

BIODIVERSITY AND VEGETATION ASSESSMENT

16 Macaranga Cst

Carseldine Q4034

Lot Plan: 4SP313747

July 2026

Revision E

enviro-STUDIO

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Executive Summary

Envirostudio has undertaken a detailed vegetation assessment for the property located at 16 Macaranga Crescent, Carseldine, in support of a proposed subdivision of Lot 4 into two additional residential lots. The primary objective of the investigation is to evaluate existing vegetation and assess potential ecological implications to ensure that any future development is carried out with minimal environmental impact.

The site consists of a predominantly flat block with sparse mature dry sclerophyll tree species, such as Ironbark, Queensland Blue Gum, Swampbox, and Paperbark. The vegetation community lacks a mid-storey or shrub layer, and the ground layer is dominated by native grasses interspersed with mown exotic species. Ecological assessments indicate that the lot is classified as Category X under Queensland's vegetation management framework, denoting no remnant vegetation. Biodiversity significance is rated at 0%, with a noted 102.87% riverine significance under state government mapping.

Threatened species analysis concludes that while koalas (*Phascolarctos cinereus*) and grey-headed flying-foxes (*Pteropus poliocephalus*) may occasionally traverse or forage on the site, recent records of these species date back to 2011. Most other conservation-significant fauna in the area are associated with riverine habitats. No protected vegetation is recorded on the lot under state databases.

The proposal involves subdividing Lot 4 into two lots of 677 m² and 659 m² respectively, with the removal of trees located within these proposed parcels. Historical site observations and soil investigations reveal declining tree health due to poor water retention, reduced overland flow from surrounding urban development, and past revegetation efforts with high mortality rates.

Overall, the site supports low biodiversity and minimal ecological complexity. The proposed subdivision and associated tree removals are not expected to result in significant ecological impacts, as the primary areas of riverine vegetation to the south of the lot will remain undisturbed. The project can proceed with confidence that environmental impacts are low and manageable through appropriate planning and mitigation measures.

1. Introduction - Scope and Objectives

Envirostudio was commissioned to prepare this report on the vegetation present on the Subject Site, situated at 16 Macaranga Crescent, Carseldine. The primary objective of the report is to conduct an investigation and evaluation of the vegetation on the site in relation to subdividing Lot 4.

At this juncture, information is being gathered to assess the potential for adding an additional two lots. Any proposed subdivision will be meticulously designed to minimise the potential adverse effects on biodiversity and implement appropriate measures to mitigate any potential ecological impacts.

2. Site Description

Property Address	16 MACARANGA CRES CARSELDINE 4034
Lot No	4
Plan	SP313747
Ward:	BRACKEN RIDGE
Title Area	7,041 m

Table 1

The site is on a predominantly flat block of land supporting sparsely growing mature dry sclerophyll tree species, including Ironbark, Queensland blue gum, Swampbox, and Paperbark trees. The vegetation community does not support a mid-storey or shrub layer; the ground layer consists of native grasses such as *Lomandra* spp. and *Dieties* spp., and mown exotic grasses.



Figure 1 Cadastre ©2025 State of Queensland (Department of Resources).

3. Ecological Assessment

3.1. Qld Government

Vegetation management framework for Lot: 3 Plan: SP313747

Vegetation categories

The lot is listed as category X. Refer to tables 2 and 3 and figure 2.

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
non-rem	None	X	0.14	None	None

Table 2

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
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.	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.

Table 3

An assessment of the Biodiversity and Conservation Values report from the Department of the Environment, Tourism, Science and Innovation found a 0% rating for overall biodiversity significance, however, a 102.87% for riverine significance. Refer to table 4. The entire report is contained within the appendix

Aquatic conservation significance (riverine wetlands)	Area (Ha)	% of AOI
High	0.14	102.87

Table 4

3.1.1. Threatened and Priority Species

This section 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 with respect to species presence is derived from compiled databases.

3.1.2. 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 Subject Site. (Table 5)

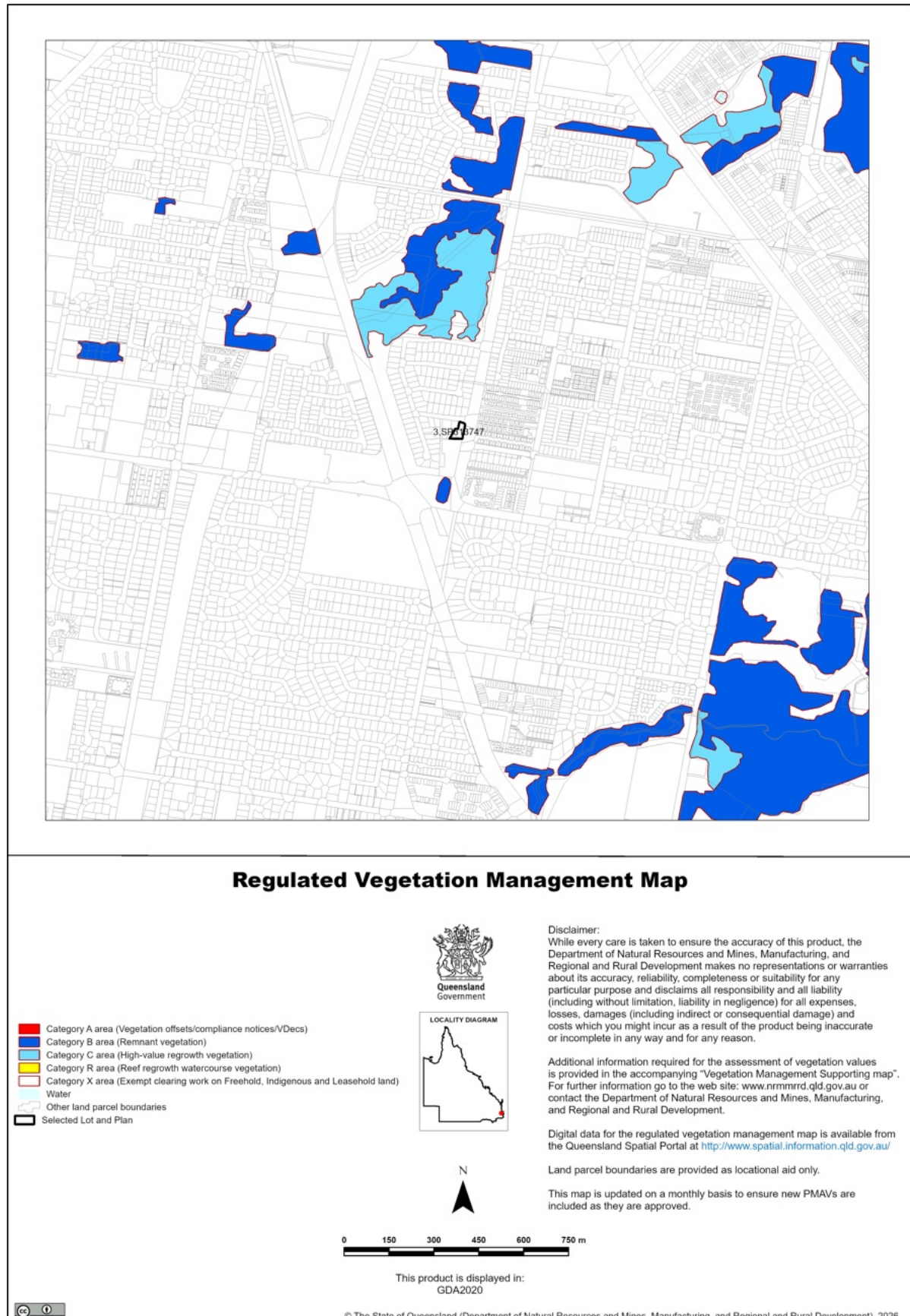


Figure 2

Threatened species recorded on, or within 4km of the Subject Site

Species	Common name	NCA status	EPBC status	Migratory species*	Wetland species**	Identified flora/fauna
<i>Acanthophis antarcticus</i>	common death adder	V				FA
<i>Adelotus brevis</i>	tusked frog	V			I	FA
<i>Gallinago hardwickii</i>	Latham's snipe	V	V	M-J/R/B/E	I	FA
<i>Ninox strenua</i>	powerful owl	V				FA
<i>Phascolarctos cinereus</i>	koala	E	E			FA
<i>Pteropus poliocephalus</i>	grey-headed flying-fox	C	V			FA
<i>Rhodomyrtus psidioides</i>	native guava	CR	CE			FL
<i>Rostratula australis</i>	Australian painted- snipe	E	E		I	FA

Table 5

B - Convention on the Conservation of Migratory Species; C - China-Australia Migratory Bird Agreement; J - Japan-Australia Migratory Bird Agreement; E - East Asian-Australasian Flyway Partnership; R - Republic of Korea-Australia Migratory Bird Agreement.

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

3.1.3. BPA Biodiversity Planning Assessment

BPA Priority species recorded on, or within 4km of the Subject Site

Species	Common name	Identified flora/fauna	Identified on site
<i>Cherax dispar</i>		FA	×
<i>Cucumerunio novaehollandiae</i>	Australian River Mussel	FA	×
<i>Delma plebeia</i>	common delma	FA	×
<i>Ephippiorhynchus asiaticus</i>	black-necked stork	FA	×
<i>Gyrocochlea raveni</i>	Raven's Pinwheel Snail	FA	×
<i>Hoplocephalus bitorquatus</i>	pale-headed snake	FA	×
<i>Litoria balatus</i>	slender bleating treefrog	FA	×
<i>Melaleuca quinquenervia</i>	swamp paperbark	FL	✓
<i>Mugil cephalus</i>	sea mullet	FA	×
<i>Ornithorhynchus anatinus</i>	platypus	FA	×
<i>Phascogale tapoatafa tapoatafa</i>	brush-tailed phascogale	FA	×
<i>Pomatostomus temporalis</i>	grey-crowned babbler	FA	×
<i>Rhadinocentrus ornatus</i>	ornate rainbowfish	FA	×
<i>Trachystoma petardi</i>	pinkeye mullet	FA	×

Table 6

DETSI database compiled from Wildnet, Herbrecks, Corveg, the QLD Museum, as well as other incidental sources.

Kingdom	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
Animalia	Amphibia	Limnodynastidae	Adelotus brevis	tusked frog	V		5	5	8/11/2023
Animalia	Aves	Apodidae	Hirundapus caudacutus	white-throated needletail	V	V	0	1	9/03/1994
Animalia	Mammalia	Phascolarctidae	Phascolarctos cinereus	koala	E	E	0	2	29/04/2011
Animalia	Mammalia	Pteropodidae	Pteropus poliocephalus	grey-headed flying-fox	C	V	0	2	1/08/2011

Table 7 Conservation significant species recorded within the area of interest and its one kilometre buffer

3.1.4. Non-Riverine Aquatic Conservation Significance.

Fauna

Of the species listed in Table 7, it is considered that *Phascolarctos cinereus* (Koala) and *Pteropus poliocephalus* (grey-headed flying-fox) may only occur while foraging and migrating through; however, the other species listed are predominantly riverine-focused habitats. Wild records show that conservation-significant species recorded within the area of interest and its one-kilometre buffer indicate that the last recording of a koala and grey-headed flying-fox was in 2011.

State government databases show no protected vegetation on the lot. Although there are limited opportunities, koalas may migrate through the lot, and flying foxes would likely forage on trees and vegetation .

3.2. Brisbane City Council Plans and Overlays

Zone: EC Emerging Community

3.2.1. Neighbourhood Plans

- Bracken Ridge and District Neighbourhood Plan
- Carseldine Residential Precinct - NPP-001

3.2.2. Overlays

- Biodiversity areas overlay The Biodiversity areas overlay deals with Biodiversity Areas of Ecological Significance (AES). This may include areas of High Ecological Significance (HES) and also areas of General Ecological Significance (GES), among others.
- High ecological significance strategic sub-category
- Stormwater network

(refer to figure 3)

3.2.3. High Ecological Significance (HES)

The term High Ecological Significance (HES) as used by Brisbane City Council refers to areas that require conservation due to their important ecological features. These areas are recognised for their critical role in maintaining biodiversity and natural habitats, and development in these zones is managed to ensure protection and conservation of ecological values such as native vegetation, koala habitat trees, and wetlands.



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Figure 3a

Matters of state environmental significance (MSES) — Areas

 Matters of state environmental significance areas (MSES)

Biodiversity areas

 High ecological significance strategic

City Plan 2014 — LGIP — Priority Infrastructure Area

 Priority Infrastructure Area

City Plan 2014 — LGIP — Network Key

 Plans for Trunk Infrastructure - map grid index

City Plan 2014 — LGIP — Service catchments — Stormwater network

 Stormwater service catchments

Local Government Authorities

 LGA boundary

Property boundaries holding

 Property Holding

4. The Proposal

It is proposed in the development application to change lot 4 into an additional two lots, both areas of 677 m² and 659 m² each. All the trees on the proposed new lots are proposed to be removed. Refer to the tree table figure 3 for trees proposed to be removed.

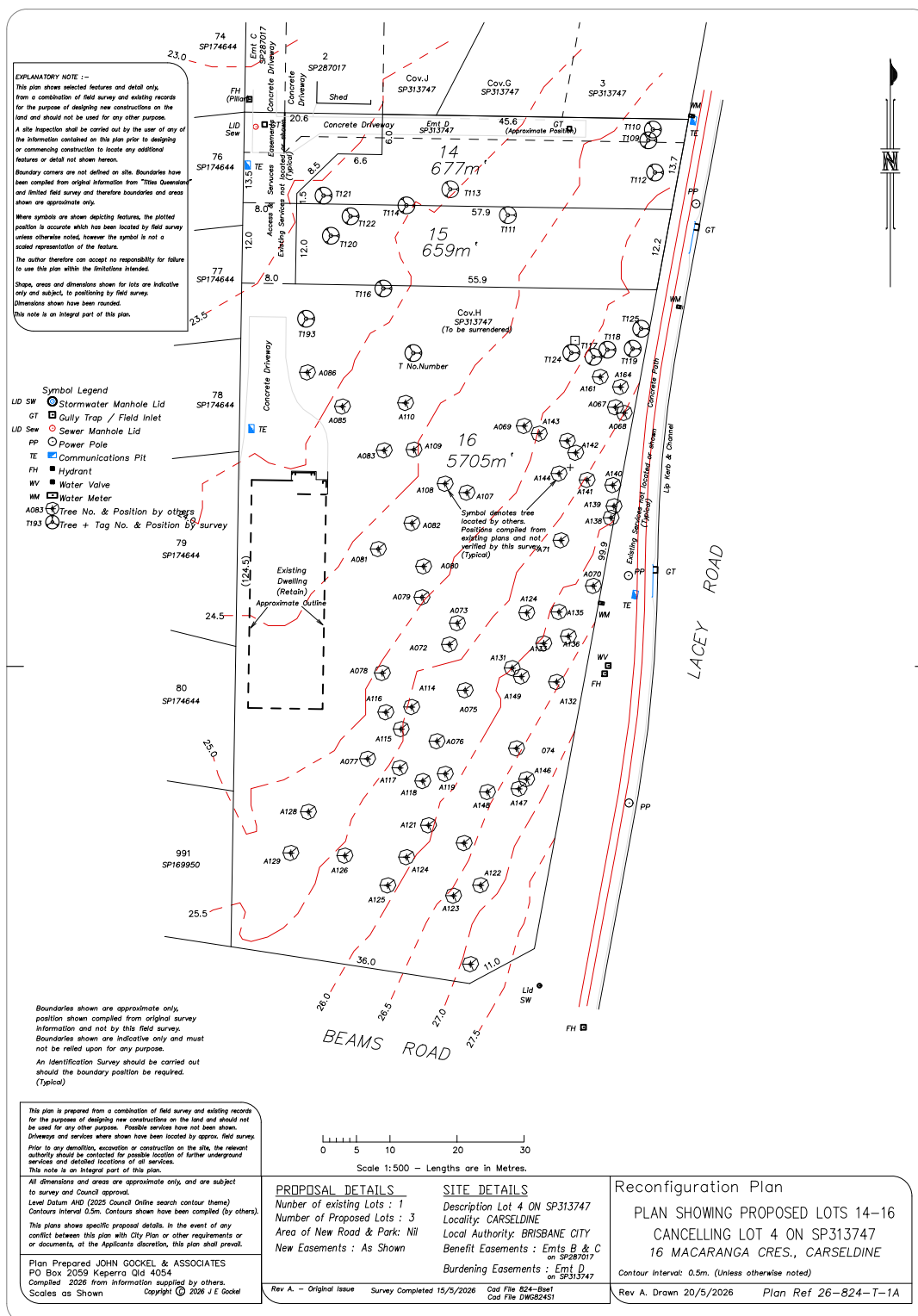


Figure 4 Surveyors reconfiguration plan

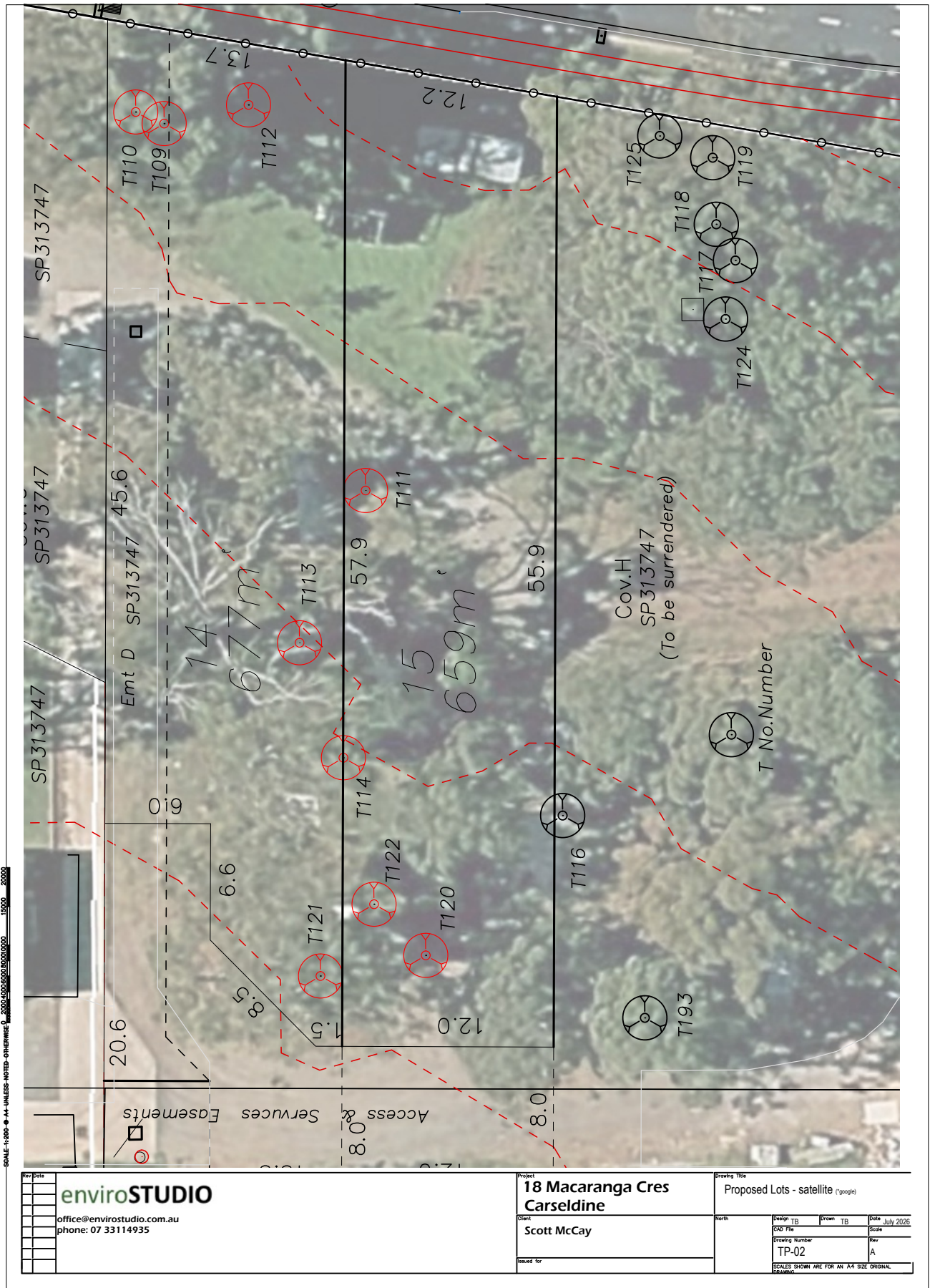


Figure 7

Tree Number table - refer to TP 01 & TP02

Tree	Common name	Latin name	DBH	Crown width	Height	Comments Scratch marks, canopy cover etc	To be removed
121	Narrow leafed Iron bark	Eucalyptus crebra	420	3	15		Y
109	Forest red gum	Eucalyptus tereticornis	380	3	12		Y
110	Narrow leafed Iron bark	Eucalyptus crebra	300	5	15		Y
111	Forest red gum	Eucalyptus tereticornis	550	2.5	18	Dying.	Y
112	Narrow leafed Iron bark	Eucalyptus crebra	340	3	16		Y
113	Forest red gum	Eucalyptus tereticornis	640	3	18	Dying	Y
114	Forest red gum	Eucalyptus tereticornis	540	4	15		Y
115	Grey gum	Eucalyptus propinqua	280	2	14		Y
116	Forest red gum	Eucalyptus tereticornis	310	4	12		Y
117	Red bloodwood	Corymbia gummifera	450	4	15		N
118	Grey gum	Eucalyptus propinqua	180	2	12		N
119	Gum-topped Box	Eucalyptus moluccana	320	3	20		N
120	Forest red gum	Eucalyptus tereticornis	350	3	15		Y
122	Narrow leafed Iron bark	Eucalyptus crebra	310	3	12		Y
123	Forest red gum	Eucalyptus tereticornis	380	3	12		Y
124	Iron Bark	Eucalyptus siderophloia	200	3	17		N
125	Forest red gum	Eucalyptus tereticornis	3209	3	6		N
127	Red bloodwood	Corymbia gummifera	420	4	15		Y
129	Forest red gum	Eucalyptus tereticornis	670	4	15		Y
131	Red bloodwood	Corymbia gummifera	520	4	16		Y
193	Pink Bloodwood	Corymbia intermedia	300	6	18		Y
118	Pink Bloodwood	Corymbia intermedia	450	4	17		Y
No Num	Narrow leafed Iron bark	Eucalyptus crebra	410	2-3	12		Y

Discussion and Development History

Envirostudio has been visiting this property regularly since October 2013 over the last thirteen years. In the last ten years, significant local neighbourhood urban development and road infrastructure (eg kerb and channelling constructed along Lacey Road) has occurred. This has resulted in a reduction to the overland flow where it had historically flowed across and through the original property. Additional investigations have shown that there is a thin layer of sandy topsoil over a layer of clay soils. The limited water-holding capacity of the soil and significantly reduced flow over recent years have contributed to a decline in the health of many trees across the site. The site has been revegetated twice (to meet previous approval conditions) with significant mortality among the shrubs and trees after approximately one to two years of growth. Four existing large trees have died (refer to previous approved applications to remove trees under NALL).



Vegetation on Site.

1946 aerial images of the lot (figure 7) show an altered mosaic of vegetation to the present. The area was historically heavily linked to farming. The area was extensively cleared. Presently, there are trees that have grown in the southern areas of the lot, and there is a patch of RE 12.3.6 vegetation south of the lot itself that was not present in 1946. There are more trees also from the revegetation works that have been carried out on the lot. Refer to photograph 1. The present vegetation on the site is the result of the intervening years undergoing significant local urban growth as well as revegetation on the lot itself. Tree species such as *Melaleuca quinquenervia* are present in very small numbers in the southern area and not part of the proposed new layout. Trees present that are consistent with Regional ecosystem 12.3.6 generally occur on the lot. Regional ecosystem type and associated with "Riverine" vegetation occur on the lot.

Trees on the site noted (also refer to photographs) are showing obvious signs of ill health. Tree 113 (refer to the photographs) has a significant basal hollow with poor canopy integrity, large limbs evidently dying, poor form and is on a 5-8% lean to the east. Tree 114 also exhibits poor health in structure and form as well as obvious bark deterioration. Refer to photographs.

5. Conclusion

The site's current vegetation is low in biodiversity and ecological complexity, with canopy trees, minimal mid-storey, and limited fauna utilisation. The vegetation on the site is broadly recognised as significant riverine value. There is some riverine vegetation community species represented in the south of the site. This vegetation will not be impacted. The removal of trees in the proposed lots will not result in significant ecological consequences.

Overall, the proposed subdivision can proceed with confidence that its environmental impact is low and effectively managed.



Photographs

Mature trees - visible stress and poor health





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6. Appendix



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: 3 Plan: SP313747

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

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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: 3 Plan: SP313747, with area 0.14 ha

Local Government(s)	
Brisbane City	
Bioregion(s)	Subregion(s)
Southeast Queensland	Sunshine Coast - Gold Coast Lowlands
Catchment(s)	
Pine	

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	South East Queensland Catchments v1.1	South East Queensland Catchments v.1.1

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	0.14	102.87

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 processes

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	0.14	102.87

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	0.14	102.87	0.00	0.00
2. Naturalness catchment	0.00	0.00	0.00	0.00	0.00	0.00	0.14	102.87
3. Diversity and richness	0.14	102.87	0.00	0.00	0.00	0.00	0.00	0.00
4. Threatened species and ecosystems	0.14	102.87	0.00	0.00	0.00	0.00	0.00	0.00
5. Priority species and ecosystems	0.14	102.87	0.00	0.00	0.00	0.00	0.00	0.00
6. Special features	0.00	0.00	0.14	102.87	0.00	0.00	0.00	0.00
7. Connectivity	0.00	0.00	0.00	0.00	0.14	102.87	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 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)
pn_r_ec_02	South Pine River	Pine	6.4.1,6.2.1	3,3
pn_r_fl_03	Eucalyptus tereticornis communities 12.3.11	Pine	6.3.1	3

4 is the highest rating/value

Expert panel decision descriptions:

Decision number	Description
pn_r_ec_02	Hydrologically natural compared to the North Pine River (EHMP high rating). May extend to the rest of the headwaters.
pn_r_fl_03	RE 12.3.11 provides habitat for flora and fauna and is subject to a number of threatening processes in the coastal catchments. Remnant pockets have good biodiversity. REs 12.3.3, 12.3.7, 12.3.11 in flood plain or riverine system contain <i>E. tereticornis</i> , although the expert panel decision relates specifically to 12.3.11.

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
<i>Acanthophis antarcticus</i>	common death adder	V				FA
<i>Adelotus brevis</i>	tusked frog	V			I	FA
<i>Gallinago hardwickii</i>	Latham's snipe	V	V	M-J/R/B/E	I	FA
<i>Ninox strenua</i>	powerful owl	V				FA
<i>Phascolarctos cinereus</i>	koala	E	E			FA
<i>Pteropus poliocephalus</i>	grey-headed flying-fox	C	V			FA
<i>Rhodomyrtus psidioides</i>	native guava	CR	CE			FL
<i>Rostratula australis</i>	Australian painted-snipe	E	E		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.

*B - Convention on the Conservation of Migratory Species; C - China-Australia Migratory Bird Agreement; J - Japan-Australia Migratory Bird Agreement; E - East Asian-Australasian Flyway Partnership; R - Republic of Korea-Australia Migratory Bird Agreement.

**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
<i>Cherax dispar</i>		FA
<i>Cucumerunio novaehollandiae</i>	Australian River Mussel	FA
<i>Delma plebeia</i>	common delma	FA
<i>Ephippiorhynchus asiaticus</i>	black-necked stork	FA
<i>Gyrocochlea raveni</i>	Raven's Pinwheel Snail	FA
<i>Hoplocephalus bitorquatus</i>	pale-headed snake	FA
<i>Litoria balatus</i>	slender bleating treefrog	FA
<i>Melaleuca quinquenervia</i>	swamp paperbark	FL
<i>Mugil cephalus</i>	sea mullet	FA
<i>Ornithorhynchus anatinus</i>	platypus	FA
<i>Phascogale tapoatafa tapoatafa</i>	brush-tailed phascogale	FA
<i>Pomatostomus temporalis</i>	grey-crowned babbler	FA
<i>Rhadinocentrus ornatus</i>	ornate rainbowfish	FA
<i>Trachystoma petardi</i>	pinkeye mullet	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
<i>Acrocephalus australis</i>	Australian Reed-Warbler	FA
<i>Actitis hypoleucos</i>	Common Sandpiper	FA
<i>Anguilla australis</i>	Southern Shortfin Eel	FA
<i>Anguilla reinhardtii</i>	Longfin Eel	FA
<i>Ardea alba modesta</i>	Eastern Great Egret	FA
<i>Bubulcus ibis</i>	Cattle Egret	FA
<i>Casuarina glauca</i>	swamp she-oak	FL
<i>Cucumerunio novaehollandiae</i>	Australian River Mussel	FA
<i>Eucalyptus tereticornis</i>		FL
<i>Gallinago hardwickii</i>	Latham's Snipe	FA
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	FA
<i>Melaleuca quinquenervia</i>	swamp paperbark	FL
<i>Mugil cephalus</i>	Sea Mullet	FA
<i>Ornithorhynchus anatinus</i>	Platypus	FA
<i>Pandion haliaetus cristatus</i>	Eastern Osprey	FA
<i>Rhadinocentrus ornatus</i>	Ornate Rainbowfish	FA
<i>Trachystoma petardi</i>	Pinkeye Mullet	FA

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

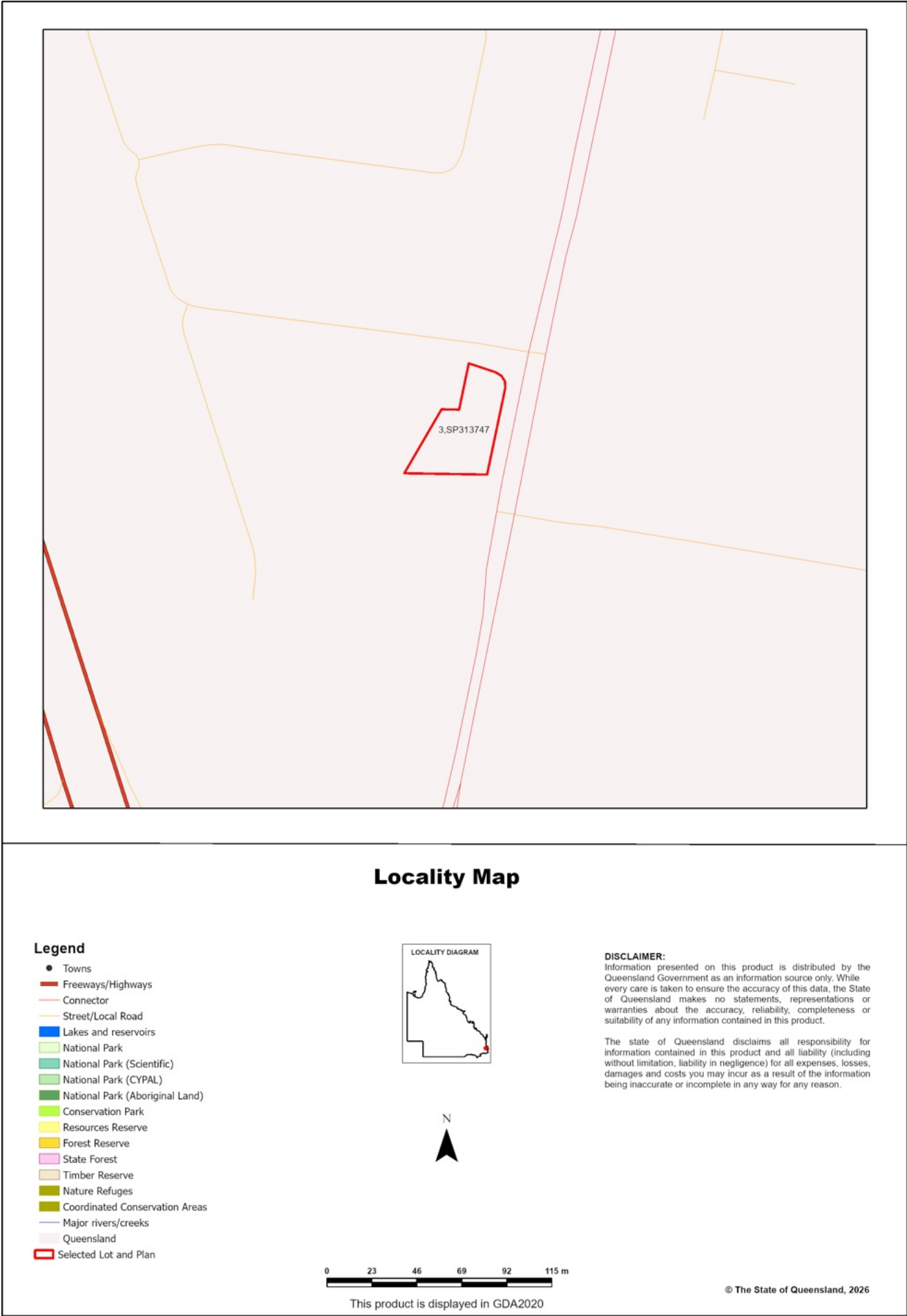
Species	Common name	Identified flora/fauna
<i>Acrocephalus australis</i>	Australian Reed-Warbler	FA
<i>Anguilla australis</i>	Southern Shortfin Eel	FA
<i>Anguilla reinhardtii</i>	Longfin Eel	FA
<i>Ardea alba modesta</i>	Eastern Great Egret	FA
<i>Bubulcus ibis</i>	Cattle Egret	FA
<i>Cherax dispar</i>	Lobby	FA
<i>Eucalyptus tereticornis</i>		FL
<i>Gallinago hardwickii</i>	Latham's Snipe	FA
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	FA

Species	Common name	Identified flora/fauna
<i>Melaleuca quinquenervia</i>	swamp paperbark	FL
<i>Ornithorhynchus anatinus</i>	Platypus	FA
<i>Pandion haliaetus cristatus</i>	Eastern Osprey	FA
<i>Plegadis falcinellus</i>	Glossy Ibis	FA
<i>Rhadinocentrus ornatus</i>	Ornate Rainbowfish	FA
<i>Tringa glareola</i>	Wood Sandpiper	FA

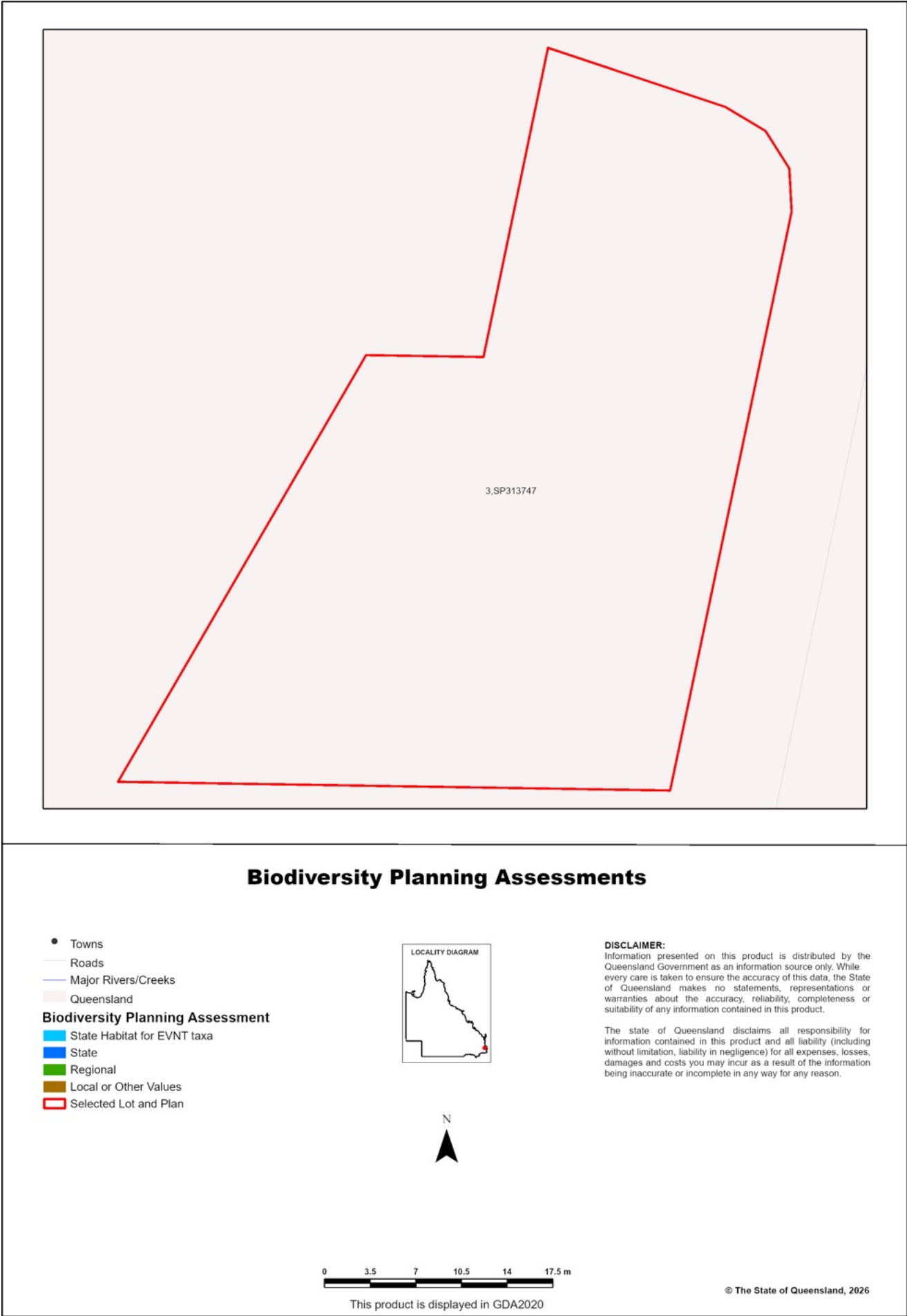
NB. Please note that the priority species records used in the above two tables are comprised of those adopted for the released individual ACAs. The ACA riverine and non-riverine priority species databases are updated from time to time to reflect new release of ACAs. At each update, the taxonomic details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

Maps

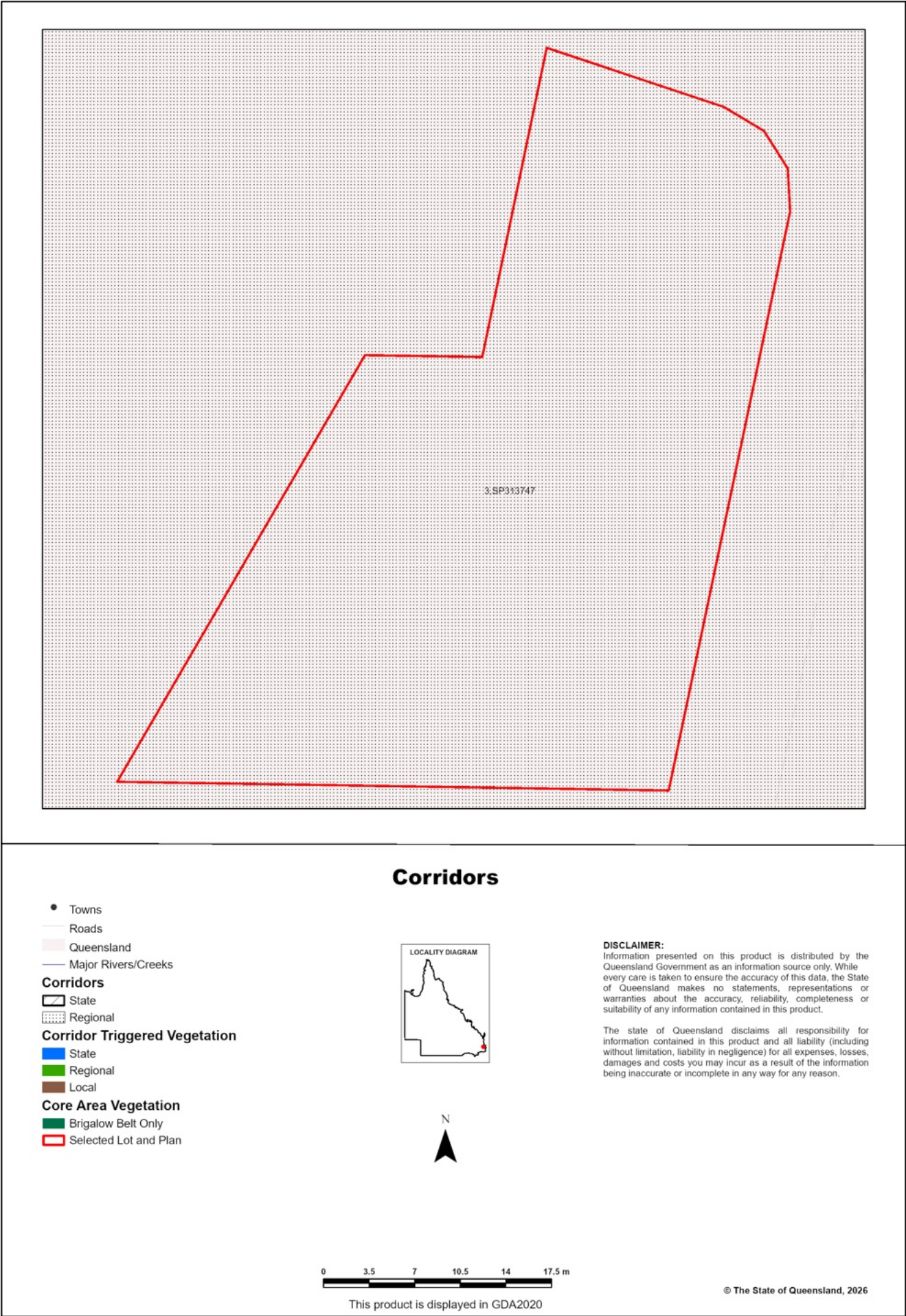
Map 1 - Locality Map



Map 2 - Biodiversity Planning Assessment (BPA)



Map 3 - Corridors



● Towns
 — Roads
 ● Springs
 — Rivers/Creeks
 ■ Directory of Important Wetlands
 ■ Ramsar Sites - OLD

Wetland Type

Hydrologically natural Wetlands

- Lacustrine Wetlands (hydrologically natural)
-  Palustrine Wetlands (hydrologically natural)
-  Riverine Wetlands (hydrologically natural)
-  Intertidal Wetlands (hydrologically natural)
-  Subtidal Wetlands (hydrologically natural)
-  Intertidal/Subtidal Wetlands (hydrologically natural)

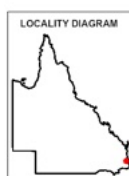
Hydrologically Modified and Artificial Wetlands

- Hydrologically Modified and Artificial Wetlands
- Yellow Lacustrine Wetlands (hydrologically modified or artificial)
 - Dark Red Palustrine Wetlands (hydrologically modified or artificial)
 - Blue Riverine Wetlands (hydrologically modified or artificial)
 - Orange Intertidal Wetlands (hydrologically modified or artificial)
 - Light Blue Subtidal Wetlands (hydrologically modified or artificial)
 - Grey Intertidal/Subtidal Wetlands (hydrologically modified or artificial)

Subdominant Wetlands.

- Subdominant Wetlands (51 - 80%)
- Contains Wetlands (1 - 50%)

-  Contains Wetlands (1
 Queensland
 Selected Lot and Plan



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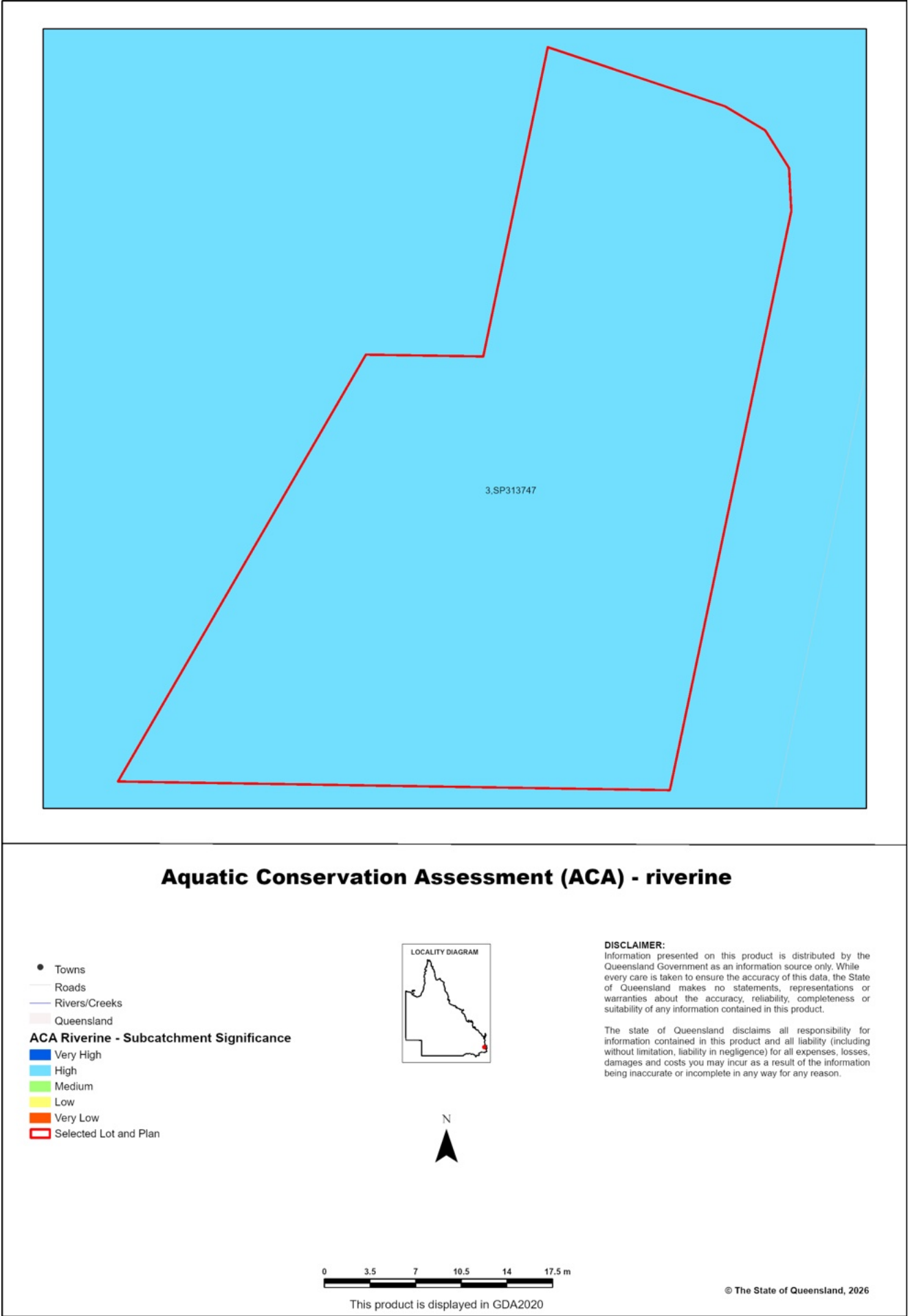
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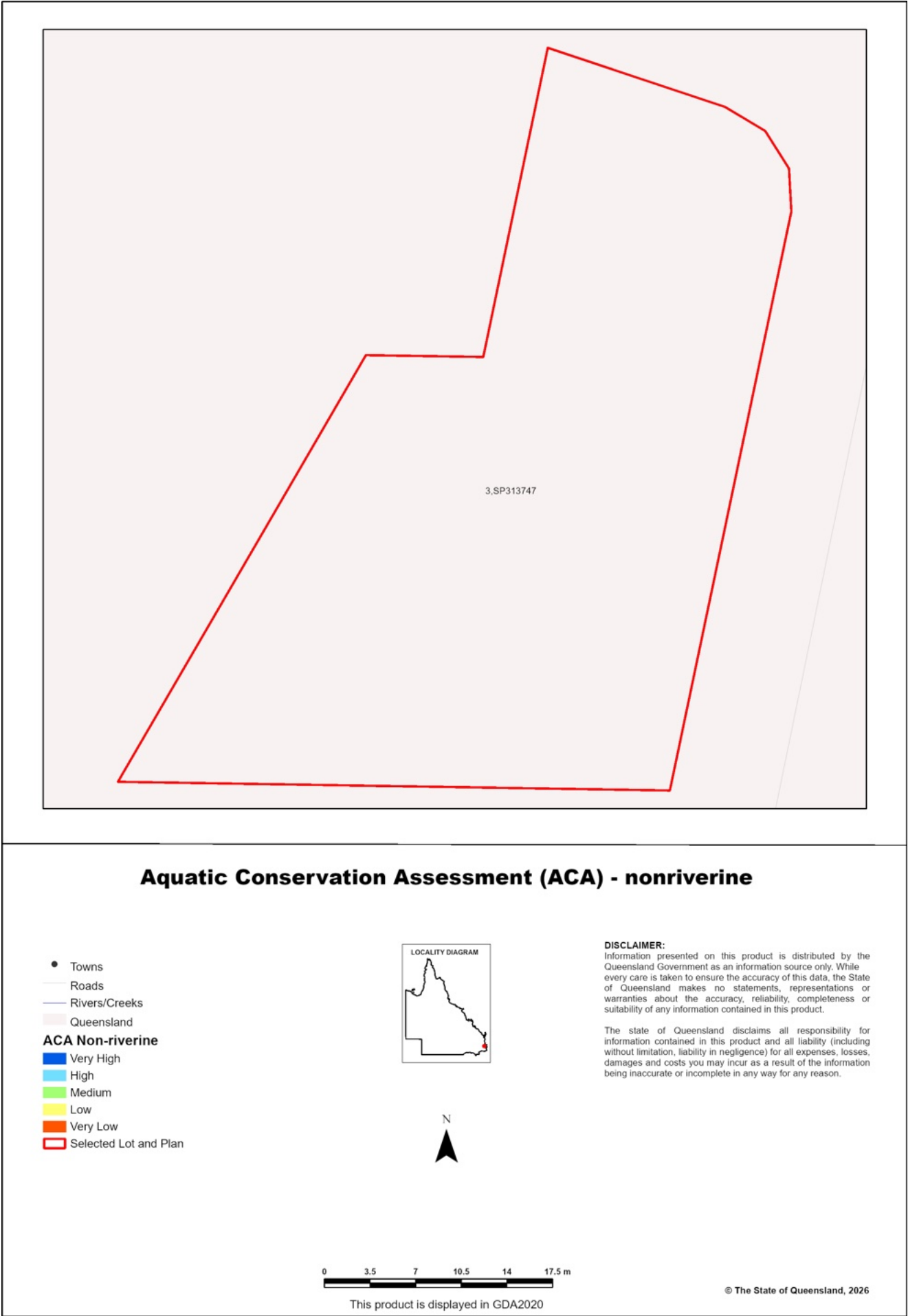
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Map 5 - Aquatic Conservation Assessment (ACA) - riverine



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



References

Clayton, P.D., Fielder, D.F., Howell, S. and Hill, C.J. (2006) *Aquatic biodiversity assessment and mapping method (AquaBAMM): a conservation values assessment tool for wetlands with trial application in the Burnett River catchment*. Published by the Environmental Protection Agency, Brisbane. ISBN 1-90928-07-3. Available at

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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, Herbrecks, Corveg, the QLD Museum, as well as other incidental sources.
BPA Priority Species	An internal DETSI database compiled from Wildnet, Herbrecks, Corveg, the QLD Museum, as well as other incidental sources.
ACA Priority Species	An internal DETSI database compiled from Wildnet, Herbrecks, 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	- <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVNT	- Endangered, Vulnerable, Near Threatened
GDA2020	- Geocentric Datum of Australia 2020
GIS	- Geographic Information System
JAMBA	- Japan-Australia Migratory Bird Agreement
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
ROKAMBA	- Republic of Korea-Australia Migratory Bird Agreement