely echidna or bandicoot.	
Diggings	-23.8135259, 151.1545707	Active breeding: No	Small diggings, many in area, likely echidna or bandicoot.	

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Name	Location	Status	Observations	Photos
Diggings	-23.813824, 151.1545823	Active breeding: No	Small diggings, many in area, likely echidna or bandicoot.	
Diggings	-23.8165451, 151.1538913	Active breeding: No	Small diggings, many in area, likely echidna or bandicoot.	

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Name	Location	Status	Observations	Photos
Diggings	-23.8131365, 151.1539982	Active breeding: No		
Diggings	-23.8168984, 151.1514492	Active breeding: No		
Exfoliating bark	-23.8156503, 151.154367	Active breeding: No	In large *B. dallachiana.*	

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Name	Location	Status	Observations	Photos
Flowering trees	-23.8130618, 151.1545206	EPBC Status: Not Listed NCA Status: least concern	Mount Morgan wattle *(Acacia podalyrifolia)* In flower	
Flowering trees	-23.8155921, 151.1518058	EPBC Status: Not Listed NCA Status: least concern	Paperbark *(Melaleuca nervosa)* In flower	
Koala/ glider tree	-23.8140358, 151.153427	Active breeding: No	*E. crebra.* DBH: 45 cm Height: 13.9m	

Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8138415, 151.1534882	Active breeding: No	*E. crebra.* DBH: 49 cm Height: 13.6 m	
Koala/ glider tree	-23.8140189, 151.1531036	Active breeding: No	*E. crebra* DBH: 42 cm Height: 14.8 m	

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Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8155886, 151.1519067	Active breeding: No	*B. dallachiana.* DBH 48 cm Height: 18 m	
Koala/ glider tree	-23.8151425, 151.1508221	Active breeding: No	*E. tereticornis* DBH: 47 cm Height: 26 m	

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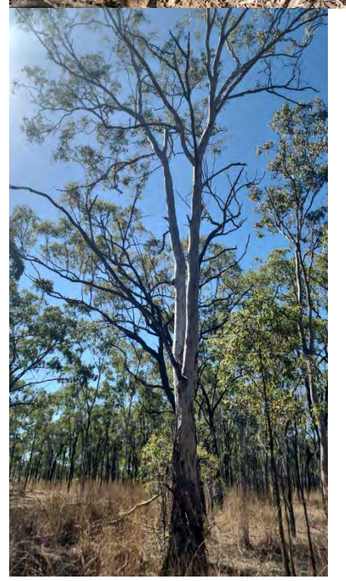
Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8169027, 151.1514517	Active breeding: No	*B. dallachiana* DBH: 49 cm Height: 19 m	
Koala/ glider tree	-23.8183025, 151.151824	Active breeding: No	*E. tereticornis* DBH: 49 cm Height: 15 m	

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Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8144338, 151.1534043	Active breeding: No	*E. Crebra* DBH: 44 cm Height: 17.9 m	
Koala/ glider tree	-23.8138823, 151.1533983	Active breeding: No	*E. crebra.* DBH: 53 cm Height: 13.8 m	

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Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8133502, 151.1533129	Active breeding: No	Two 2. *E. Crebra* DBH: 67 cm / 60 cm Height: 17.3 m / 20.6 m	

Name	Location	Status	Observations	Photos
Koala/ glider tree Diggings	-23.8139998, 151.1531152	Active breeding: No	*B. dallachiana* with small diggings at base likely from an echidna. DBH: 58 cm Height: 16 m	 

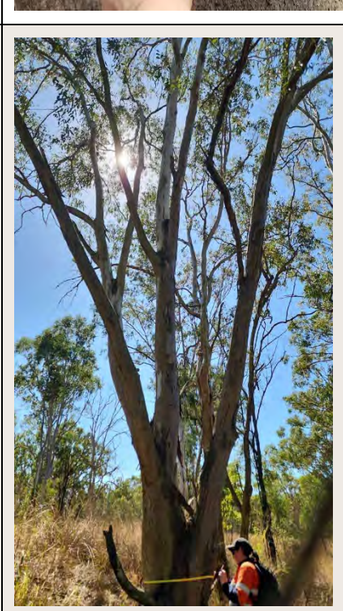
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Name	Location	Status	Observations	Photos
Koala/ glider tree Scratches	-23.8149872, 151.1519626	Active breeding:	*B. dallachiana* with scratches. DBH: 64 cm Height: 19 m	

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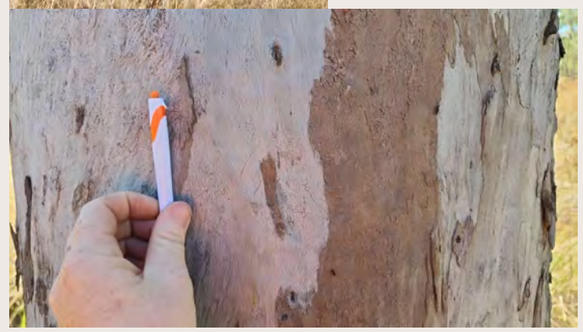
Name	Location	Status	Observations	Photos
Koala/ glider tree Scratches	-23.815436, 151.1518831	Active breeding: No	Three *B. dallachiana* with scratches beside dam. DBH: 61 cm/ 50 cm/ 45 cm Height: 15.7 m/ 20.5 m/ 22.8 m	

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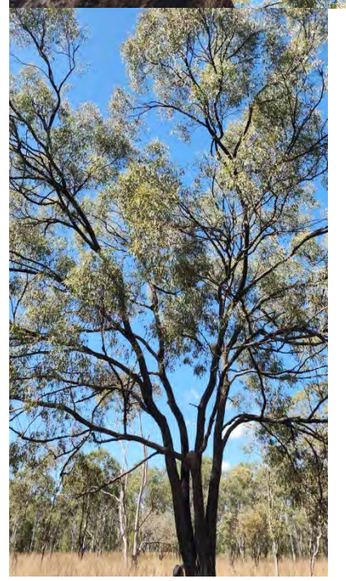
Name	Location	Status	Observations	Photos
				 
Koala/ glider tree	-23.8155336, 151.152154	Active breeding: No	*B. dallachiana.* DBH 65 cm Height: 18 m	

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Name	Location	Status	Observations	Photos
Koala/ glider tree Scratches	-23.8155907, 151.1517006	Active breeding: No	*B. dallachiana* with scratches. DBH 62 cm Height: 22 m	

Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8156439, 151.151671	Active breeding:	*E. tereticornis* with scratches. DBH: 69 cm Height: 22 m	 

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Name	Location	Status	Observations	Photos
Koala/ glider tree Arboreal termite mound	-23.815591, 151.1512796	Active breeding: No	*E. crebra* with arboreal termite mound. DBH: 57 cm Height: 18 m	 

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Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8156301, 151.1507933	Active breeding: No	*E. tereticornis* DBH: 55 cm Height: 26 m	
Koala/ glider tree	-23.8161177, 151.150877	Active breeding: No	*B. dallachiana.* DBH: 100 cm Height: 26 m	

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Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.816379, 151.1512146	Active breeding: No	*B. dallachiana* DBH: 50 cm Height: 24 m	
Koala/ glider tree	-23.8165755, 151.1514987	Active breeding: No	*B. dallachiana* DBH: 61 cm Height: 25 m	

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Name	Location	Status	Observations	Photos
Koala/ glider tree	-23.8151781, 151.1500745	Active breeding:	*E. tereticornis* DBH: 70 cm Height: 22 m	
Koala/ glider tree	-23.8180829, 151.1517363	Active breeding: No	*E. tereticornis* DBH: 64 cm Height: 20 m	

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Name	Location	Status	Observations	Photos
Man-made structure	-23.8144762, 151.1530547	Active breeding: No	Discarded pipe, clear at entry indicating recent use.	
Scat	-23.8149516, 151.154414	Fresh	Dog – (*Canis familiaris)*	
Scat	-23.8149408, 151.154401	Old	Macropod	
Scat	-23.815065, 151.1537322	Old, many fresh also observed	Eastern grey kangaroo	

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Name	Location	Status	Observations	Photos
Scat	-23.8135489, 151.1532262	Fresh	Unknown species	
Scat	-23.8132368, 151.1533387	Old	Possum. Old dry no scent. Tapered end	
Scat	-23.8131784, 151.152894	Old	Possum	

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Name	Location	Status	Observations	Photos
Scat	-23.814215, 151.153147		– *Potentially Deer.*	
Scat Prints	-23.8151034, 151.1519368		– (*Pig) found all across site.*	
Scratches	-23.814257, 151.1545038	Active breeding: No	Small scratch marks on *Blakella dallachiana*.	

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Name	Location	Status	Observations	Photos
Scratches	-23.8145629, 151.1521249	Active breeding: No	On *B. dallachiana*.	
Scratches	-23.8178319, 151.15144	Active breeding: No	In *B. dallachiana.*	

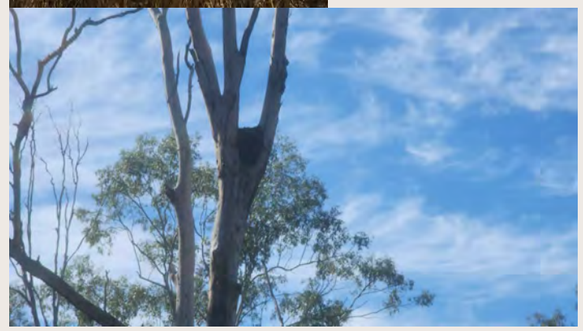
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Name	Location	Status	Observations	Photos
Stag	-23.8133763, 151.1545721	Active breeding: No	Dead *E. crebra*	
Stag	-23.8135205, 151.1545746	Active breeding:		

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Name	Location	Status	Observations	Photos
Stag Exfoliating bark	-23.8146815, 151.154307	Active breeding: No	Large stag with active bees and exfoliating bark also observed.	
Stag	-23.8147254, 151.1543447	Active breeding: No		

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Name	Location	Status	Observations	Photos
Stag Arboreal termite mound	-23.8153897, 151.1542612	Active breeding: No	Arboreal termite mound with large opening also observed.	 

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Name	Location	Status	Observations	Photos
Stag	-23.8165034, 151.1536391	Active breeding: No		
Stag	-23.8140281, 151.1531068	Active breeding: No		

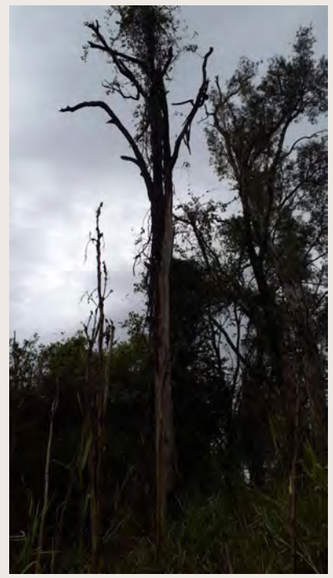
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Name	Location	Status	Observations	Photos
Stag	-23.8149829, 151.1519666	Active breeding: No		
Stag	-23.8151988, 151.1517507	Active breeding: No		

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Name	Location	Status	Observations	Photos
Stag Arboreal termite mound	-23.8160996, 151.1508899	Active breeding:	Two stags with arboreal termite mounds observed.	
Stag	-23.8184101, 151.1514898	Active breeding: No		

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Name	Location	Status	Observations	Photos
Stag	-23.8178495, 151.1524596	Active breeding: No		
Stag	-23.8178522, 151.1524682	Active breeding: No		

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Name	Location	Status	Observations	Photos
Standing water	-23.8165575, 151.1539413	Active breeding: No		
Standing water	-23.8156249, 151.151694	Active breeding: No	Large patch of standing water, appears to be leakage/ overflow from dam wall.	
Standing water	-23.8179229, 151.152327	Active breeding: No		
Standing water	-23.817059, 151.1526058	Active breeding: No		

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Name	Location	Status	Observations	Photos
Standing water	-23.8174769, 151.1517372	Active breeding: No		
Standing water	-23.817949, 151.1513922	Active breeding: No	Very clean water.	

APPENDIX G:

Verified Likelihood of Occurrence Assessment

Likelihood of Occurrence Assessment								CQG's Verification
Threatened Ecological Community		EPBC Status		Habitat Description	PMST Search Likelihood of Occurrence	Associated REs mapped	Habitat Survey Results	Likelihood of Occurrence within Project Area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community		Endangered		It is characterised by the dominance of Casuarina glauca in the canopy, with an understory of rushes, sedges, forbs and grasses. Coastal Swamp Oak Forest is typically found on loose or alluvial soil on coastal flats, floodplains, drainage lines, lake margins, wetlands and estuarine fringes where soils are at least occasionally saturated, water-logged or inundated. Sometimes the ecological community can integrate with mangroves or saltmarsh communities (on the seaward site), or with Melaleuca species and eucalypts (more landward). Remnant patches retain mature trees and/or with diverse and good native understory, particularly those that are more closely connected with another area of native vegetation have very high conservation value. Associated with RE 12.1.1 and 12.3.20.	May occur.	No associated REs mapped	No vegetation showing TEC characteristics observed on Site.	A
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland		Endangered		The Coastal Swamp Sclerophyll Forest community includes the plants, animals and other organisms typically associated with forested palustrine wetlands, or swamp forests, found in the temperate to subtropical coastal valleys of Australia's east coast. This community often has a layered canopy, dominated by Melaleucas and/or Eucalyptus robusta. In some areas the canopy may be dominated by other Melaleuca species including M. dealbata (SEQ bioregion) (rarely). This community occurs between the Great Dividing Range and the coastline from near Gladstone in QLD, through to the south coast of NSW where it is found on the mainland and islands near to the coast (within 20 km). It typically occurs in low-lying coastal alluvial areas with minimal relief, such as swamps, floodplain pockets, depressions, alluvial flats, back- barrier flats, fans, terraces, and behind fore-dunes. Its structure varies from open woodland to closed forest with a crown cover of at least 10% and typically no more than 70%. Associated with RE 12.2.7, 12.3.4/12.3.4a, 12.3.5, 12.3.6, 12.3.20	May occur.	No associated REs mapped	No vegetation showing TEC characteristics observed on Site.	A
Lowland Rainforest of Subtropical Australia		Critically Endangered		This ecological community primarily occurs from Maryborough in Queensland to the Clarence River (near Grafton) in New South Wales (NSW). The ecological community also includes isolated areas between the Clarence River and Hunter River such as the Bellinger and Hastings valleys. The ecological community occurs in South Eastern Queensland Bioregion and NSW North Coast Bioregion. The ecological community occurs on basalt and alluvial soils, including sand and old or elevated alluvial soils as well as floodplain alluvia. It also occurs occasionally on enriched rhyolitic soils and basaltically enriched metasediments. Lowland Rainforest mostly occurs in areas <300 m above sea level. Aspect can result in the ecological community being found at >300 m altitude on north-facing slopes, but typically 300 m defines the extent of the lowlands. In addition, Lowland Rainforest typically occurs in areas with high annual rainfall (>1300 mm). Queensland State equivalents are 12.3.1; 12.5.13; 12.8.3; 12.8.4; 12.8.13; 12.11.1; 12.11.10; 12.12.1 and 12.12.16.	May occur.	No associated REs mapped	No vegetation showing TEC characteristics observed on Site.	A
Poplar Box Grassy Woodland on Alluvial Plains		Endangered		The Poplar Box Grassy Woodland on Alluvial Plains ecological community is typically a grassy woodland with a canopy dominated by Eucalyptus populnea and understory mostly of grasses and other herbs. The ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. This TEC is scattered across a broad distribution within an area that is roughly: south of Charters Towers (QLD); north of Leeton (NSW); west of Ipswich (QLD) and Armidale (NSW); and east of Longreach (QLD) and Hillston (NSW). This TEC occurs within the Brigalow Belt North, Brigalow Belt South, Southeast QLD, Cobar Peneplain, Darling Riverine Plains, NSW South Western Slopes and Riverina IBRA bioregions. In Queensland it is commonly associated with the following REs: 11.3.2; 11.3.17; 11.4.7; 11.4.12 & 12.3.10.	May occur.	No associated REs mapped	No vegetation showing TEC characteristics observed on Site.	A
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions		Endangered		The subtropical eucalypt floodplain forest and woodland TEC is a floodplain forest community dominated by eucalyptus and other myrtaceous tree species. This community occurs in the NSW North Coast and SE QLD IBRA bioregions and on Curtis Island in the Brigalow Belt north IBRA Bioregion. It encompasses an area from just north of Newcastle, NSW in the south, to just north of Gladstone in QLD. It occurs in catchments of the eastern watershed of the Great Dividing Range, typically in their lower reaches at elevations up to 250 ASL. It occurs on alluvial landforms including river floodplains, riparian zones (i.e. along riverbanks, lake foreshores and creek lines), the floors of tributary gullies, floodplain pockets, alluvial flats, fans, terraces, and localised colluvial fans. It occurs on alluvial soils of varying textures including silts, clay loams, sandy loams, gravel and cobbles. It occurs as a tall closed-forest, tall open forest, closed forest with a canopy that has at least 20% crown cover. The canopy is dominated by Angophora, Corymbia, Eucalyptus, Lophostemon and/or Syncarpia tree species, but NOT dominated by Eucalyptus robusta. The mid-layer may be present, sparse or absent. Associated with RE 12.3.2, 12.3.2a, 12.3.3, 12.3.3a, 12.3.3b, 12.3.3d, 12.3.4a, 12.3.7, 12.3.7c, 12.3.7d, 12.3.10, 12.3.11, 12.3.11a, 12.3.11b, 12.3.12, 12.3.14, 12.3.15, 12.3.19.	Likely to Occur.	12.3.3 & 12.3.7	REs 12.3.3 and 12.3.7 confirmed on Site. Patches do not meet key diagnostic criteria for TEC	A
Weeping Myall Woodlands		Endangered		The Weeping Myall Woodlands occur in a range from open woodlands to woodlands, generally 4-12 m high, in which Weeping Myall (Acacia pendula) trees are the sole or dominant overstorey species. Other vegetation may also occur in the ecological community, though not as dominant species. These include Western Rosewood (Alectryon oleifolius subsp. elongatus); Poplar Box (Eucalyptus populnea); or Black Box (Eucalyptus largiflorens). The understorey of Weeping Myall Woodlands often includes an open layer of shrubs above an open ground layer of grasses and herbs, though the ecological community can exist naturally either as a shrubby or a grassy woodland. Although the species Acacia pendula occurs widely in Queensland, the Weeping Myall Woodlands ecological community is restricted to small patches that occur within two REs in Queensland. These are 11.3.2 and 11.3.28.	May occur.	No associated REs mapped	No vegetation showing TEC characteristics observed on Site.	A
Subtropical and Temperate Coastal Saltmarsh		Vulnerable		The ecological community consists of organisms including and associated with saltmarsh in coastal regions of sub-tropical and temperate Australia. The community occurs within a relatively narrow margin of the Australian coastline, within the subtropical and temperate climatic zones in coastal areas under regular or intermittent tidal influence. The vegetation consists mainly of salt-tolerant vegetation (halophytes) including: grasses, herbs, sedges, rushes and shrubs. Succulent herbs, shrubs and grasses generally dominate and vegetation is generally of less than 0.5 m height. Associated with RE 12.1.2	Likely to Occur.	No associated REs mapped	No vegetation showing TEC characteristics observed on Site.	A
Common Name	**Scientific name**	**EPBC Status**	**NC Status**	**Habitat Description**	**PMST Search Likelihood of Occurrence**	**ALA Records**	**Habitat Survey Results**	**Verified Likelihood of Occurrence**
Birds								
Australian Painted Snipe	*Rostratula australis*	E, Ma	E	Inhabits well-vegetated shallows and margins of wetlands, dams, sewage ponds and other water courses; wet pastures, marshy areas, irrigation systems, lignum, tea-tree scrub and open timber (Geering et al., 2007; Pizzey and Knight 1999). Occurs mostly in south-eastern Australia but dispersive in response to rainfall. The species has a broad range of distribution throughout Australia but has a close association with brackish or freshwater terrestrial wetlands, especially temporary ones which have muddy margins (www.birdlife.org.au).	Likely to Occur.	No records within 5 km of Site.	Limited suitable habitat observed on Site	U
Black-breasted Button-quail	*Turnix melanogaster*	V	V	Inhabits leaf-litter in drier rainforests, vine thickets; scrubby woodlands of eucalypts, she-oaks, bottle-brushes, brush box, Brigalow and other Acacias; thickets of lantana on rainforest fringes, hoop pine plantations; grain stubbles (Pizzey and Knight 1999). Its distribution is patchy in southeast QLD to northern NSW (Pizzey and Knight 1999).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Common Sandpiper	*Actitis hypoleucos*	Mi, Ma	-	Shallow, pebbly, muddy or sandy edges of rivers and streams, coastal to far inland; dams, lakes, sewage ponds; margins of tidal rivers; waterways in mangroves or saltmarsh; mudflats; rocky or sandy beaches; causeways, riverside lawns, drains and street gutters (Pizzey and Knight 1999).	Known to occur.	2 records within 5 km of site, most recently in 2006.	Limited suitable habitat observed on Site	U
Coxen's Fig-Parrot	*Cyclopsitta diophthalma coxeni*	E	E	The distribution of the Coxen's Fig-Parrot is poorly known. Based on accepted records, the core distribution extends from Gympie in south-eastern QLD to Richmond River in north-eastern NSW. They occupy habitats that occur from sea level to approximately 900m above sea level. They occur in rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral rainforests and vine forests (SPRAT 2010).	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Curlew Sandpiper	*Calidris ferruginea*	CE, Mi, Ma	CR	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms (Pizzey and Knight 1999). They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They generally roost on bare dry shingle, shell or sand beaches, sandpits and islets in or around coastal or near-coastal lagoons and other wetlands (SPRAT 2015).	Known to occur.	2 records within 5 km of Site, most recently in 2006.	Limited suitable habitat observed on Site	U
Eastern Curlew	*Numenius madagascariensis*	CE, Mi, Ma	E	Inhabits estuaries, tidal mudflats, sandspits, saltmarshes, mangroves; occasionally fresh or brackish lakes; bare grasslands near water (Pizzey and Knight 1999). The Eastern Curlew breeds in northeast Asia and is a common summer migrant to Australian coastlines, although about 25% of the population remains all year round (Finn et al., 2001 and 2007; Geering et al., 2007).	Known to occur.	14 records within 5 km of Site, most recently in 2022.	Limited suitable habitat observed on Site	U
Fork-tailed Swift	*Apus pacificus*	Mi, Ma	-	Almost exclusively aerial species, flying from less than 1m to at least 300m above the ground. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh (SPRAT 2010).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Greater Sand Plover	*Charadrius leschenaultii*	V, Mi, Ma	V	In Australia, the Greater Sand Plover occurs in coastal areas in all states, through the greatest numbers occur in northern Australia, especially the north-west. This species breeds in central Asia. In the nonbreeding ground in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons, inshore reefs, rock platforms, small rocky islands or sandy cays on coral reefs. They are also occasionally recorded on near-coastal saltworks and salt lakes, including marginal saltmarsh, and on brackish swamps. They seldom occur at shallow freshwater wetlands (SPRAT, 2023).	Likely to Occur.	3 records within 5 km of Site, most recently in 2019.	No suitable habitat observed on Site.	U
Grey Falcon	*Falco hypoleucos*	V	V	They Grey Falcon's habitat includes lightly treed inland plains; gibber deserts, sandridges, pastoral lands, timbered watercourses; seldom in driest deserts. Resident or nomadic visitor to inland parts of all mainland states (Pizzey and Knight 1999).	Likely to Occur.	No records within 5 km of Site.	Limited suitable habitat observed on Site	U
Latham's Snipe	*Gallinago hardwickii*	V, Mi, Ma	V	Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. This species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern SA. It occurs in permanent and ephemeral wetlands up to 2000m ASL, where they usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). They can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (SPRAT, 2023).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Oriental Cuckoo	*Cuculus optatus*	Mi	-	Within Australia, this species uses a range of vegetated habitats such as monsoon rainforests, wet sclerophyll forest, open woodlands and appears quite often along edges of forests, or ecotones between forest types (DoE, 2015; Menkhorst et al,. 2017). This cuckoo species feeds arboreal, foraging for invertebrates on loose bark on the trunks and branches of trees, and among the foliage, including in mistletoes. It will forage from the ground, but requires shrubs or trees from which it sallies and returns to consume prey items. (DoE, 2015).	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Osprey	*Pandion haliaetus*	Mi, Ma	-	The Osprey is thinly distributed around the coast of Australia where they forage for fish in fresh, brackish, or saline waters of rivers, lakes, estuaries and inshore coastal waters (Schodde and Tidemann, 1993; NPWS, 2000). Nests are usually located near a suitable area of foraging habitat and are a bulky structure made from piled sticks, often positioned in a tall dead tree or artificial structures such as telecommunication towers or poles (Schodde and Tidemann, 1993; NPWS, 2000). Breeding pairs defend breeding territory against other Ospreys, and active nests are usually more than 1 km apart (NPWS, 2005).	Known to Occur.	Records within 1 km of Site	Potential habitat present on the bank of Boat Creek and unnamed waterway observed on Site.	K
Red Goshawk	*Erythrotriorchis radiatus*	V	E	Inhabits open forests, woodlands especially near rivers, wetlands and rainforest fringes in coastal and subcostal north and northeast Australia from the Kimberley (WA) to the QLD/NSW border (Pizzey and Knight 1999).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Sharp-tailed Sandpiper	*Calidris acuminata*	Mi, Ma	SLC	The sharp-tailed sandpiper breeds in northern Siberia but migrates south to winter in Australia and New Zealand. In the non-breeding season they can be found in tidal mudflats, saltmarshes, mangroves; shallow fresh, brackish or saline inland wetlands; floodwaters, irrigated pastures and crops; sewage ponds and saltfields (Pizzey and Knight 1999).	Known to Occur.	4 records within 5 km of Site, most recently in 2024.	No suitable habitat observed on Site.	U
Squatter Pigeon (southern)	*Geophaps scripta scripta*	V	V	The known distribution of the Squatter Pigeon extends south from the Burdekin-Lynd divide in the southern region of Cape York Peninsula to the border Rivers region of northern NSW, and from the east coast to Hughenden, Longreach and Charleville. Their habitat is generally defined as open-forests to sparse, open woodlands and scrub that are mostly dominated by Eucalypts, Corymbia, Acacia or Callitris species. The habitat is generally remnant, regrowth or partly modified vegetation communities and within 3 km of water bodies or courses. Foraging occurs on well-drained, gravelly or loamy soils which support the open-forest to woodland communities with patchy, tussock-grassy understories (SPRAT, 2015).	Known to Occur.	6 records within 5 km of Site, most recently in 2025.	Suitable habitat present across the Site.	L
Star Finch (eastern) (southern)	*Neochmia ruficauda ruficauda*	E	E	Distribution is poorly known but it only occurs in central Queensland. It resides mainly in grasslands and grassy woodlands that are located close to body of fresh water. It also occurs in cleared or suburban areas such as along rode sides in towns (SPRAT 2017).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
White-throated Needletail	*Hirundapus caudacutus*	V, Mi, Ma	V	Almost exclusively aerial from heights of less than 1m up to more than 1000m above the ground. Most often recorded above wooded areas, including open forest and rainforest and also are commonly recorded over heathland and coastal cliffs (SPRAT, 2010).	May occur.	1 record within 5 km of Site, in 1999.	Exclusively aeiral species	U
Capricorn Yellow Chat	*Epthianura crocea macgregori*	CE	E	The Capricorn yellow chat is known to occur at three localities - Curtis Island, Torilla Plain and the Fitzroy Delta and is most abundant at Torilla Plain based on current knowledge, habitat critical to the survival of the Capricorn yellow chat is wetlands and associated grasslands on seasonally inundated marine plains. These wetlands have shallow braided channels and depressions with a mosaic of dense sedge-beds, grasslands, tall samphire and areas of mud and/or shallow water. (DCCEEW 2021)	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Western Alaskan Bar-tailed Godwit	*Limosa lapponica baueri*	E	E	Bar-tailed godwits usually forage near the edge of water or in shallow water within tidal estuaries and harbours. Roosting tends to occur on large intertidal sandflats, spits, and banks. Less frequently, roosting occurs within mudflats, estuaries, coastal lagoons, and bays (SPRAT 2024).	Known to Occur.	4 records within 5 km of Site, most recently in 1999.	No suitable habitat observed on Site.	U
Common Greenshank	*Tringa nebularia*	E, Mi	E	The common greenshank forages at the edge of wetlands, in soft mud on mudflats, in channels, or within shallows around the edge of waterbodies. These locations are often situated near or among mangroves or other sparse, emergent or fringing vegetation such as sedges or saltmarsh. The bird occasionally feeds amongst seagrass beds (SPRAT 2025).	Likely to Occur.	4 records within 5 km of Site, most recently in 2020.	No suitable habitat observed on Site.	U
Asian Dowitcher	*Limnodromus semipalmatus*	V, Mi	V	The species feeds on inter-tidal mudflats. Asian dowicher are carnivorous and feed primarily on small fish, insect larvae, and oligochaetes when breeding, and on polychaetes, insect larvae, and molluscs when migrating or overwintering. During the non-breeding season, the bird roosts in sheltered coastal environments such as estuarine and intertidal mudflats, lagoons, creeks and saltworks (DCCEEW 2024) .	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Red Knot	*Calidris canutus*	V, Mi	V	Whilst in Australia, the species mainly inhabits intertidal mudflats, sandflats, and sandy beaches of sheltered coasts, estuaries, bays, inlets, lagoons, and harbours. They are occasionally seen on terrestrial saline wetlands near the coast and have been recorded on sewage ponds and saltworks (DCCEEW 2024).	Known to Occur.	1 record within 5 km of Site, in 1989.	No suitable habitat observed on Site.	U
Bar-tailed Godwit	*Limosa lapponica*	E, Mi	E	Found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (SPRAT 2025).	Known to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Pectoral Sandpiper	*Calidris melanotos*	Mi	SLC	In the non-breeding seasons (passage and wintering) inhabits wide range of habitats including freshwater and brackish marshes, coastal and inland wetlands (including up to 4,500 m in the Andes), saltmarshes, flooded agricultural fields and grasslands, sewage works and coastal lagoons. Only very rarely uses mudflats (Farmer *et al*. 2020).	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Common Noddy	*Anous stolidus*	Mi	SLC	The species occurs around isolated, bare or vegetated, pantropical and subtropical, inshore or oceanic islands or coral reefs with rocky cliffs or offshore stacks and coral or sand beaches (del Hoyo et al. 1996, Higgins and Davies 1996).	Known to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Mammals								
Ghost Bat	*Macroderma gigas*	V	E	Ghost bats occur in a wide range of habitats from rainforest, monsoon and vine scrub, to open woodlands in arid areas. These habitats are used for foraging, while root habitat is more specific. Favoured roosting sites of the ghost bat are undisturbed caves or mineshafts which have several openings. Ghost bats occur in tropical regions in Queensland, and along the ventral and northern coast, from Rockhampton north to Cape York (DEHP 2017).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Greater Glider (southern and central)	*Petauroides volans*	E	E	The southern and central Greater Glider occurs in eastern Australia, where it has a broad distribution from around Proserpine in QLD, south through NSW and the ACT, to Wombat State Forest in central VIC. This species is largely restricted to eucalypt forests and woodlands of eastern Australia. It is typically found in highest abundance in taller, montane, moist eucalypt forests on fertile soils, with relatively old trees and abundance hollows. It is likely that only a proportion of forest in potential habitat areas is suitable for the species, as the structural attributes of the forest overstorey and forage quality it relies on vary considerably across the landscape (TSSC Conservation Advice, 2022).	Likely to Occur.	No reliable records within of 50 km Site.	Suitable foraging and denning trees observed across the Site.	P
Grey-headed Flying-fox	*Pteropus poliocephalus*	V	-	The Grey-headed Flying-fox occurs in a range of habitats including subtropical and temperate rainforests, dry and wet sclerophyll forests, Banksia woodland, heaths and Melaleuca swamps (Duncan et al, 1999; NPWS, 2001).	May occur.	1 record within 5 km of Site in 1989.	No suitable habitat observed on Site.	P
Koala	*Phascolarctos cinereus*	E	E	The Koala is endemic to Australia. The biological species range extends from north-eastern QLD to the south-east corner of SA. Koalas naturally inhabit a range of temperate, subtropical and tropical forests, woodland and semi-arid community's dominated by Eucalyptus species. Their habitat can broadly be defined as any forest or woodland containing species that are a known Koala food tree, or shrubland with emergent food trees (SPRAT 2017).	Likely to Occur.	No records within 5 km of Site.	Suitable foraging trees observed across Site, with opportunity for easy passage in the northern portion of the Site.	L
Northern Quoll	*Dasyurus hallucatus*	E	-	The northern quoll occurs across much of northern Australia, from south-eastern Queensland to the south-west Kimberley, with a disjunct population in the Pilbara. In the Northern Territory it is restricted to the Top End. The species occupies a diversity of habitats across its range which includes rocky areas, eucalypt forest and woodlands, rainforest, sandy lowlands and beaches, shrubland, grasslands and desert. The habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal (SPRAT 2012).	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Yellow-bellied Glider (south-eastern)	*Petaurus australis australis*	V	V	The Yellow-bellied Glider is found in tall mature Eucalypt Forest and they feed on a range of sources including winter-flowering Eucalypts which provide nectar and pollen. They also feed upon the sap of Eucalypts in which they chew V-shaped incisions to collect the sap. Yellow-bellied Gliders den in large tree hollows (NPWS, 2000).	May occur.	5 records within 5 km of Site, most recently in 1999.	Suitable foraging and denning trees observed however no evidence of foraging (feeding incisions and vegetation struture not suitable)	U
Water Mouse	*Xeromys myoides*	V	V	In central eastern Queensland, the diet is similar and is known to include grapsid crabs (e.g. Neopiesarma mederi) (Ball 2004). The habitat of the Water Mouse is aquatic environments, including coastal saltmarsh, samphire shrublands, saline reed-beds and saline grasslands, mangroves, and coastal freshwater wetlands, and wet heathlands (DAWE 2021).	Known to Occur.	1 record within 5 km of Site in 2011.	No suitable habitat observed on Site.	U
Reptiles								
Collared Delma	*Delma torquata*	V	V	Under rocks and in soil cracks on heavy, stony and lightly timbered soils near Kenmore, Brookfield and Mt Crosby. Endemic to South-east Queensland. Also found in numerous disturbed habitats throughout Southeast Queensland (Cogger 2000).	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Dunmall's Snake	*Furina dunmalli*	V	V	The distribution of the Dunmall's Snake extends from near the QLD border through the Brigalow Belt South and Nandewar bioregions, as far south as Ashford in NSW. In QLD this species occurs primarily in the Brigalow Belt region in the south-eastern interior of QLD. Records indicate sites at elevations between 200-500 m above sea level. The snake is very rare of secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park. It has been found in a broad range of habitats including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow; and other various Blue Spotted Gum, Ironbark, White Cypress and Bulloak open forests and woodland associations on sandstone derived soils (SPRAT).	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Grey Snake	*Hemiaspis damelii*	E	-	Queensland, records are known from near Goondiwindi and the adjacent Darling-Riverine Plain, from the Darling Downs and from the Lockyer Valley. Several isolated records also occur in the Rockhampton area. It favours woodlands, usually on heavier, cracking clay soils, particularly in association with water bodies. They shelter under rocks, logs and other debris as well as in soil cracks (SPRAT 2011).	May occur.	No records within 5 km of Site.	Potential habitat present on the bank of Boat Creek and unnamed waterway observed on Site.	P
Yakka Skink	*Egernia rugosa*	V	V	Endemic to Queensland where its distribution is highly fragmented. Often associated with partly-buried rocks, logs or tree stumps, root cavities and abandoned animal burrows. It is also known to excavate deep burrow systems. The Yakka Skink can persist in cleared habitats if shelter sites such as raked log piles, deep gullies, tunnel erosion/sinkholes and rabbit warrens are available (DEHP 2017).	May occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Salt-water Crocodile, Estuarine Crocodile	*Crocodylus porosus*	Mi	V	The species mostly occurs in tidal rivers, coastal floodplains and channels, billabongs and swamps up to 150 km inland from the coast. The Salt-water Crocodile usually inhabits the lower (estuarine) reaches of rivers, while the upper reaches are inhabited by *Crocodylus johnstoni* (Fresh-water Crocodile); although, areas of overlap occur in some rivers. In Queensland, the species is usually restricted to coastal waterways and floodplain wetlands. Populations may also be found hundreds of kilometres upstream, such as in the Fitzroy River and the waterways of the southern Gulf of Carpentaria (SPRAT 2025)	Likely to Occur.	No records within 5 km of Site.	No suitable habitat observed on Site.	U
Plants								
Black Ironbox	*Eucalyptus raveretiana*	V	-	Eucalyptus raveretiana has a wide distribution in coastal and sub-coastal areas of QLD, from south of Townsville to Nebo, around Rockhampton and areas 100 km west of the city. It has been recorded from about 23 sites throughout its range, in two main areas. This species usually grows along water courses, and sometimes on river flats or open woodland. It is found in altitudinal ranges from 0-300 m and the climate of the area is sub-tropical. The species is said to be highly salt tolerant (SPRAT, 2020).	Likely to Occur.	No records within 5 km of Site.	Not observed on Site.	U
Bluegrass	*Dichanthium setosum*	V	-	Dichanthium setosum has been reported from inland NSW to QLD. There are also reports from WA and TAS. The species is associated with heavy basaltic black soils and red-brown loams with clay subsoils (predominantly cracking clays or alluvium, often in gilgai). It is often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. The species may tolerate or benefit from disturbance, otherwise, disturbance is indicative of threatening processes in its habitat (SPRAT 2013).	Likely to Occur.	No records within 5 km of Site.	Not observed on Site.	U
Cossinia	*Cossinia australiana*	E	E	Cossinia australiana is known from fragmented remnant patches of Araucarian vineforests or fine thickets on fertile soils in central and southern QLD. This species' distribution is from Rockhampton to Kingaroy, east of the Dividing Range, a distance of approximately 300km. At most sites it is recorded as uncommon, usually as scattered individuals. This species occurs from 20-520 m in altitude and appears to prefer ecotonal situations around dry rainforest edges, although it also occurs as scattered individual plants within closed forest communities (DES - Species Search).	May occur.	No records within 5 km of Site.	Not observed on Site.	U
Quassia	*Samadera bidwillii*	V	V	Quassia is endemic to QLD and is currently known to occur in several localities including: Scawfell Island, Mackay, Goomboorian and north of Gympie. This species mainly occurs in lowland rainforest margins, but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses (SPRAT 2019).	May occur.	No records within 5 km of Site.	Not observed on Site.	U
Three-leaved Bosistoa	*Bosistoa transversa*	V	-	Three-leaved Bosistoa is found from the Nightcap Range north of Lismore in north-east NSW to Mount Larcom (near Gladstone) in south-east QLD. The species is described in herbarium collection records as locally abundant at Natural Bridge-Springbrook NP and Coalstoun Lakes NP in QLD. This species typically grows in lowland subtropical rainforest. Has been found in closed forests on steep slopes, rainforests along creek lines, on reddish loam over basalt rock on very steep slopes and in notophyll vine forests (SPRAT 2019).	May occur.	1 record within 5 km of Site in 1988.	Not observed on Site.	U
Wedge-leaf Tuckeroo	*Cupaniopsis shirleyana*	V	V	Cupaniopsis shirleyana is restricted to south-east Queensland, from Brisbane, north to Bundaberg. This species occurs at 20-550m in elevation and has been recorded in a variety of rainforest types including vine thicket and dry rainforest. It occurs on hillsides, mountain tops, lower slopes of valleys, stream beds and along riverbanks. It grows in a variety of soil types (DES - Species Search).	Likely to Occur.	No records within 5 km of Site.	Not observed on Site.	U
	Cycas megacarpa	E	E	Cycas megacarpa is endemic to south-east Queensland where it is found as far south as Woolooga to Bouldercombe in the north. Many surviving populations are small and greatly fragmented, with only a handful of adult plants. This species is typically found in woodland, open woodland and open forests, often in conjunction with a grassy understory. Cycas megacarpa is found in habitats dominated by Eucalyptus crebra and Corymbia citriodora as well as Corymbia erythrophloia, Eucalyptus melanophloia and Lophostemon confertus. There are also reports that it can be found on the edge of rainforest habitat (SPRAT, 2022).	May occur.	No records within 5 km of Site.	Not observed on Site.	U
	Cycas ophiolitica	E	E	Cycas ophiolitica is endemic to Queensland, occurring from Marlborough to Rockhampton in central-eastern Queensland. It occurs in woodland or open eucalypt woodland (SPRAT, 2019).	May occur.	No records within 5 km of Site.	Not observed on Site.	U
Macadamia Nut	*Macadamia integrifolia*	V	V	Macadamia Nut occurs from Mt Bauple, near Gympie, to Currumbin Valley in the Gold Coast hinterland, south-east Queensland. . It occurs as a scattered rare to occasional tree, and population sizes are difficult to estimate (Barry & Thomas, 1994). This species grows in remnant rainforest, including complex mixed notophyll forest, and prefers partially open areas such as rainforest edges (Ryan, 2006).	May occur.	No records within 5 km of Site.	Not observed on Site.	U

Likelihood of Occurrence Ratings and Definitions

Likelihood of Occurrence Rating	Definition (from the Defence Environment Risk Tool)	Code
Known	Listed fauna - Habitat is present in the impact area and the species has been recorded in the impact area, or in connected habitat adjacent to the impact area, in the last 10 years	K
	Threatened flora - Habitat is present in the impact area and the species has been recorded in the impact area during the last 10 years.	
	TEC - Presence of TEC has been confirmed through ground-truthing during surveys undertaken in the last 2 years.	
Likely	Listed fauna - Habitat is present in the impact area and the species has been recorded in the impact area, or in connected habitat adjacent to the impact area, in the last 11 to 30 years; OR	L
	Habitat is present in the impact area and the species has been recorded within its dispersal range/limit from the impact area in the last 11 to 30 years, and there are no significant barriers to movement between the records and the impact area.	
	Threatened flora - Habitat is present in the impact area, and the species has been recorded in the impact area in the last 11 to 30 years; OR	
	Habitat is present in the impact area and adequate surveys to determine presence/ absence have not been undertaken, but the vegetation community composition indicates the species is probably present.	
	TEC - The TEC has been identified as potentially present within the Impact Area from desktop search results but has yet to be groundtruthed to confirm presence.	
Potential	Listed fauna - Habitat is present in the impact area and the species has been recorded in the impact area, or in connected habitat adjacent to the impact area, more than 31 years ago; OR	P
	Habitat is in the impact area, the impact area is within the species modelled distribution range, and the species may use the habitat at least occasionally or opportunistically; OR	
	Habitat is in the impact area and it could be used in the future as climate refugia.	
	Threatened flora - Habitat is present in the impact area and the species has been recorded in the impact area more than 31 years ago; OR	
	Habitat is present in the impact area, the impact area is within the species modelled distribution, and adequate surveys have not been undertaken to prove the species is absent.	
	TEC – The TEC has been identified as potentially present within vegetation immediately adjacent to the Impact Area from desktop search results but has yet to be groundtruthed to confirm presence.	
Unlikely	Listed fauna - Habitat is not present within the impact area or adjacent to the impact area and the impact area is within the species distribution; OR	U
	Habitat is present in the impact area and the species has been recorded within its dispersal range/limit from the impact area over 30 years ago, and there are no significant barriers to movement between the records and the impact area.	
	Threatened flora - Habitat is not present within or adjacent to the impact area and robust targeted surveys have not been undertaken to prove if the species is absent.	
	TEC – Desktop searches do not indicate the likely presence of this TEC	
Confirmed absent	Listed fauna - This likelihood category is not applicable to fauna as it is very difficult to prove absence of a species identified in the PMST report as having the potential to occur.	A
	Threatened flora - Habitat is not within or adjacent to the impact area and robust targeted surveys have proven the species to be absent.	
	TEC - Recent ground-truthing of vegetation has determined that that the TEC is not present.	

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Technical Memorandum

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CQG Project Manager:		Scott Lucke		
Name of Document:		Targeted Fauna Assessment Technical Memorandum		

1 Introduction

1.1 Project Background

Grenof Water Technologies Pty Ltd (Grenof) is proposing to develop a chlor-alkali facility (Project Halogen or the Project) in the Gladstone State Development Area (GSDA) to mitigate sovereign risk associated with essential chemicals including chlorine (single domestic producer with aging infrastructure) and caustic soda (reliance on foreign supply), which are vital for Australia's industrial, economic and public health sectors. These products are currently imported into Gladstone for industrial use.

Economic Development Queensland (EDQ) has been assisting Grenof with identifying an appropriate location to develop the facility, with Lot 1 on SP200899 and Lot 1 on MPH32292 as the preferred site due to the existing access to suitable transport routes to Gladstone industries and the Port.

Previous investigations identified the need to conduct targeted fauna surveys to confirm the presence of threatened species and their habitat. This report provides the results of targeted fauna surveys undertaken to identify key fauna values present on the property.

1.2 Site Description

The 'Project Area' (i.e., the wider area of land in which the Project is located and which has been investigated for the purposes of this report) is comprised of two neighbouring lots (Lot 1 on MPH32292 and Lot 1 on SP200899) located on Landing Road and Fishermans Road in Yarwun, within the Gladstone State Development Area (GSDA). The Project Area consists of approx. 21 hectares (ha) and is situated approx. 10 kilometres (km) north-west of Gladstone in Central Queensland (refer to Attachment A, Figure A.1).

The 'Impact Area' (i.e., the footprint of the proposed Stage 1 development) covers 7.65 ha in the northern portion of the Project Area (refer to Attachment A, Figure A.1).

CQG understands that clearing for the Project will be restricted to the Impact Area for Stage 1 which is subject to a Material Change of Use (MCU) application under the GSDA Planning Scheme.

1.3 Objectives

CQG Consulting (CQG) was engaged by Grenof to conduct targeted fauna surveys for matters of national environmental significance (MNES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act) and matters of state environmental significance (MSES) listed under Queensland legislation. Targeted species have been identified as known, likely or as having the potential to occur within the Project Area.

The objective of the assessment is to determine if these species or their habitat are present within the Project Area.

2 Previous Studies

The following previous relevant investigations have been undertaken for the Project, which have informed this assessment including:

- Rapid ecology survey on 2 July 2025 to verify vegetation mapping, weeds species and habitat at a high level prior to a planned burn off of the Project Area (email summary provided to Grenof and EDQ on 18 July 2025);
- A preliminary likelihood of occurrence assessment was undertaken to assess the likely presence of MNES listed under the EPBC Act identified in desktop searches; and
- Habitat Assessment to characterise the ecological values of the Project Area, potential impacts on threatened species, ecological communities and regulated vegetation and to identify mitigation measures and assess the likelihood of significant residual impacts. A *Preliminary Significant Impact Assessment* (CQG 2025) was developed based on this information.

This technical memorandum is considered an addendum to these previous reports and is not to replicate the information contained in them. This technical memorandum should be read in conjunction with those reports and will refer to their content where relevant.

3 Survey Methodology

Targeted fauna surveys were undertaken across the Project Area in accordance with the *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland V 4.0)* (Eyre et al 2022) between 29 September 2025 and 3 October 2025. This included diurnal bird searches, nocturnal fauna surveys including call play back and spotlighting and deployment of unmanned cameras traps. Koala spot assessment technique (SAT) surveys were undertaken in accordance with *The Spot Assessment Technique: a tool for determining localised levels of habitat use by Koalas Phascolarctos cinereus* (Phillips and Callaghan 2011).

Attachment A, Figure A.2 shows the location of the camera traps and SAT survey sites.

An overview of survey methodology is provided in Attachment B.

Information regarding the project team who undertook the survey is provided in Table 3.1.

Table 3.1: Project Team

Personnel, Qualifications & Role	Relevant Experience & Project Role
Rebbekah Hearn Principal Ecologist *B Sc (Biol), Cert III Cons. & Land Mgmt*	Principal ecologist with over 18 years' experience: • Coordinated and completed numerous ecological surveys; • Lead author for significant impact assessments; and • Compiled and reviewed (technical and QA) ecology survey reports for multiple proposed developments in Central and North Queensland. Role: Survey coordinator, survey methodology technical input and reporting.
Sarah Grady Principal Ecologist *B Env Sc (Biodiversity Cons.)*	Senior ecologist with over 20 years' experience: • Completed and coordinated numerous ecology field surveys across Queensland and New South Wales, including targeted fauna and flora surveys; and • Compiled technical reports and impact assessment for multiple projects. Role: Field team lead, data interpretation and reporting.
Michael Whitehead Ecologist *B Env Sc (Int. Land & Water Mgmt)*	• Conducted several ecological surveys, preclearance and fauna spotter catcher services and invasive species surveys; and • Development of ArcGIS Survey123 forms and field technology. Role: Field team member, data compilation.

3.1 Survey timing and weather

The Project Area is within the South East Queensland (SEQ) Bioregion. The *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland V 4.0)* (Eyre et al 2022) identifies the optimal timing for fauna surveys within this bioregion as Spring (mid-September to mid-December) when temperatures begin to warm up. The targeted fauna surveys were undertaken within this optimal period.

Weather at the time of the surveys was warm and dry, with average daily temperatures between 23°C and 27°C, reflecting a steady warming trend through the week. No notable rainfall was recorded and conditions were generally fine and sunny, consistent with the Gladstone region's typical early Spring climate.

Survey timing is also driven by breeding seasons and times of the year when target species are likely to be more active and detectable. Target species and their breeding seasons included:

- Koala (*Phascolarctos cinereus*) - breeding season between August and February;
- Squatter pigeon (*Geophaps scripta scripta*) – can breed year round, depending on abundance of resources; and
- Osprey (*Pandion haliatus*) – breed between April and September.

3.2 Survey Limitations

The fauna surveys were completed over a five-day period during optimal survey timeframes, providing a valuable but time-limited snapshot of species presence and activity. Seasonal timing may have reduced detectability for some non-target migratory and cryptic species. Warm, dry conditions during the survey period may also have limited some species activity.

Although multiple methods were implemented, some low-density or cryptic species may have remained undetected. Overall, the results are considered representative of the main habitat types but should be interpreted in the context of seasonal and methodological constraints.

Invasive grass height and cover over much of the Project Area was very high limiting survey capacity and coverage in some locations.

4 Field Survey Results

Targeted fauna surveys were undertaken across the Project Area between 29 September and 3 October 2025. Survey results are summarised in Table 4.1.

Table 4.1: Summary of results

Survey Method	Results Summary
Diurnal surveys	Conducted over five days at various times of day (refer to Attachment B). Thirty-six bird species were recorded during the surveys including an Osprey flying overhead. A list of species encountered is provided in Attachment C.
Nocturnal surveys	Completed over three nights using spotlighting, thermal camera searches and call playback (refer to Attachment B). Four mammal species were identified during the spotlighting and thermal searches with Bush stone curlews and Southern boobook owls heard calling.
Kolala SAT surveys	Three Koala SAT surveys were conducted across the Project Area (survey sites shown in Attachment A, Figure A.2). No Koala or identifiable scratches or scats were recorded during the surveys.
Camera traps	Cameras deployed for four nights. Over 14,000 photos captured with 112 containing identifiable fauna (refer to Attachment D).

5 Revised Final Significant Impact Assessment

Based on the findings of this targeted fauna survey, the likelihood of occurrence assessment (LOA) and preliminary significant impact assessment (SIA) have been updated as outlined in the *Preliminary Significant Impact Assessment* (CQG 2025a). Table 5.1 lists a summary of the revised findings.

The assessment found that habitat present within the Project Areas is supports a number of least concern and special least concern species (as listed under the *Nature Conservation Act 1992* (Qld) (NCA). This includes abundant bird life, macropods and smaller terrestrial and arboreal fauna such as Northern Brown bandicoot, Echidna, Brushtail possums and Squirrel gliders. Refer to Attachment D for a photo log highlighting survey findings.

Table 5.1: Summary of revised LOA and SIA findings

Matter	LOA Findings	SIA Outcome	Project Actions
MNES			
Threatened fauna	Koala are unlikely to inhabit the Project Area as habitat is not suitable, no evidence of presence was recorded despite targeted methodology, and no historic records occur within proximity. Squatter pigeon are likely to be present within the Project Area.	No significant residual impact likely (no change from the Preliminary SIA)	Implement mitigation measures as outlined in the Preliminary SIA.
Migratory and marine fauna	Osprey are known to occur within and adjacent to the Project Area and were recorded during the survey.	No significant residual impact likely (no change from the Preliminary SIA)	Implement mitigation measures as outlined in the Preliminary SIA.

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Matter	LOA Findings	SIA Outcome	Project Actions
MSES			
Protected wildlife habitat	Habitat quality within the Project Area is highly degraded and unlikely to support endangered, vulnerable or near threatened species listed under the NCA. No threatened species were recorded.	No significant residual impact likely	Implement mitigation measures as outlined in the Preliminary SIA.

6 Conclusion

Overall, the findings of this preliminary assessment indicate that, with implementation of the appropriate avoidance and mitigation strategies outlined in the *Preliminary Significant Impact Assessment* (CQG 2025) (including pre-clearance surveys, delineation of no-go zones, implementation of fauna spotter/catchers, progressive rehabilitation, erosion and sediment control and biosecurity management) the Project is not expected to significantly impact threatened species, migratory species or other matters protected under State or Commonwealth legislation.

Yours sincerely,



Sarah Grady
Principal Ecologist
CQG Consulting

Attachments:

Attachment A: Maps

Attachment B: Survey Methodology

Attachment C: Species List

Attachment D: Photograph Log

References

Eyre TJ, Ferguson DJ, Smith GC, Mathieson MT, Venz MF, Hogan, LD, Hourigan CL, Kelly, AL & Rowland, J. 2022. Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, Version 4.0. Brisbane: Department of Environment and Science, Queensland Government.

Phillips, S. & Callaghan, J. 2011. The Spot Assessment Technique: a tool for determining localised levels of habitat use by Koalas, Phascolarctos cinereus, Australian Koala Foundation, Brisbane.

CQG 2025. Project Halogen Preliminary Significant Impact Assessment.

Limitations

This report has been prepared for the use of the client, Grenof Water Technologies Pty Ltd, for the purpose of this commission only.

CQG[1] takes no responsibility and disclaims all liability for any loss or damage that any party may suffer as a result of using or relying on any such information or recommendations contained in this report.

To the maximum extent permitted by law CQG expressly disclaims responsibility for or liability arising from:

- Any error in, or omission in connection with assumptions, or
- Reliance on the report by a third party, or use of the report other than for the purpose stated.

The report relates only to the project described herein and must be reviewed by a competent expert before being used for any other purpose. CQG accepts no responsibility for other use of the data.

This report does not provide a complete assessment of the environmental status of the site but is limited to the scope defined herein.

Should further information become available regarding the conditions of the Study Area, CQG reserves the right to review the report in the context of the additional information.

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This report is based on information issued and supplied to CQG by others as well as publicly available information.

[1] *CQ Environmental Pty Ltd (ABN 61 107 574 514) trading as CQG Consulting (CQG)*

Attachment A:

Maps



Legend

- Site Location
- Impact Area

Roads

- Minor Road

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure A.1

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Site Location

CQG Consulting
180 Quay Street, Rockhampton Q 4700
PO Box 8384, Allenstown 4700
Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-26
Revision: RevA
10 November 2025

Layer Credits- © OpenStreetMap (and) contributors, CC-BY-SA; QSpatial; CQG



Legend

- Site Location
- Impact Area

CQG Survey Results

- Koala SAT Locations
- Camera Locations
- Koala SAT Location Tracks

Roads

- Minor Road

N

Scale 1:3,000 (A3)

0 45 90 135

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure A.2

Grenof Water Technologies Pty Ltd

Project Halogen - Special Industry

Survey Locations

CQG Consulting
180 Quay Street, Rockhampton Q 4700
PO Box 8384, Allenstown 4700
Ph: +61 7 4922 9252 Fax: +61 7 4922 0195

Project No: 25054
Map No: 25054-27
Revision: RevA
10 November 2025

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Attachment B:

Survey Methodology

Attachment B: Survey Methodology and Implementation

Table B.1: Survey Methodology

Survey Method	Description	Effort / Implementation
Diurnal surveys	Conducted during daylight hours to detect diurnal birds, reptiles and mammals through direct observation, auditory cues, and sign (tracks, scats, diggings, burrows). Methods follow the *Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, v4.0* (Eyre et al 2022) (Fauna Survey Guidelines v4.0) combining point-count and opportunistic searches to record species activity across habitat types.	Undertaken over five days (29 September to 3 October 2025) at various times of day, incorporating both fixed-point surveys and incidental observations across representative habitats within the study area.
Nocturnal surveys	Undertaken after dusk to detect nocturnal and crepuscular species (e.g. gliders, owls, bats, frogs). Surveys follow Fauna Survey Guidelines v4.0 methods including spotlighting, thermal imaging, call playback and listening periods and were conducted along transects on foot or by vehicle.	Completed on three nights during the survey period using spotlighting and thermal camera searches. Call playback was conducted at selected locations under low-wind, low-noise conditions.
Koala Spot Assessment Technique (SAT) surveys	Standardised method for determining localised habitat use by Koalas (Phascolarctos cinereus) as described by Phillips & Callaghan (2011). Plots (typically 2 m radius) are centred on feed trees and 30 trees are assessed for the presence of Koala scats to calculate a Koala Activity Level (KAL) index, indicating relative habitat utilisation.	Three SAT plots were completed in representative eucalypt habitat zones within the study area. Each plot comprised 30 trees systematically searched for Koala scats and scored in accordance with the SAT protocol.
Camera traps	Passive infrared cameras deployed to record cryptic or nocturnal fauna activity. Placement follows Fauna Survey Guidelines v4.0 recommendations to target animal pathways, den sites or habitat features, using 24-hour operation cycles.	Cameras deployed for four nights at suitable microhabitats within the survey area. Units were programmed for continuous motion-trigger recording and retrieved post-survey for image analysis and species verification.

Attachment C:

Species List

	Fauna Species List												
	Species			Survey Number									
	Family	Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10
Bird Point/ Area Count	Meliphagidae	*Lichmera indistincta*	Brown Honey Eater	1			1		1	1	6	2	4
	Psittaculidae	*Trichoglossus moluccanus*	Rainbow Lorikeet	3	6		2		1	12	3	3	
	Corvidae	*Corvus orru*	Torresian Crow	1					2		1		1
	Anhingidae	*Anhinga novaehollandiae*	Australasian Darter		1	1							
	Phasianidae	*Synoicus ypsilophorus*	Brown Quail		6	6					4		
	Estrildidae	*Lonchura castaneothorax*	Chestnut Breasted Manikin		2								
	Phalacrocoracidae	*Microcarbo melanoleucos*	Little Pied Cormorant		1	1							
	Anseranatidae	*Anseranas semipalmata*	Magpie Goose		1	1						1	
	Cacatuidae	*Calyptorhynchus banksii*	Redtailed Black Cockatoo		3	3							
	Hirundinidae	*Hirundo neoxena*	Welcome Swallow		3	6	1						
	Ardeidae	*Egretta novaehollandiae*	White Faced Heron		3								
	Meliphagidae	*Melithreptus albogularis*	White Throated Honeyeater		2				1	1			
	Rhipiduridae	*Rhipidura leucophrys*	Willie Wagtail		1	2			1				
	Strigidae	*Ninox boobook*	Southern Boobook		1								
	Meliphagidae	*Philemon corniculatus*	Noisy friar bird			1	3			1		1	2
	Alcedinidae	*Todiramphus macleayii*	Forest Kingfisher			1			2		1		
	Ardeidae	*Ardea intermedia*	Intermediate Egret			1							
	Alcedinidae	*Dacelo novaeguineae*	Laughing kookaburra			1		2					
	Ardeidae	*Egretta novaehollandiae*	Whitefaced			3							
	Cuculidae	*Scythrops novaehollandiae*	Channelled billed cuckoo			1				2	1		1
	Burhinidae	*Burhinus grallarius*	Bush stone Curlew			1		1					
	Strigidae	*Ninox boobook*	Southern Boobook			1							
	Maluridae	*Malurus melanocephalus*	Red backed Fairywren				2		4	1	2	1	2
	Campephagidae	*Lalage leucomela*	Varied Triller				1		1		1		
	Phalacrocoracidae	*Phalacrocorax varius*	Pied Cormrent				1						
	Rhipiduridae	*Rhipidura rufifrons*	Rufisher Tail				1						
	Meliphagidae	*Philemon citreogularis*	Little Friar Bird						1	1			
	Accipitridae	*Haliastur sphenurus*	Whistling Kite						2	1			
	Artamidae	*Strepera graculina*	Pied Currawong							1			
	Cuculidae	*Eudynamys orientalis*	Pacific koel							1	1		
	Columbidae	*Geopelia placida*	Peaceful Doves								3		
	Columbidae	*Ocyphaps lophotes*	Crested Pigeon								1		
	Campephagidae	*Coracina novaehollandiae*	Blackfaced Cuckoo								2		2
	Cuculidae	*Centropus phasianinus*	Phesant Coucal									1	
	Pandionidae	*Pandion haliaetus*	Osprey										1
	Monarchidae	*Grallina cyanoleuca*	Magpie Lark										1
	Herpetofauna Count												
	Eugongylidae	*Cryptoblepharus pulcher*	Elegant Snake-eyed Skink	1	2								
	Bufonidae	*Rhinella marina*	Cane Toad	4	1								
	Camera Trap Data			1	4	6	8	9	11	12			
Camera Trap Data	Phalangeridae	*Trichosurus vulpecula*	Brushtailed Possum			X	X						
	Macropodidae	*Macropus giganteus*	Eastern Grey Kangaroo	X				X	X	X			
	Macropodidae	*Macropus parryi*	Whiptailed wallaby					X		X			
	Tachyglossidae	*Tachyglossus aculeatus*	Short-beaked echidna					X					
	Peramelidae	*Isoodon macrourus*	Northern Brown Bandicoot		X								
	Spotlighting			1	2	3	4						
Spotlighting	Macropodidae	*Macropus giganteus*	Eastern Grey Kangaroo		X		X						
	Macropodidae	*Macropus parryi*	Whiptailed wallaby			X							
	Pteropodidae	*Pteropus scapulatus*	Little Red Flying Fox	X	X	X	X						
	Petauridae	*Petaurus breviceps*	Sugar glider				X						

Attachment D:

Photograph Log

Attachment D: Photograph Log



Photo 1.1: Little Pied Cormorant (*Microcarbo melanoleucos*)



Photo 1.2: White-faced heron (*Egretta novaehollandiae*)



Photo 1.3: Sugar glider (*Petaurus breviceps*)



Photo 1.4: Nankeen kestrel (*Falco cenchroides*)



Photo 1.5: Eastern Grey Kangaroo (*Macropus giganteus*)



Photo 1.6: Forest kingfisher (*Todiramphus macleayii*)

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Photo 1.7: Habitat feature – Breeding place - Nest



Photo 1.8: Habitat feature – Arboreal termite mound with Kingfisher nest



Photo 1.9: Female Red-backed fairywren (*Malurus melanocephalus*)



Photo 1.10: Eastern Great Egret (*Ardea modesta*)



Photo 1.11: Noisy Friarbird (*Philemon corniculatus*)



Photo 1.12: Little friarbird (*Philemon citreogularis*)

<table>
<tr>
<td> 
Photo 1.13: Laughing Kookaburra (*Dacelo novaeguineae*)</td>
<td> 
Photo 1.14: Queensland Black Orchid (*Cymbidium canaliculatum*)</td>
<td> 

Photo 1.15: Scat - Possum</td>
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<tr>
<td> 

Photo 1.16: Fauna tracks – Possum/Glider scratch marks</td>
<td> 

Photo 1.17: Fauna tracks – Fauna scratch marks</td>
<td> 

Photo 1.18: Fauna tracks –scratch marks</td>
</tr>
</table>

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2 Camera Traps



Photo 2.1: Northern brown bandicoot (*Isoodon macrourus*)



Photo 2.2: Common Brushtail Possum (*Trichosurus vulpecula*)



Photo 2.3: Eastern short-beaked echidna (*Tachyglossus aculeatus aculeatus*)



Photo 2.4: Eastern Grey Kangaroo (*Macropus giganteus*)



Photo 2.5: Whiptail wallaby (*Notamacropus parryi*)

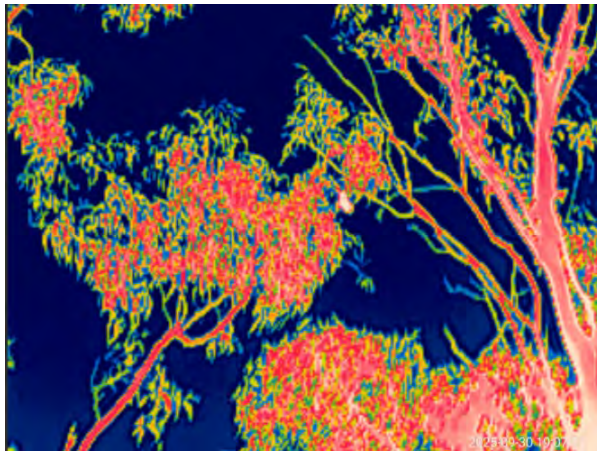
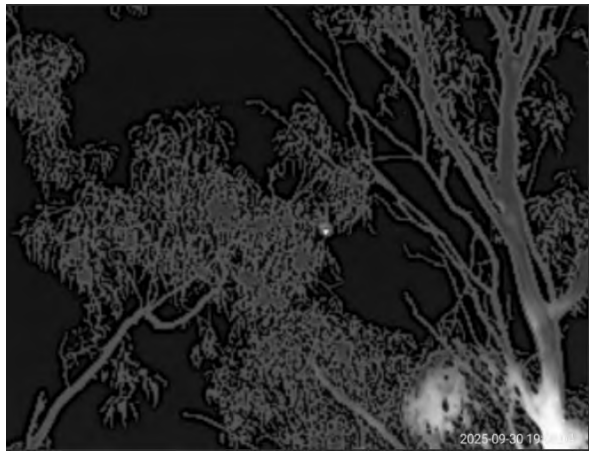
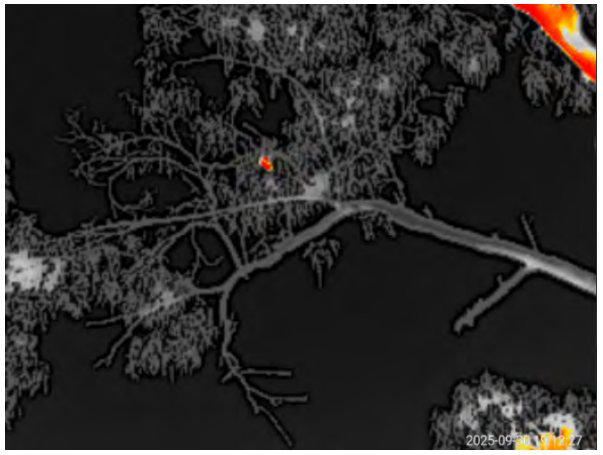


Photo 2.6: Common Brushtail Possum (*Trichosurus vulpecula*)

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Photo 2.7: Eastern Grey Kangaroo (*Macropus giganteus*)	Photo 2.8: Eastern Grey Kangaroo (*Macropus giganteus*)	Photo 2.9: Northern brown bandicoot (*Isoodon macrourus*)

3 Thermal Camera

		
Photo 3.1: Flying Fox	Photo 3.2: Flying Fox	Photo 3.3: Flying Fox

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