



ENVIRONMENTAL

CURRUMBIN-ECO PARKLAND PRELIMINARY ECOLOGICAL ASSESSMENT

Currumbin Creek Road, Currumbin Waters

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ABBREVIATIONS

AHD	Australian Height Datum
BONN	Convention on the Conservation of Migratory Species of Wild Animals 1991 (or the BONN Convention)
CAMBA	China/Australia Migratory Bird Agreement 1988
CE	Critically Endangered
CoGC	City of Gold Coast
Cwlth	Commonwealth
DBH	Diameter at Breast Height
DES	Department of Environment and Science (Qld)
DNRME	Department of Natural Resources, Mines and Energy (Qld)
DAWE	Department of the Agriculture, Water and Environment (Cwlth)
E	Endangered
EPBCA	Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)
ESD	Ecologically Sustainable Development
EVNT	Endangered, Vulnerable and Near Threatened
JAMBA	Japan/Australia Migratory Bird Agreement 1981
KHA	Koala Habitat Area
KPA	Koala Priority Area
M	Migratory
MCU	Material Change of Use
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
MLES	Matters of Local Environmental Significance
NCA	Nature Conservation Act 1992 (Qld)
NT	Near Threatened
PVMA	Primary Vegetation Management Area
RE	Regional Ecosystem
ROKAMBA	Republic of Korea Migratory Bird Agreement 2007
QH	Queensland Herbarium
QLD	Queensland
SARA	State Assessment and Referral Agency (Qld)
SPP	State Planning Policy
V	Vulnerable
VMA	Vegetation Management Act 1999 (Qld)

1.0 INTRODUCTION

S5 Environmental was commissioned by Lat 27 on behalf of the Economic Development Queensland to conduct a Preliminary Ecological Assessment for six adjoining Lots on Currumbin Creek Road, Currumbin Waters. This Preliminary Ecological Assessment has been compiled to investigate the constraints and potential opportunities for the site, with emphasis on future Master Planning for eco-based tourism activities and facilities.

A preliminary desktop review of Federal, State and Local Government Overlays was conducted, allowing for investigation into the ecological values, features and functionality of the site in the context of the local and regional area, and applicable ecological constraints. Further, this report investigates the presence and/or absence of *Nature Conservation Act 1992* (NC Act) and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed species and ecological corridor connectivity across the site and regional surrounds.

Table 1. Site Description

Street Address	Currumbin Creek Road, Currumbin Waters QLD 4223	RPD	Lot 1 on RP854934
			Lot 247 on RP854934
			Lot 2 on RP168012
LGA	City of Gold Coast	Area	148 ha
Zone	Rural (Rural Landscape & Environment Precinct)	Tenure	Freehold
Current State	The subject site is mostly in a vacant state with historical clearing for grazing. These modified areas are occurrent on the lower lying expanses of the subject site near the Currumbin Creek waterway corridor. A number of waterway tributaries, adjacent riparian vegetation and dams are also evident, dominated by extensive pasture grasses on lower lying elevations of the site. On the steeper slopes of the subject site, vegetation has been retained and remains in a dense form likely with all vegetation layers intact. Four Regional Ecosystems, as described below, are identified over the subject site and the remainder of the site is mapped as Category X. Refer to Figure 1 and Table 4.		
Site Context	The site is located in the suburb of Currumbin Waters, which is located in the City of Gold Coast Local Government Area in South-east Queensland. The southern border of the site sits on the very edge of the Queensland border, with the neighbouring Lots within New South Wales. The northern boundary of the Lots borders onto Currumbin Creek Road, which runs parallel to Currumbin Creek to the north. The site is		

	approximately 5.3km upstream from the coastline where Currumbin Creek flows into the Pacific Ocean, between Palm Beach and Currumbin Beach.
Proposed Development	S5 Environmental understand that Lat 27 on behalf of their client, EDQ, are currently undertaking Master Planning of the subject site with the goal of staged development into an Eco Parkland. A number of uses may be included into the Master Plan including, but not limited to Environment Facility, Park, Food and Drink Outlet, Nature-based Tourism and Outdoor Sport and Recreation, as defined in the GCCC City Plan (Version 8).



Figure 1. Site Aerial

Source: Nearmap (Dated: 16 October 2020); CRS: GDA 94 MGA Zone 56

2.0 METHODOLOGY

The intent of this report is to provide an informed, high level assessment of the ecological values that are present and/or likely to be present on the site, particularly within the areas of proposed works so as to inform master planning, design, and the approval process. This report also provides a preliminary assessment of the site's habitat and biodiversity values and ecological functionality. In the preparation of this preliminary assessment the following desktop investigation steps were undertaken:

1. Online Database Species Records and Mapping;
2. Legislation and Planning Review;
3. Geology and Topography;
4. Vegetation Communities and Habitat Assessment;
5. Ecological Function; and
6. Opportunities and Constraints.

2.1 DESKTOP ASSESSMENT

Desktop searches were performed in order to form a list of ecological communities and species that could potentially occur on the site. Desktop searches covered the following databases and mapping sources:

- Databases (**Appendix A**)
 - Department of the Agriculture, Water and Environment (2021), EPBC Act Protected Matters Search Tool (Search of 1 km radius);
 - Queensland Government (2021), Wildlife Online Extract, *Nature Conservation Act 1992* (Search of 2 km radius);
 - MSES Report (Search of 2 km radius).
- State Mapping (**Appendix B**)
 - Queensland Government (2018), Fire ant biosecurity zone mapping – Version 1;
 - Queensland Government (2021), Request a vegetation map or property report;
 - Department of State Development, Manufacturing, Infrastructure and Planning (2021), Online mapping system which incorporates the State Planning Policy (SPP) Interactive Mapping System (IMS), and the Development Assessment Mapping System (DAMS); and,
- Local Government Area Mapping
 - Gold Coast *City Plan interactive mapping – Version 8*

In addition, aerial photography was utilised to discern potential wildlife movement corridors and regional ecological function of the locality. The online resource 'Atlas of Living Australia' (ALA, 2021) was also utilised to gather information on potential flora and fauna at the site.

It should be noted that no site inspection or ground proofing has been undertaken to date and will be required to confirm the findings of this report.

3.0 LEGISLATIVE AND PLANNING OVERVIEW

A review was conducted on the regulatory framework applicable to the project. The review confirmed that all activities within the site must comply with the relevant provisions of Commonwealth, State and Local Legislation, Regulations and Guidelines including but not limited to the following.

3.1 INTERNATIONAL AGREEMENTS

Australia participates in the development and implementation of international agreements in relation to the environment, conservation and sustainability. These International Agreements include the following:

- *Ramsar Convention on Wetlands*;
- *Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment (CAMBA)*;
- *Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment (JAMBA)*;
- *Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds (ROKAMBA)*; and
- *The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention)*.

Sections 3.1.1 and 3.1.2 below provide a detailed summary of International Agreements in relation to development of the site.

3.1.1 Ramsar Convention on Wetlands

The *Ramsar Convention*, a convention on wetlands of international importance, “is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources”.

The site is not in the locality of a Ramsar site.

3.1.2 JAMBA / CAMBA / ROKAMBA / Bonn Convention

The *Japan/Australia Migratory Bird Agreement 1981 (JAMBA)*, *China/Australia Migratory Bird Agreement 1988 (CAMBA)*, *Republic of Korea Migratory Bird Agreement 2007 (ROKAMBA)* and the *Convention on the Conservation of Migratory Species of Wild Animals 1991*, or the Bonn Convention, were signed as a means of protecting migratory species and their habitats. JAMBA, CAMBA, ROKAMBA and the Bonn Convention schedule migratory species that are protected under these agreements. The Federal EPBC

Act is the legislation in Australia that enforces these Agreements, as all species listed under BONN, JAMBA, CAMBA and ROKAMBA are listed as 'Migratory' under the EPBC Act.

3.2 FEDERAL LEGISLATIVE OVERVIEW

3.2.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legislative framework to protect and manage nationally and internationally significant flora, fauna, ecological communities and heritage places. The EPBC Act defines these as Matters of National Environmental Significance (MNES).

The EPBC Act facilitates Australia's commitment to signed international agreements by requiring Federal assessment and approval of proposals that may 'significantly impact' MNES. Under this legislation, a 'self-assessment' is required to ascertain the necessity to refer the matter to the Department of the Agriculture, Water and Environment (DAWE).

The EPBC Act Policy Statement 1.1, the 'Significant Impact Guidelines' further lists a set of 'significant impact criteria' for each of the listed matters of national environmental significance.

The matters of national environmental significance which are applicable to the proposed works include the potential to impact upon:

- Three Listed threatened Ecological Communities;
- 65 Listed threatened species; and
- 35 Migratory species protected under international agreements.

These matters and each species recorded or likely to occur on the site have been assessed against the Significant Impact Guidelines. For fauna and flora species, their likely presence within the site and any impact resultant of the proposed works has been considered. A small number of species were returned by these searches as listed to occur within a 2 km radius of the site. The likelihood of these species labelled as either 'likely to occur' or 'known to occur' by the EPBC, occurring within the site boundary was then assessed, based on available habitat and historic sighting records. These species have been summarised below in **Table 2**.

The EPBC Act Protected Matters report indicated that three Threatened Ecological Communities (TEC) may occur within the area, refer to **Table 3**. The State Regional Ecosystem mapping identified some RE's that are associated with TEC's as present on site. A site inspection will be needed to confirm presence or absence of TEC's.

Table 2. Summary of EPBC & NCA Threatened Species identified as possibly occurring on site

Scientific Name	Common Name	EPBC Status	NCA Status
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V
<i>Crinia tinnula</i>	Wallum Frog	V	
<i>Erythrorhynchus radiatus</i>	Red Goshawk	E	V
<i>Calyptorhynchus lathami</i>	Glossy Black Cockatoo		V
<i>Thalasseus bergii</i>	Crested Tern		SL
<i>Monarcha melanopsis</i>	Black-faced Monarch		SL
<i>Symposiachrus trivirgatus</i>	Spectacled Monarch		SL
<i>Myiagra cyanoleuca</i>	Satin Flycatcher		SL
<i>Pandion cristatus</i>	Eastern Osprey		SL
<i>Podargus ocellatus plumiferus</i>	Plumed Frogmouth		V
<i>Rhipidura rufifrons</i>	Rufous Fantail		SL
<i>Plegadis falcinellus</i>	Glossy Ibis		SL
<i>Turnix melanogaster</i>	Black-breasted Button Quail	V	V
<i>Ornithoptera richmondia</i>	Richmond Birdwing Butterfly		V
<i>Phascolarctos cinereus</i>	Koala	V	V
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	
<i>Cassia marksiana</i>	Marks Cassia		V
<i>Endiandra globosa</i>		NT	
<i>Randia moorei</i>	Spiny Gardenia	E	E
<i>Lepiderema pulchella</i>	Fine Leaf Tuckeroo		V

V = Vulnerable, E = Endangered, SL = Special Least Concern, NT = Near Threatened

Table 3 Summary of EPBC Threatened Ecological Communities identified as possibly occurring on site

Threatened Ecological Community	Related REs	EPBC Status	Presence/ Absence from Focal Areas
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland	12.1.1, 12.3.20	Endangered	RE mapped within site – possibility of presence – will require a site visit to confirm. Regulated Vegetation Management Map classifies RE as Category B (Remnant Vegetation).
Lowland Rainforest of Subtropical Australia	12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.13, 12.12.1, 12.12.16	Critically Endangered	RE mapped within site – possibility of presence – will require a site visit to confirm. Regulated Vegetation Management Map classifies RE as Category C (High-value regrowth Vegetation).
Subtropical and Temperate Coastal Saltmarsh	12.1.2	Vulnerable	RE not mapped within the site.

The EPBC Protected Matters Search additionally returned 65 records of listed threatened species and 35 listed migratory species. The site is extensive with varying ecological habitats present and there is the potential for many of these species to be found on site. **Section 4** will discuss the ecological requirements of these species further.

Both mapped RE's (12.3.20, 12.3.1) associated with the TEC's have been mapped under the High Ecological Importance area in the proposed Ecological Masterplan, which will be discussed further in **Section 6**.

With strategic Master Planning, including restoration and rehabilitation of High Ecological and Medium Ecological areas and detailed design within buffer areas (refer **Section 6**), the proposed development has potential to provide protection and enhancement of MNES. As such, an Eco-Parkland, if Master Planning is responsive to site ecological values, is unlikely to present a significant impact to MNES and referral to the DAWE is unlikely.

3.3 QUEENSLAND GOVERNMENT LEGISLATIVE, PLANNING AND POLICY OVERVIEW

The Queensland Government provides a framework of legislation to ensure the protection of Queensland's environment, land, water and natural resources.

3.3.1 Biosecurity Act 2014

The *Biosecurity Act 2014* is intended to control the spread of pest species, both plant and animal.

Under the Act, pests are declared as follows:

- Prohibited Matter - a disease, exotic fish, insect pest, pest animal or a weed that is not found in Queensland. If it was to enter Queensland it would seriously impact our health, way of life, the economy, and the environment. If you find prohibited matter you must report it to Biosecurity Queensland within 24 hours.
- Restricted Matter - can be an animal disease, virus or parasite, noxious fish, insects, pest animal or weed that is found in Queensland. Specific actions are required to be taken that limit the impact of this matter by reducing, controlling or containing it.

Pest animals classified as Restricted Matters commonly found in the Brisbane region include non-domestic Cats, Feral Deer (Rusa Deer, Red Deer and Fallow Deer), Feral Pig, European Red Fox, Wild dogs and Dingoes, Red-eared Slider Turtle, European Rabbit, Yellow Crazy Ant, and Fire Ant. It is noted that some animals, such as Cane Toads and Indian Mynas are non-declared pest species as they are already widespread and/or there are no effective control measures available. While there is no legal requirement for control of these pests, everyone has a General Biosecurity Obligation (GBO) to take reasonable and practical steps to minimise the risks associated with invasive pests under their control. Should any Prohibited or Restricted weeds, or pests, be identified on site, they must be addressed in accordance with the above requirements of the *Biosecurity Act*.

In addition, the Department of Agriculture and Fisheries' Fire Ant Biosecurity Map outlines suburbs and localities which are in Biosecurity Zones for Red Imported Fire Ants. Upon review of the Fire Ant Biosecurity Map, the suburb of Currumbin Waters is **OUTSIDE** the Fire Ant Biosecurity Zone 2. Refer to **Fire Ant Biosecurity Map in Appendix B**. Therefore, there are no restrictions for moving of soil, mulch, manure, baled hay, straw, potted plants, turf and compost.

3.3.2 *Nature Conservation Act 1992*

The *Nature Conservation Act 1992 (NC Act)*, is the legislative foundation for the protection of ecological values throughout Queensland, by way of conservation areas and national parks. Further, the *NC Act* also ensures that native fauna, and native flora are additionally protected outside of protected areas.

3.3.2.1 *Nature Conservation (Animals) Regulation 2020*

The Nature Conservation (Animals) Regulation 2020 is subordinate legislation under the NC Act that prescribes the protection status of fauna in Queensland. The Wildlife Online database search revealed NC Act listed species that have been identified within 2 km of the site since 1980. Refer to **Table 2** for summary of listed species identified in desktop searches and their potential presence within the development site. Section 4 further discusses the on-site habitat value for these species and Section 6 identifies and discusses potential impacts and how to improve ecological value and habitat for these species.

3.3.2.2 *Nature Conservation (Plants) Regulation 2020*

The *Nature Conservation (Plants) Regulation 2020* is subordinate legislation under the NC Act that prescribes the protection status of flora and regulates the clearing of protected plants in Queensland. The Department of Environment and Science (DES) has incorporated a risk-based approach to requirements for Clearing Permits for removal of Protected Plants.

The site **IS MAPPED** within the High-Risk Area for Protected Plants, the extent of which is consistent with mapped Regulated Vegetation (refer **Section 3.3.4**). Any clearing undertaken inside this mapping, or within 100m of the mapping will require a Protected Plant Survey. Refer to **Figure 2**. Protected Plants have been recorded within the site, if site investigations confirm their presence, any clearing within 100m will require a Clearing Permit.



Figure 2. Protected Plants Mapping

3.3.3 *Planning Act 2016*

The purpose of the *Planning Act 2016* is to establish an efficient, effective, transparent, integrated, coordinated and accountable system of land-use planning, development assessment and related matters that facilitate the achievement of ecological sustainability. Additionally, the subsequent *Planning Regulation 2017* supports the Act by outlining mechanisms for operation. Mechanisms within the regulation of particular note include:

- Development that is acceptable development and any requirements that apply for the development including exemptions for vegetation clearing; and
- Provides a framework to support the implementation of the *South East Queensland Koala Conservation Strategy 2020-2025*, through outlining categories of assessment and the assessment manager, and providing assessment benchmarks for development in South East Queensland.

3.3.3.1 *Planning Regulation 2017*

In February 2020, the State Government implemented new Koala Habitat Mapping consisting of Core Koala Habitat Areas (KHA), Locally Refined Koala Habitat Areas (LRKHA) and Koala Habitat Restoration Areas (KHRA). In addition, the State has recognised Koala Priority Areas (KPA) which are large connected areas throughout SEQ which are identified as the most strategic locations for Prioritising Koala Conservation. With the exception of a limited number of exemptions (outlined, in *Schedule 24 - Dictionary*, under *Exempted Development*), development within KPAs mapped as KHA or LRKHA is considered Prohibited Development.

The Assessment Benchmarks for other development inside KPA or Identified Broad-Hectare areas and are outlined in *Schedule 11* of the *Planning Regulation 2017*, with *State Code 25* of the State Development and Assessment Provisions, providing the Performance Outcomes for any development within KHA or LRKHA, but outside of the KPA (as outlined in *Schedule 10, Part 10 Section 16B*).

A search by Lot and Plan through DES concluded that the subject site:

- is **inside** Koala Priority Area;
- is **outside** Identified Koala Broad-Hectare Area; and
- **contains** Koala Habitat Area (core) mapping throughout areas of the site.

Refer to **Figure 3** for Koala Habitat Mapping on site.

Under *Part 10* of *Schedule 10* of the *Planning Regulation 2017*, it is considered prohibited to clear with areas mapped as KPA and KHA. Refer to **Figure 3**. Only areas located outside KHA will be developable under the *Planning Regulation 2017* if the Assessment Benchmarks in *Part 2 Section 4* of *Schedule 11* are met (Refer below).

Assessment Benchmark 1a

The following matters are assessment benchmarks for the development:

- a. the development provides, on the premises, the safe koala movement measures necessary to maximise the safe movement of koalas:
 - i. within a koala habitat area on the premises; and
 - ii. between a koala habitat area on the premises (the first area) and a koala habitat area or ecological corridor within 200m of the first area.

Assessment Benchmark B

1. The following matters are assessment benchmarks for the development:

- b. either:
 - i. each building, structure or works associated with the development is at least 50m from a koala habitat area; or

the development complies with each of the criteria stated in subsection (2).

2. For subsection (1)(b)(ii), the criteria are as follows:

- c. any change to the condition of soil as a result of the development does not adversely affect a koala habitat area; Examples of changes to the condition of soil:
 - i. the addition of nutrients to the soil;
 - ii. the erosion of the soil; and
 - iii. the compaction of the soil.
- d. any alteration of hydrological flows as a result of the development does not adversely affect a koala habitat area;
- e. any landscaping associated with the development that involves planting non-native vegetation does not adversely affect a koala habitat area;
- f. the development does not adversely affect a koala habitat area by resulting in the increased growth or spread of weeds in the koala habitat area; and
- g. a building, structure or works associated with the development is located to minimise the amount of vegetation required to be cleared for safety purposes.

Refer to **Section 6** for discussion for site opportunities and constraints.

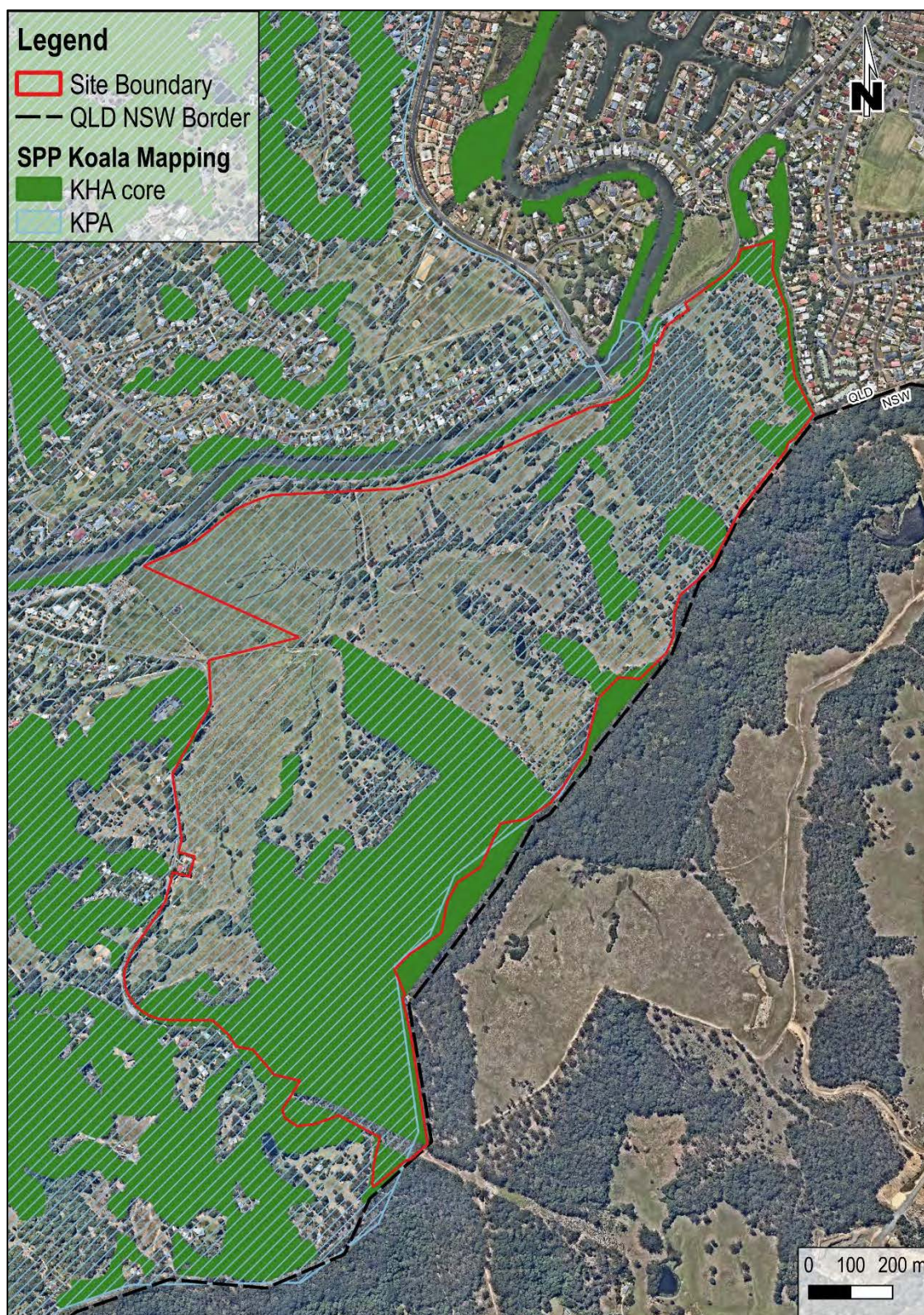


Figure 3. State Koala Habitat Mapping

3.3.3.2 *Vegetation Management Act 1999*

The *Vegetation Management Act 1999* (VMA) and the *Vegetation Management Framework Amendment Act 2013* protects vegetation on freehold land that is mapped as remnant by the Queensland Herbarium (QH). It provides a framework for the description, identification and mapping of Regulated Vegetation, Regional Ecosystems (REs) and Essential Habitat.

REs are assigned a conservation status under the VMA as well as a biodiversity status by DNRME. DNRME also uses Essential Habitat mapping to regulate the clearing of remnant vegetation that is important to Critically Endangered, Endangered, Vulnerable and Near Threatened (EVNT) species and is mapped in locations that contain associated RE's or where an EVNT species has been recorded in the past. Current RE Mapping indicates that the site contains both Category B (remnant vegetation), Category C (high-value regrowth) and Category X (non-remnant), including Essential Habitat mapping. Within the site, the same area mapped as KHA (core) is mapped as Category B and Category C. This area has been described as containing many Regional Ecosystems with Endangered and Least Concern VMA status, refer to **Table 4**, **Figure 4** and **Figure 5**.

Under *Planning Regulation 2017 Schedule 21* VMA clearing exemptions include all vegetation if under a development approval for a MCU or RoL where the local government is the assessment manager, on lots less than 5 hectares.

Table 4. Regional Ecosystems and VMA Status

Regional Ecosystem	VMA Status	Category	Area (Ha)	Description
12.3.1a	Endangered	C	7.53	<i>Gallery rainforest (notophyll vine forest) on alluvial plains</i>
12.11.23	Endangered	B	35.84	<i>Eucalyptus pilularis open forest on coastal metamorphics and interbedded volcanics</i>
12.11.23	Endangered	C	3.69	<i>Eucalyptus pilularis open forest on coastal metamorphics and interbedded volcanics</i>
12.11.3	Least Concern	B	3.82	<i>Eucalyptus siderophloia, E. propinqua +/- E. microcorys, Lophostemon confertus, Corymbia intermedia, E. acmenoides open forest on metamorphics +/- interbedded volcanics.</i>
12.11.3	Least Concern	C	0.41	<i>Eucalyptus siderophloia, E. propinqua +/- E. microcorys, Lophostemon confertus, Corymbia intermedia, E. acmenoides open forest on metamorphics +/- interbedded volcanics.</i>
12.3.20	Endangered	B	0.10	<i>Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, E. siderophloia open forest on low coastal alluvial plains</i>
Non-remnant	None	X	103.66	N/A

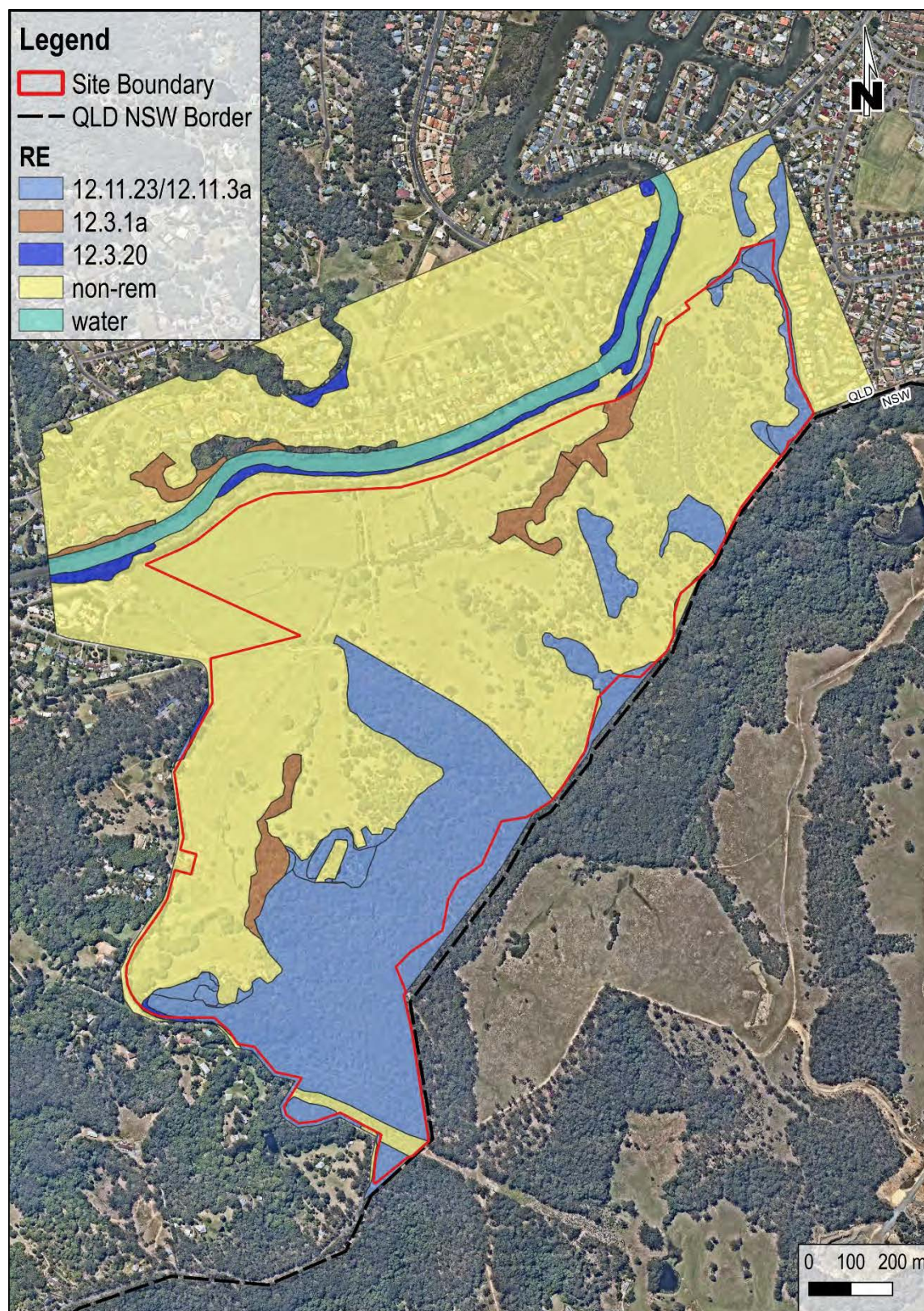


Figure 4. Regional Ecosystem Mapping

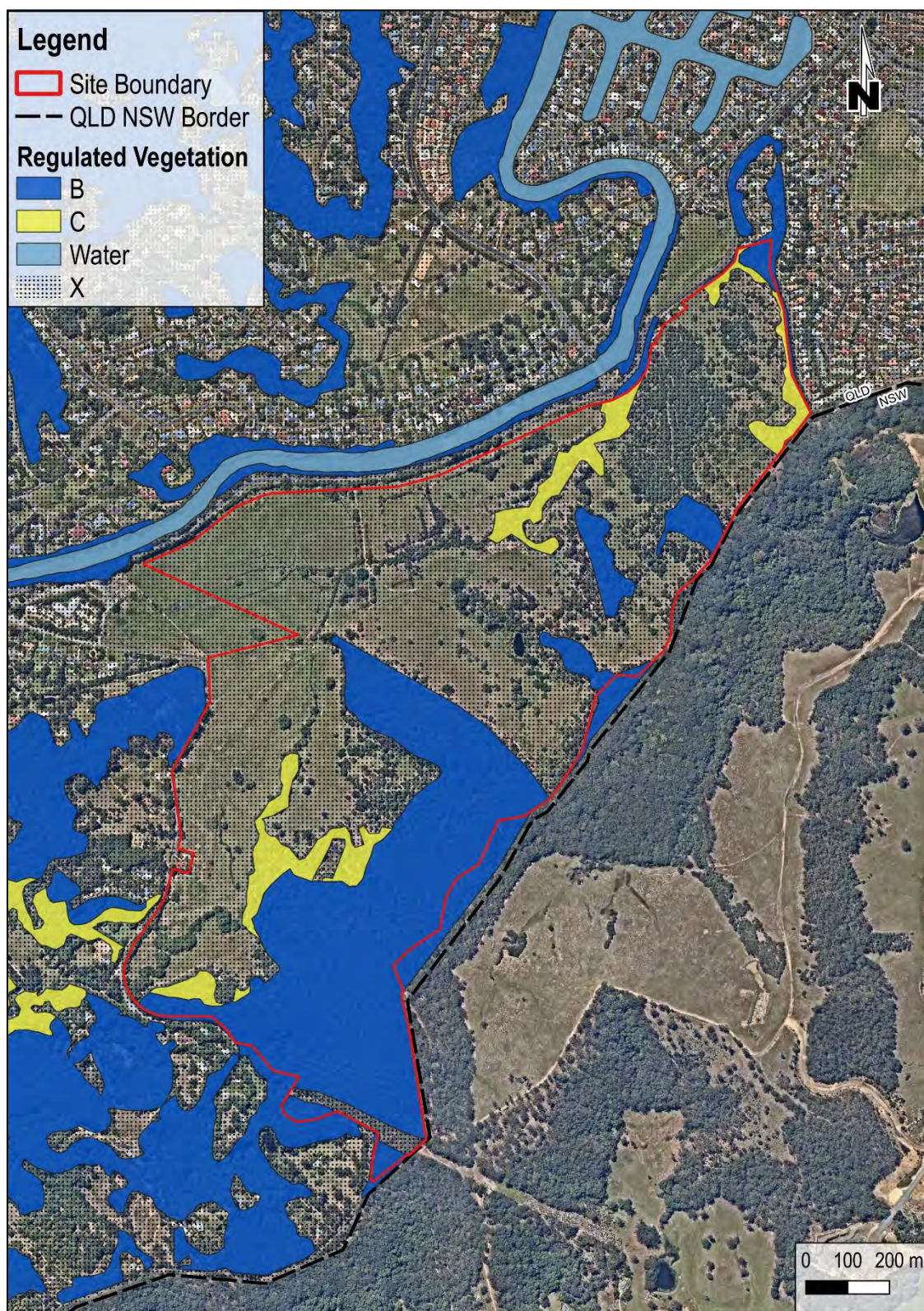


Figure 5. Regulated Vegetation Mapping

3.3.4 State Planning Policy 2014

The *State Planning Policy* (SPP) provides local governments with guidance on a variety of State Interests and how they are to be dealt with in local planning schemes. S5 Environmental understands that the SPP has been appropriately reflected in the local planning scheme with regards to Biodiversity and Bushfire.

Where the Local Government is not the Assessment Manager an assessment against *Part E: State Interest Policies and Assessment Benchmarks of the SPP (2017)* in relation to Bushfire and Biodiversity will likely be required.

Bushfire is outside the scope of this report and will be addressed in S5 Environmental's corresponding *Bushfire Hazard Assessment and Management Plan* (refer to **S521052BF001**). The ecologically relevant SPP Maps are enclosed in **Appendix B** of this report.

The site is mapped as containing the following ecological relevant layers:

- Biodiversity:
 - MSES – Wildlife Habitat (endangered or vulnerable);
 - MSES – Wildlife Habitat (special least concern);
 - MSES – Wildlife Habitat (Koala Habitat Area – Core);
 - MSES – Regulated Vegetation (Category B);
 - MSES – Regulated Vegetation (Category C);
 - MSES – Regulated Vegetation (Essential Habitat);
 - MSES – Regulated Vegetation (wetland); and
 - MSES – Regulated Vegetation (intersecting a watercourse).
- Natural Hazards Risk and Resilience:
 - Bushfire Prone Area.

As outlined in the SPP, the following state interest policies must be appropriately integrated in planning and development outcomes, where relevant.

- Development is located in areas to avoid significant impacts on matters of national environmental significance and considers the requirements of the *Environment Protection and Biodiversity Conservation Act 1999*.
- Matters of state environmental significance are identified and development is located in areas that avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised.
- Matters of local environmental significance are identified and development is located in areas that avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised.

- Ecological processes and connectivity is maintained or enhanced by avoiding fragmentation of matters of environmental significance.
- Viable koala populations in South East Queensland are protected by conserving and enhancing koala habitat extent and condition.

Refer to **Section 6** for discussion on how these matters plan to be met and incorporated into the Ecological Masterplan.

3.4 LOCAL LEGISLATION

Gold Coast City Plan Version 8.0

It is understood the Local Government is unlikely to be the Assessment Manager for the proposed Masterplan. However, it is understood the proponent will be required by the State to address and have consideration for MLES as outlined in the *Gold Coast City Plan Version 8.0*.

In accordance with the *Gold Coast City Plan Version 8.0* the site is mapped within the “Rural” Zone and “Rural landscape and environment” precinct, refer to **Appendix C. Part 6 of Gold Coast City Plan Version 8.0** describes the purpose of the Rural Zone as:

- Provide for rural uses including Cropping, Intensive horticulture, Intensive animal husbandry, Animal keeping and other primary production activities;
- Provide opportunities for non-rural uses that are compatible with agriculture, matters of environmental significance, and landscape character of the rural area where the uses do not compromise the long-term use of the land for rural purposes; and
- Protect or manage significant natural resources, and processes to maintain the capacity for primary production.

The purpose of the Rural landscape and environment precinct will be achieved through the following additional overall outcomes:

- Land uses do not impact on the matters of environmental significance, landscape and scenic amenity values of the land.
- Natural landscape and matters of environmental significance are protected and conserved to assist in maintaining a green frame to the city’s urban area, particularly on the Hinterland ranges and foothills, which contribute to the city’s distinct form, visual attractiveness and role as a major tourist destination.

Depending upon the nature of the development which may range from walking trails through to roads and buildings, the categories of assessment and *Gold Coast City Plan Version 8.0* requirements differ. Regardless, a number of ecologically relevant overlays are present on the site and Master Planning will need to consider the overall intent of the Overlay Codes. The following ecologically relevant Overlays are mapped on site and discussed below;

- Acid Sulfate Soil Overlay;
- Bushfire Hazard Overlay;
- Environmental Significance Overlay;
 - Biodiversity Areas;
 - Priority Species;
 - Vegetation Management; and
 - Wetlands and Waterways.

3.4.1 Acid Sulfate Soil Overlay

S5 Environmental understands that the purpose of the Acid Sulfate Soil Overlay is to ensure that acid sulfate soils do not adversely affect the natural and built environment and human health and safety and that it is the intention of the *Gold Coast City Plan Version 8.0* to avoid the disturbance of acid sulfate soils where possible.

Under the *Gold Coast City Plan Version 8.0*, approximately half of the site **IS MAPPED** under the Acid Sulfate Soil Overlay as a Potential and actual acid sulphate soils for land ≤ 5 meter AHD and ≤ 20 m AHD, S5 Environmental understands an Acid Sulfate Soils investigation and management may be required as an Acceptable Outcome when assessed against the *Acid Sulfate Soils Overlay Code*.

3.4.2 Bushfire Hazard Overlay

In accordance with the Bushfire Hazard Overlay, the site is mapped as containing High Potential Bushfire Hazard, Medium Potential Bushfire Hazard and Potential Impact Buffer. S5 Environmental have conducted a site-specific Bushfire Hazard Assessment, and Bushfire Management Plan, refer to **S51052BF001**. Bushfire will not be discussed any further in this report.

3.4.3 Environmental Significance Overlay

3.4.3.1 Biodiversity Areas

S5 Environmental understands that the purpose of the Biodiversity Areas sub-category is to protect:

- MSES Protected Areas;
- MLES Protected Areas;
 - o Hinterland core habitat system;
 - o Coastal wetlands and islands core habitat system;
 - o Substantial remnants; and
 - o Hinterland to coast critical corridors.

Two Biodiversity Areas sub-category matters are mapped on the site - 'Hinterland and Core Habitat System' and 'Hinterland to Coast Critical Corridors', refer to **Figure 6**. Development within these areas is

to protect and buffer significant native vegetation including important habitat areas, provide for fauna movement and rehabilitate degraded areas.

3.4.3.2 Wetlands and Waterways

It is S5 Environmental's understanding that the purpose of the Wetlands and Waterways sub-category is to protect and enhance the mapped wetlands, waterways and their associated buffers. A review of the *Gold Coast City Plan Version 8.0* indicates that the site contains:

- MLES wetlands and waterways;
 - Local significant wetlands;
 - Waterways (major and minor); and
- Buffer Area.

Refer to **Figure 7**. Development is to ensure sufficient buffers are provided to these areas to ensure ecological processes and values are protected including fauna movement opportunities, water quality and bank stability. CoGC recommend buffer widths are determined by ecological site assessment.

3.4.3.3 Vegetation Management

A review of the *Gold Coast City Plan Version 8.0* indicates that the site contains MLES general priority vegetation, and MSES Regulated Vegetation which corresponds to the State mapping Category B mapping, refer **Figure 8**. All areas are located within the Biodiversity Areas sub-category, and therefore do not need to be separately addressed.

3.4.3.4 Priority Species

A review of the *Gold Coast City Plan Version 8.0* indicates that the site contains the following Priority Species mapping:

- MSES state significant species;
- MSES Koala habitat; and
- MLES local significant species.

The entire site is mapped as State Significant Species, with Local significant species sub-category mapped over the northern portion to the east of Currumbin Creek Road. The Koala Habitat Area sub-category likely is consistent with the superseded SPP Koala Habitat Mapping. Refer to **Figure 9**.

Development is not to impact State or Local species or their habitat. In particular site design is to provide safe koala movement opportunities.

Refer to **Section 6.0 Opportunities and Constraints** for how the intent of the *Ecological Significance Overlay Code* can be addressed within the site through Master Planning.

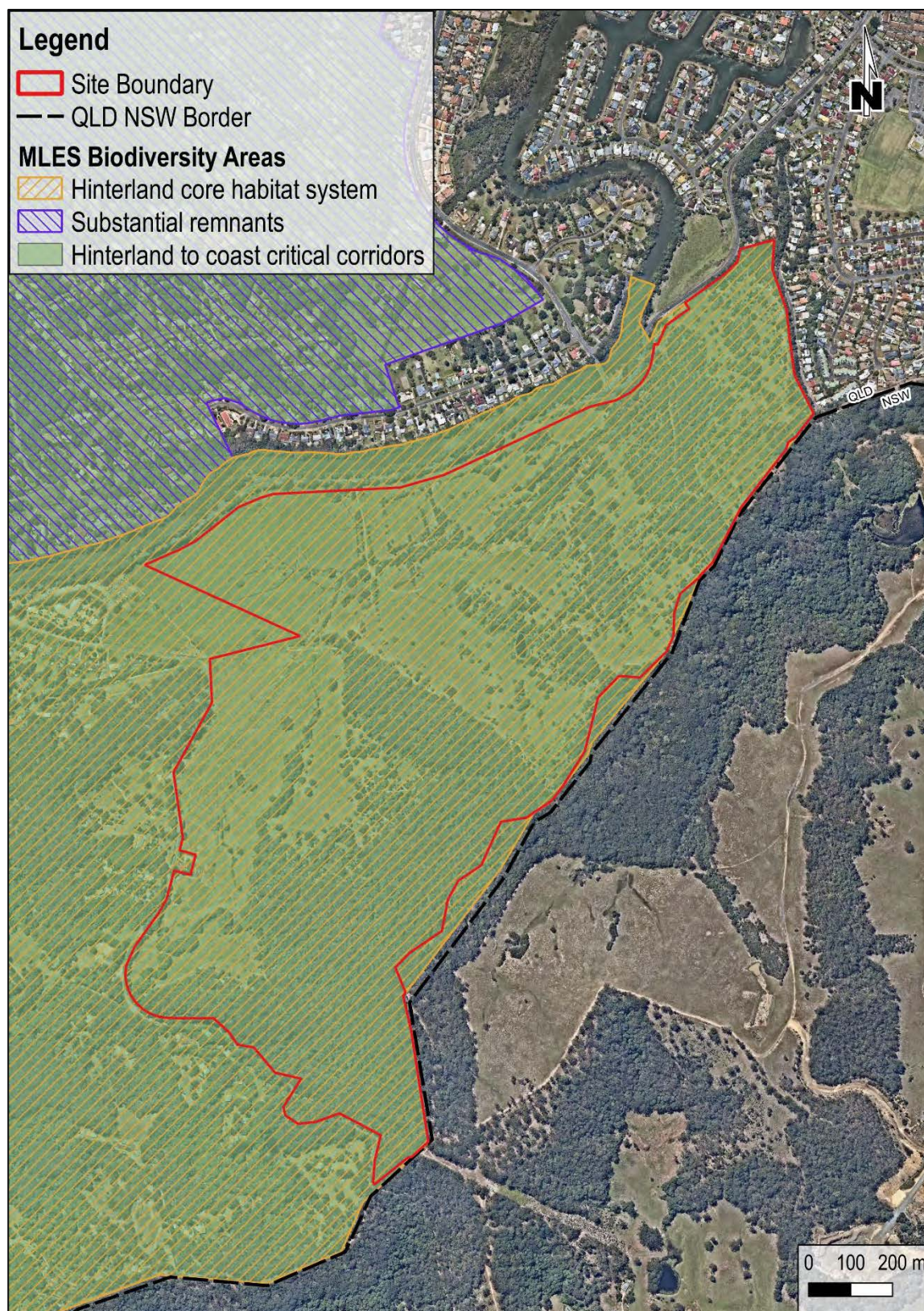


Figure 6. CoGC Environmental Significance - Biodiversity Areas Overlay Mapping

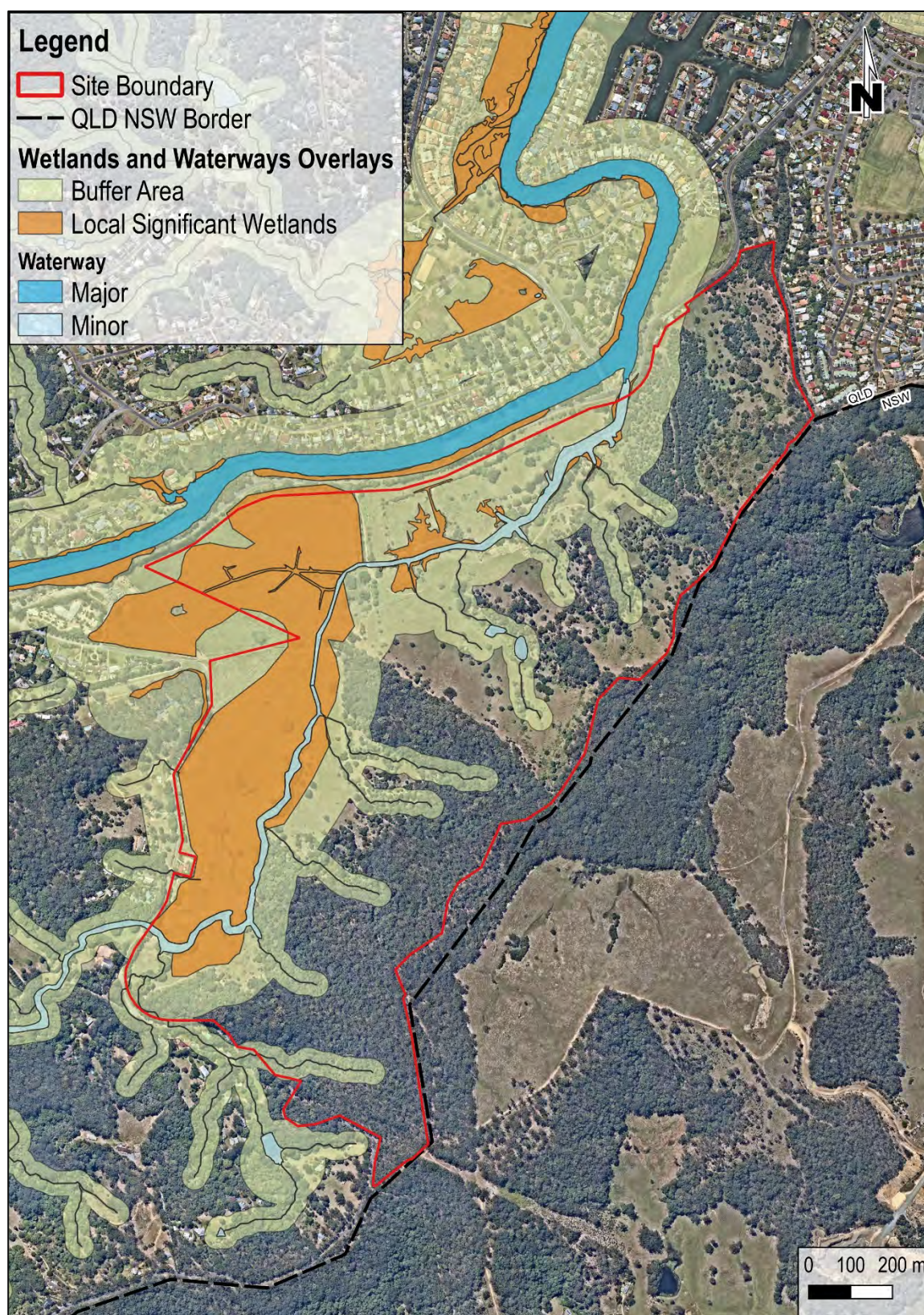


Figure 7. CoGC Environmental Significance - Wetlands and Waterways Overlay Mapping

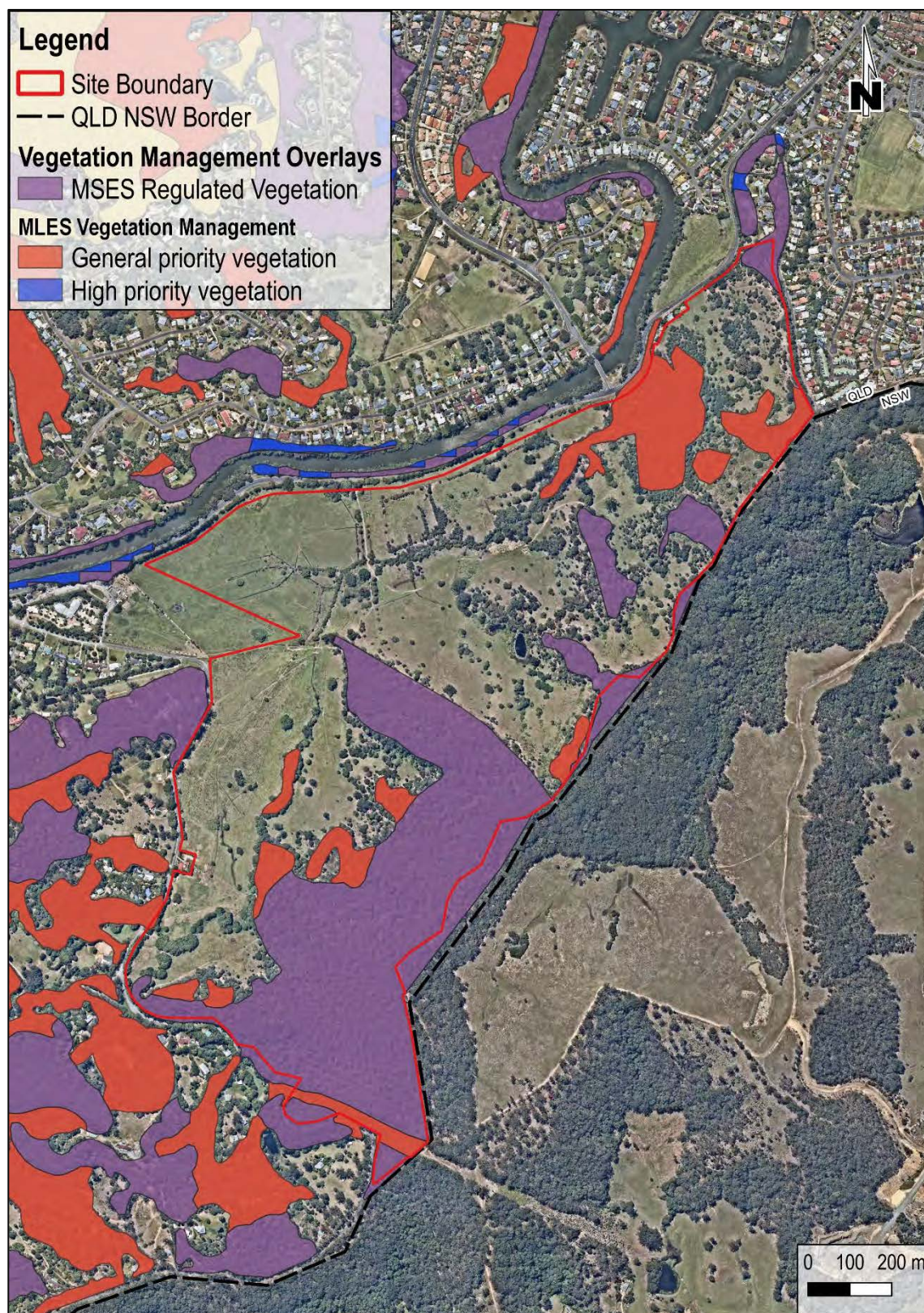


Figure 8. CoGC Environmental Significance – Vegetation Management Overlay Mapping

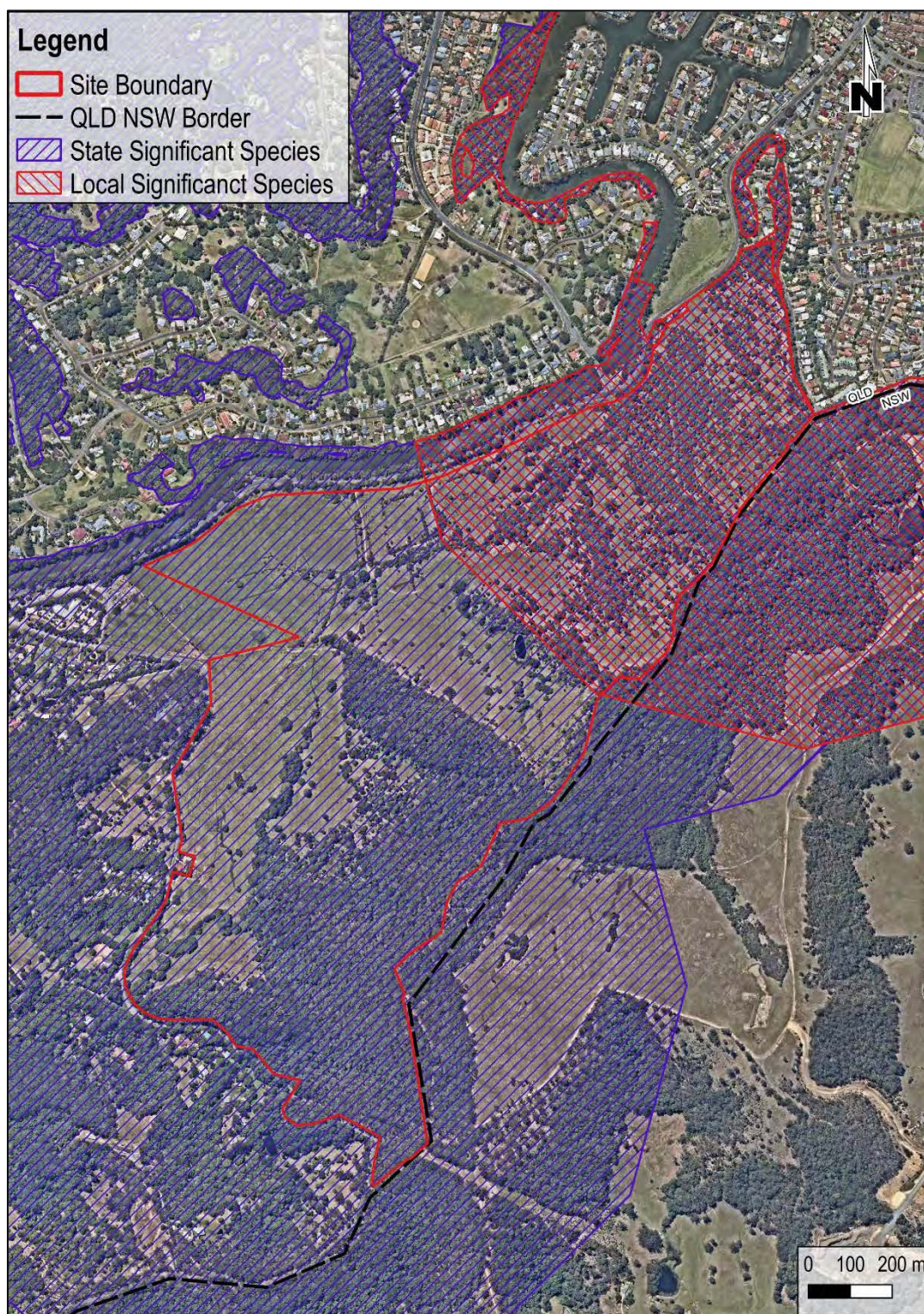


Figure 9. CoGC Environmental Significance - Priority Species Overlay Mapping

4.0 GEOLOGY AND TOPOGRAPHY

The underlying geological deposit for the majority of higher elevations of the site is Holocene Age - Alluvium (DNRME, 2018). A composite of sand, gravel, clay and silt, the active stream channels and low terrace formations are mapped under where the majority of the smaller tributaries' headwaters form. As the elevation falls, the geology changes to Holocene Age Alluvium, made up of similar composites, however mapped as Flood-Plain Alluvium. This area has been mapped under Local legislation as a wetland, however a site inspection will be needed to investigate further

With the highest peak within the site along the QLD/NSW border reaching 104m AHD above sea level, falling to a minimum high of 1m AHD in the lowest reaches, mapped as a tributary flowing into Currumbin Creek, the change in elevation is significant. The steep topography of the site means there is potential for high levels of run off during rainfall events, which may discharge into Currumbin Creek through the numerous tributaries if lacking surface water management. Intense rehabilitation is recommended to aid with riparian buffering of the tributaries and will be discussed further in **Section 6**.

The proposed Masterplan will be required to demonstrate best practice stormwater management into layout and design. Refer to **Figure 10**.

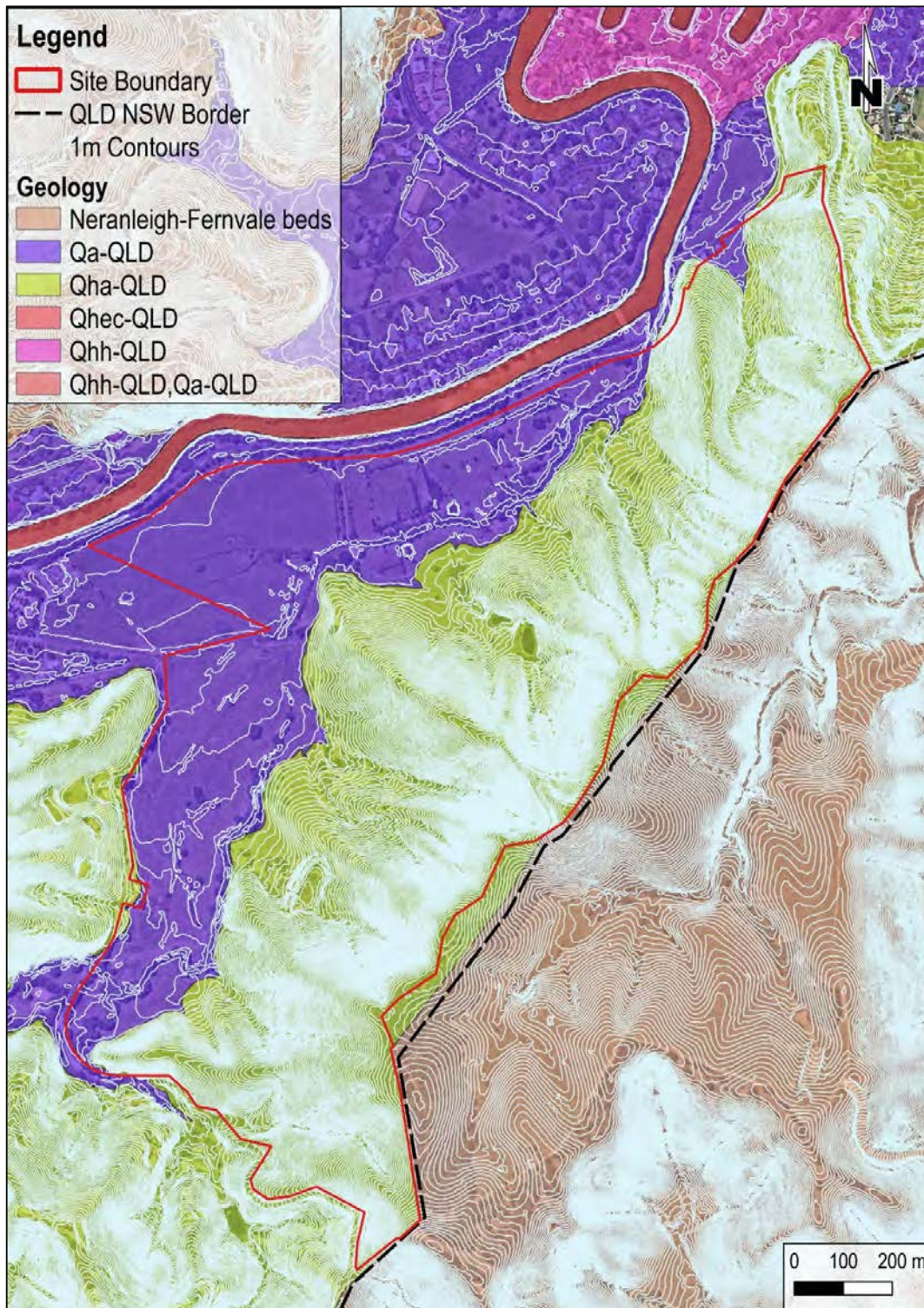


Figure 10. Geology and Topography

Neranleigh-Fernvale Beds - Mudstone, shale, arenite, chert, jasper, basic metavolcanics, pillow lava, conglomerate- SEDIMENTARY ROCK.

Qa-QLD - Clay, silt, sand and gravel; flood-plain alluvium - ALLUVIUM.

Qha-QLD - Sand, gravel, silt and clay; active stream channels and low terraces - ALLUVIUM.

Qhec-QLD - Sandy mud, muddy sand, minor gravel; estuarine channels - MISCELLANEOUS UNCONSOLIDATED SEDIMENTS.

Qhh-QLD - Gravel, sand and silt; man-made deposits generally associated with land-fill or mining (tailings, dumps and rehabilitated areas) - MAN-MADE DEPOSITS.

5.0 VEGETATION COMMUNITIES AND DESKTOP HABITAT ASSESSMENT

Five distinct Vegetation Communities (VC's) were identified from aerial photography and database reviews. These VC's have been based on a number of desktop mapping attributes and will require a site inspection to confirm. Refer to **Figure 11**.

Table 5. Vegetation Community Description and Habitat

Vegetation Communities	Description	Habitat
VC1	VC1 is located generally throughout the lower les steep elevations of the site and has been subject to historical modification through farming practices. Likely weed grass species may include South African Pigeon Grass (<i>Setaria sphacelata</i>), Rhodes Grass (<i>Chloris gayana</i>), Johnson Grass (<i>Sorghum halepense</i>) and Signal Grass (<i>Urochloa decumbens</i>). From aerial imagery, there are scattered trees throughout site. Species or height are unknown. Waterways and small dams are present in this VC. The waterways seem to be highly modified tributaries, observed in abnormally straight and angled trajectories through the paddocks in the west of the site. These modified tributaries eventually join onto a minor waterway, mapped under the Environmental Significance Overlay, which flows into Currumbin Creek downstream of the site. Under this Overlay, the area is mapped as Local	While degraded, VC1 does show some levels of ecological value and habitat. Rank weed grasses can provide habitat, breeding and foraging opportunities for small reptiles, mammals and avian species. The scattered canopy over open grassland provides ideal hunting grounds for birds such as the Australian Magpie (<i>Cracticus tibicen</i>) and grazing for macropods (eg. kangaroos and wallabies). Depending on the species, the scattered trees can provide foraging and habitat opportunities for common arboreal species such as possums and bats. The dams, highly modified waterways and Minor waterways have the potential to open up the site to range of aquatic fauna. These waterbodies have the potential to support amphibians, reptiles and waterbirds. Habitat features of these waterbodies are currently unknown. A site visit will be needed to assess the health of the aquatic habitats, and whether or not that can support any ecological function.

Vegetation Communities	Description	Habitat
	Significant Wetlands. From aerial imagery, it seems as if historical land uses and channel modification has heavily impacted on the 'wetland', whereby it is no longer present. A site visit will be needed to confirm.	
VC2	VC is mapped as VMA Category B and C, and RE12.11.23/12.11.3a. The canopy seems to be fairly intact, and some headwaters of waterbodies described in VC1 are mapped to start in this VC. Likely to only hold water during high rainfall periods. RE12.11.23 (Endangered) and 12.11.3a (Least Concern) are described respectively as: <i>Eucalyptus pilularis</i> open forest on coastal metamorphics and interbedded volcanics; and <i>Lophostemon confertus</i> +/- <i>Eucalyptus microcorys</i>, <i>E. carnea</i>, <i>E. propinqua</i>, <i>E. major</i>, <i>E. siderophloia</i> woodland. Occurs in gullies and exposed ridges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. Site inspection required to confirm.	VC2 is likely to have very high ecological value, as the largest unmodified VC. The VC2 mapped area to the south may have the highest ecological value, having an abundance of connectivity opportunities, which may provide fauna movement to the south and west. Some small patches of VC2 along the southern boundary also share this connectivity, but with sparse vegetation surrounding directly to the north, east and west. These patches would greatly benefit from restoration, to improve connectivity and fauna movement around the site (refer to Section 6). Patches of VC2 running along the north-eastern border may act as a corridor for common urban fauna, and possibly koalas, to move in and out of the suburbs, and into the site and NSW. From desktop review, VC2 seems to have mostly undisturbed eucalyptus forests and woodland, which can provide habitat to a range of species, including arboreal mammals, reptiles and bird species. Some threatened species have been recorded previously in VC2 (refer Table 6). Headwaters found inside VC2 are unlikely to provide any aquatic habitat and are likely dry unless heavy rainfall occurs.

Vegetation Communities	Description	Habitat
VC3	VC 3 mapped as Category C, and RE12.3.1a (Endangered), which is described as: <i>Gallery rainforest (notophyll vine forest) on alluvial plains.</i> Due to historical modification of waterways on site, the VC3 is restricted to small patches of what seems like fragmented riparian vegetation.	This rainforest habitat is confined to three small, discontinuous patches. The rainforest habitat, unlike the surrounding eucalypt forest/woodland and highly modified and disturbed farmland, is likely to provide small niche microhabitats for a differing range of fauna. Small bird species and specialised rainforest plants may be found in VC3 (refer to Table 6). From aerial imagery some areas of VC3 also seem to follow a waterway corridor.
VC4	VC4, mapped as Category B, and described as RE 12.3.20 (Endangered): <i>Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, E. siderophloia, M. styphelioides open forest on low coastal alluvial plains</i> There are two small incursion of this VC4 into the site (Lot 2 on RP168012), and is also mapped outside the site, along the banks of Currumbin Creek, aligning with the Category B Mapping.	Potential for a range of species including arboreal mammals and birds. Highly valuable vegetation as it essential for bank stability. VC4 seems to provide some riparian habitat, which again is a niche for some species. Restoration of this area is recommended and will be discussed in Section 6.
VC5	From aerial photography VC5 appears to be heavily vegetated, potentially with weed species. The VC5 has little legislative importance at State level. Under CoGC <i>City Plan Version 8</i> mapped as General priority	Potential for habitat for common arboreal mammals, as the canopy seems to be fairly continuous and intact. Likely to also have weedy understorey, which provides habitat and foraging opportunities for small birds, mammals and reptiles. From mapping and aerial imagery, aquatic habitat is lacking in VC5.

Vegetation Communities	Description	Habitat
	vegetation. Will need a site inspection to determine the level of ecological importance in VC5.	If VC5 contains native vegetation, it will act as a valuable corridor within the site, running from north to south and joining with a patch of VC2, and across into the NSW border and into further forest/woodland.

Table 6. Threatened species likelihood of presence in Vegetation Communities

Threatened Species	VC1	VC2	VC3	VC4	VC5	Comments
White-throated Needletail	M	M	M	M	M	Open airspace may provide foraging opportunities for the species.
Wallum Frog	L		L	L		Waterbodies present in these VC's, however health of system is yet to be determined. VC3 and VC4 contain vegetation included in the Essential Habitat map for the species under the SPP.
Red Goshawk		L				No historical records near site, but preferred woodland and forest habitat present.
Glossy Black Cockatoo				L		RE with preferred food source (casuarina) present in VC, however no historical records nearby.
Crested Tern	L			L		Waterbodies on site (unsure of health and function), and close proximity to waterway.
Black-faced Monarch		M	M			Preferred habitat (rainforest gullies and eucalypt gullies) present on site. Historically recorded within VC2. Refer to Figure 11 .
Spectacled Monarch		M	M			Preferred habitat (rainforest gullies) present on site. Historically recorded within VC2. Refer to Figure 11 .
Satin Flycatcher			M			Some nearby historical records. Preferred rainforest gullies may be present from desktop review
Eastern Osprey		M		M		Recorded within VC2. Nearby Currumbin Creek can provide potential foraging habitat. Potential to utilise trees in VC4. Refer to Figure 11 .
Plumed Frogmouth		H	M			Historically recorded within VC2. Also inhabit vine forests and rainforest, meaning there is potential to also utilise VC3. Refer to Figure 11 .
Rufous Fantail		H	M			Recorded within VC2, likely to utilize rainforest gully habitat present in VC3 also. Some sightings recorded outside site in close proximity to border. Refer to Figure 11 .
Glossy Ibis	L					Waterbodies in VC1 may provide necessary 'swamp' or 'wetland' habitat.
Black-breasted Button Quail	M	M	M			Recorded on the edge of VC1. Preferred habitat of vine thickets and woodlands present in VC2 and VC3. Refer to Figure 11 .
Richmond Birdwing Butterfly		H	M			Recorded on site recently (2020) in VC2. Also potential to be found in VC3 due to rainforest habitat. Refer to Figure 11 .

Threatened Species	VC1	VC2	VC3	VC4	VC5	Comments
Koala	L	M	M	M		One historical record within VC1, and many sightings within very close proximity to the site. Habitat trees species found throughout VC's. VC2, VC2 and VC4 contain vegetation included in the Essential Habitat map for the species under the SPP. Refer to Figure 11 .
Grey-headed Flying Fox	M	M	M	M	L	Potential habitat trees scattered through whole site. Known roost nearby (refer to Appendix B).
Marks Cassia		L				Riverine rainforest habitat present – historically recorded specimens in close proximity to site.
<i>Endiandra globosa</i>	M		L	L		Previously recorded within VC1. Site visit required to confirm presence. Preferred riverine habitat present in VC3 and VC4. Refer to Figure 11 .
Spiny Gardenia		M	L	L		Species recorded previously on site. Site visit will be needed to confirm presence. Preferred riverine habitat present in VC3 and VC4. Refer to Figure 11 .

L – Low Potential, M – Moderate Potential, H – High Potential

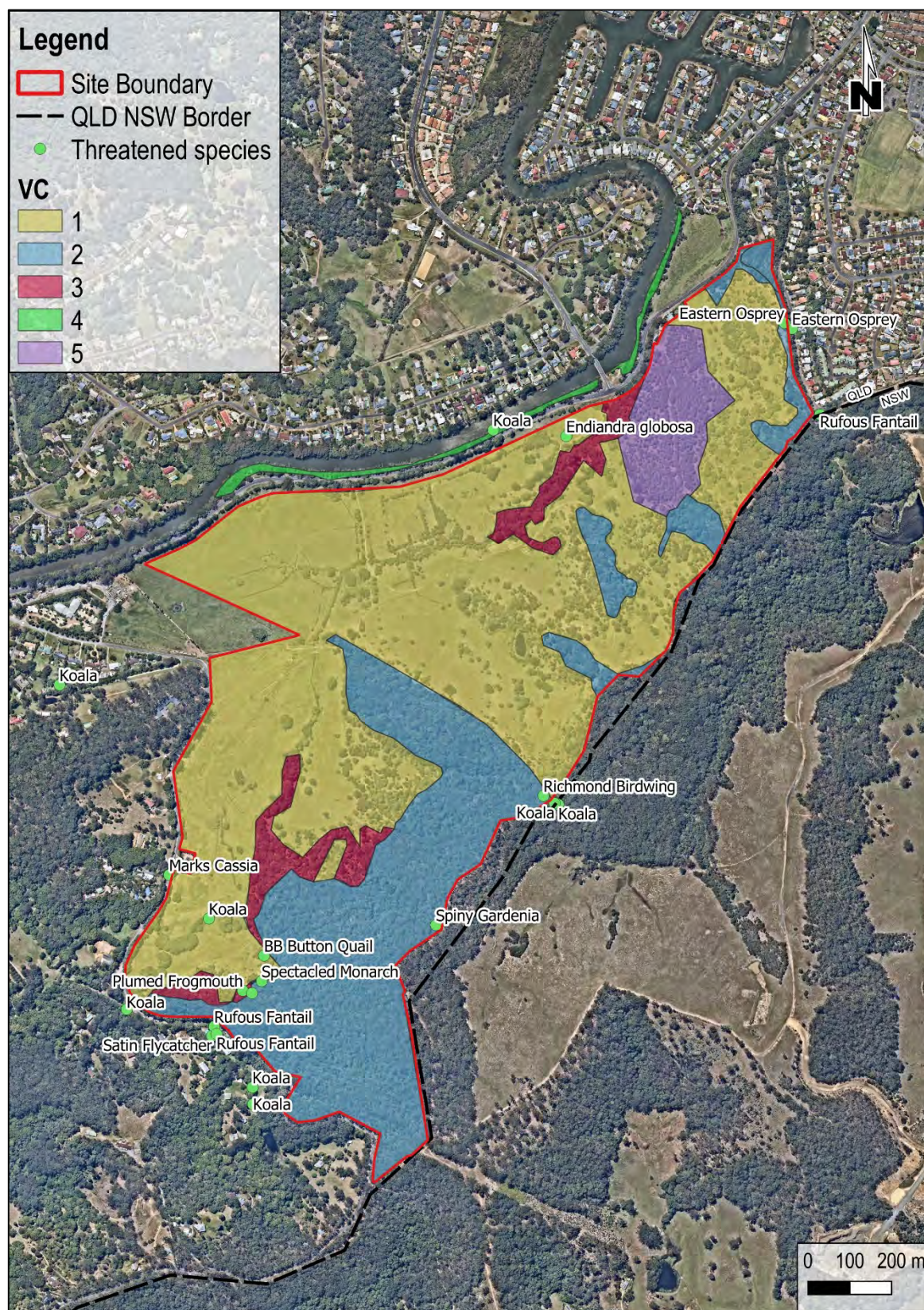


Figure 11. Vegetation Communities and Threatened Species Records

6.0 ECOLOGICAL FUNCTION

Vegetation and ecological features within a site may serve to function on a number of scales. For instance, vegetation may offer local foraging resources to various fauna within the immediate vicinity of a site, whilst offering movement and regional foraging resources to more mobile and potentially migratory species. As such, when determining the ecological integrity and functionality of a site, it is prudent to analyse the site on a local, sub-regional and regional scale. This may also act to gauge a site's value to known populations of EVNT species which may occur within the locale.

6.1 SUMMARY OF LOCAL SITE HABITAT VALUES

The site contains a mixture of cleared and vegetated areas, with varying levels of ecological values and habitat potential. Historically, much of VC1 had been cleared for farmland uses and livestock paddocks. From aerial imagery scattered trees, likely a mix of native and exotic, are evident. There is the potential for the trees to provide limited shelter, foraging and nesting opportunities for avifauna and common arboreal fauna such as possums.

From desktop review, it is apparent that VC2 has high ecological value, with five threatened species having been recorded historically. This indicates the area is capable of supporting threatened species, also noting the current connectivity to surrounding areas.

VC3 contains an Endangered RE with rainforest vegetation and has the potential to support small threatened bird species, which have been recorded in neighbouring VC's. VC3 will greatly benefit from rehabilitation and corridor strengthening, which will be discussed further in **Section 6**.

VC4 also contains another Endangered RE and will greatly benefit from buffering with native species revegetation. Sightings of Koalas have historically been recorded along this strip of vegetation, mapped as the same RE.

Further investigation will need to be conducted into the value of the vegetation in VC5. There is the potential to assist with fauna movement within the site across to NSW.

6.2 BIODIVERSITY CORRIDORS AND CONNECTIVITY

Within the site, areas of high ecological value are fragmented, however have high value connectivity with vegetation and habitat areas in NSW.

The site is partially within a Regional Biodiversity corridor, covering the majority of the western side. The entire site is within the Terrestrial State-wide Corridor, with the exception of the northern boundary, which is mapped as Riparian/Terrestrial. Refer to **Figure 12**. This corridor aligns with Currumbin Creek. The waterway within the site flows under Currumbin Creek Road and into the Creek, potentially giving the site and small fauna including aquatic species a direct pathway into the Riparian/Terrestrial State-wide Corridor (the condition and value of this connection requires site investigation).

Both Regional and Terrestrial State-wide Corridors connect the site to Nicoll Scrub National Park, located to the south-west of the site. The site's vegetation allows for movement to the south-east, over the border into NSW. Over the NSW border, there's opportunity for movement along a green corridor (refer to **Figure**

13) which travels north-east along the border and into Cobaki Broadwater and Tweed River. Refer to **Ecological Master Plan** and **Table 7** for site Strategic and Local connectivity.

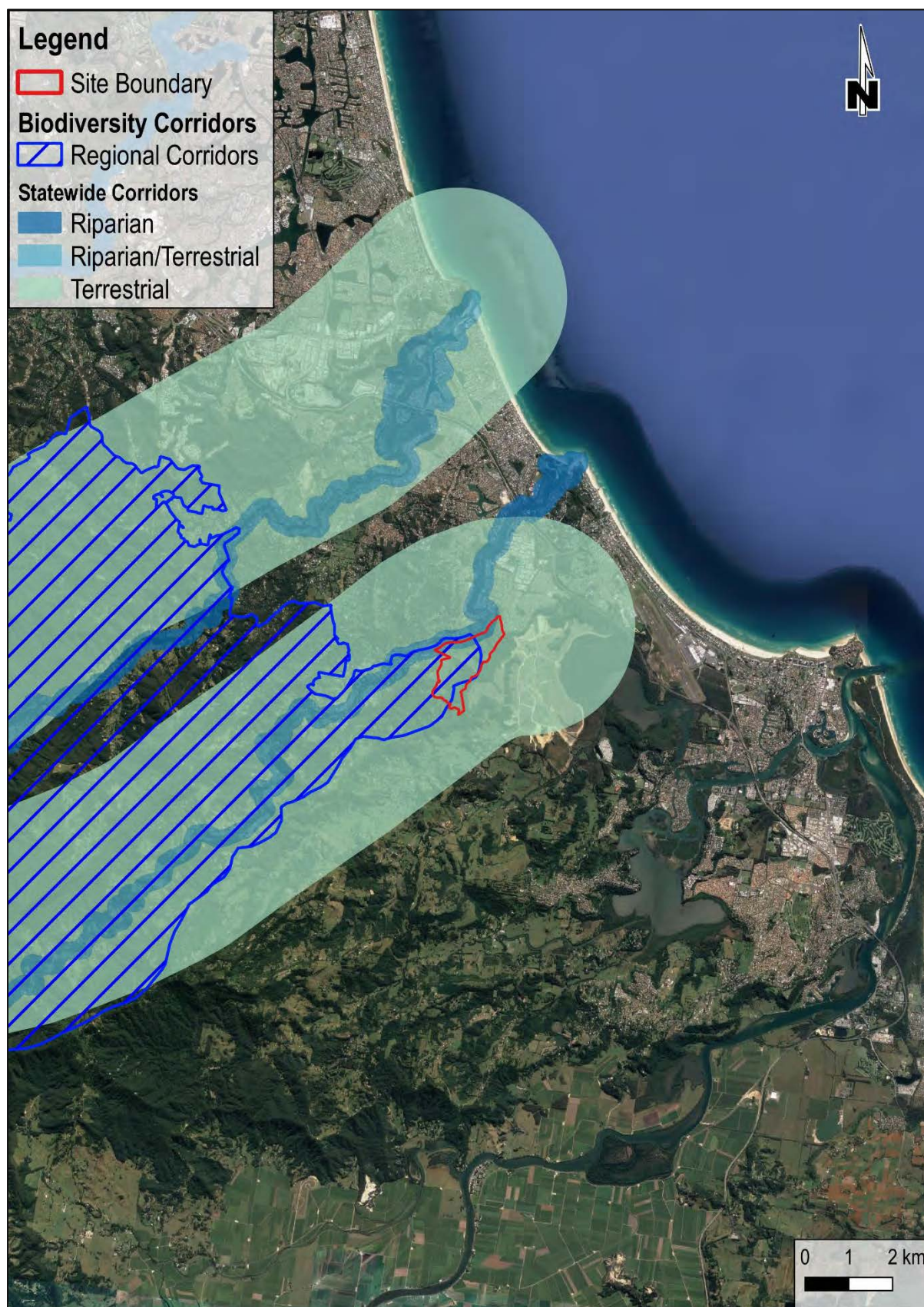


Figure 12. State and Regional Biodiversity Corridors

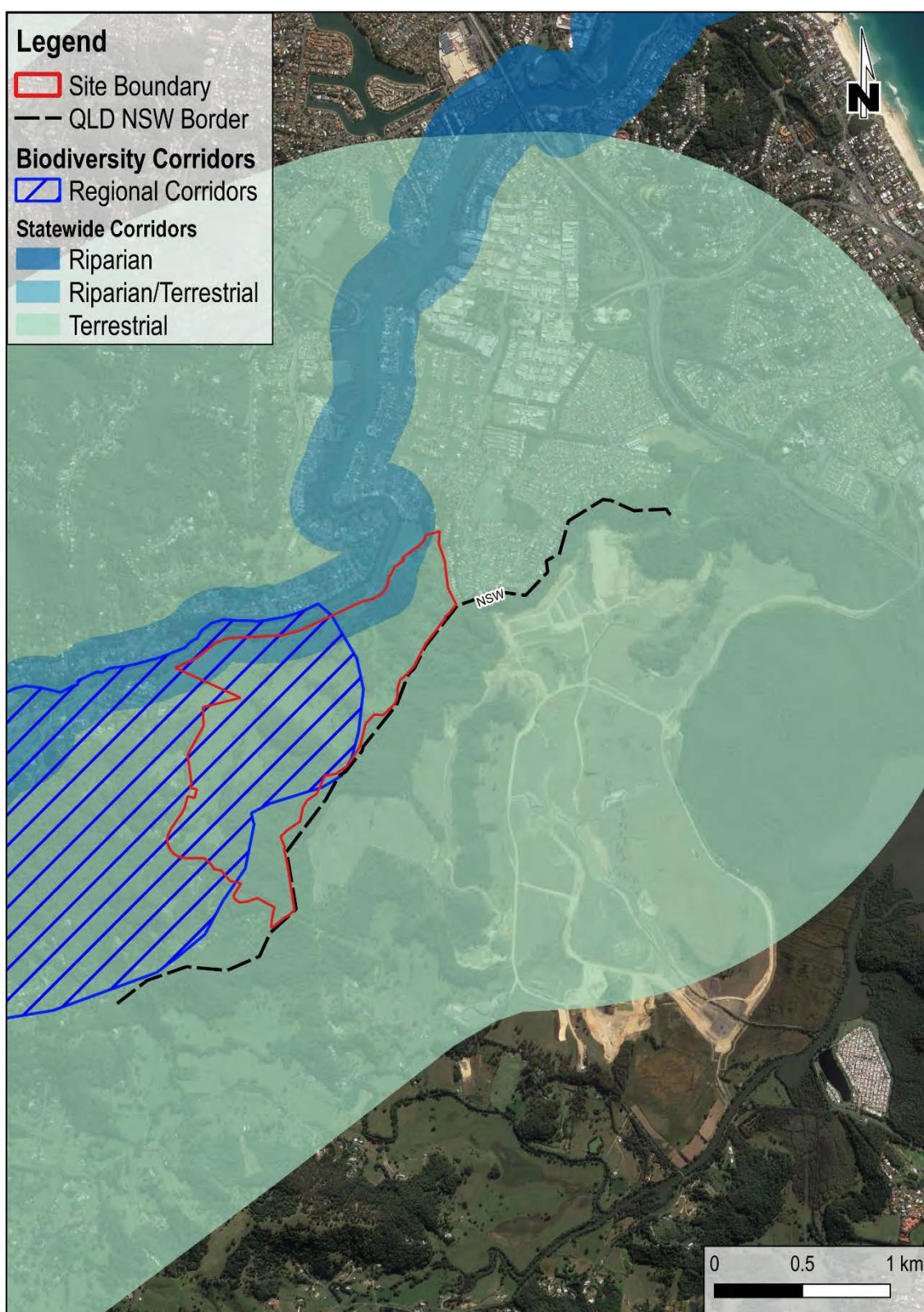


Figure 13. Extract of State and Regional Biodiversity Corridors Map

7.0 OPPORTUNITIES AND CONSTRAINTS

This Preliminary Ecological Investigation has identified a number of environmental constraints and opportunities based on Federal, State and Local Government mapping, overlays and data sets. To best represent the opportunities and constraints these matters pose on future development of the subject site, an **Ecological Masterplan (Figure 14)**, has been prepared to graphically represent the following findings.

The subject site is affected by a number of Regulatory and Legislative Overlays at the Federal, State, and Local Government levels that will constrain the developability of some areas of the subject site but conversely provide opportunities for the design and development of the Eco Parkland.

The site contains State mapped Regional Ecosystems associated with Federally threatened TEC's. These areas are protected under Federal Legislation and clearing may lead to a 'significant impact' and referral under the EPBCA. Accordingly, **Ecological Masterplan** proposes to prioritize the protection of these areas, mapping them under High Ecological Importance.

State Koala Habitat mapping and Endangered Regional Ecosystems are mapped throughout the site and are also legislatively protected at the State Level. These form a significant legislative constraint from a developmental perspective when clearing is required. The site also potentially provides habitat for a range of threatened species, with database reviews showing seven species having been recorded within and/or immediately adjacent to the subject site. As a positive/opportunity, this would indicate that the site provides suitable habitat for many of these protected species and can support threatened species and their associated habitat through sensitive master planning.

At a Local level, the most notable constraint to development is the mapping under the *Environmental Significance – Wetlands and Waterways Overlay* mapping. A Locally Significant Wetland is mapped within the site incorporating numerous tributaries to Currumbin Creek. Site specific investigations will be required to ground-truth the presence or absence of this feature. The close proximity to Currumbin Creek, which is mapped as a State significant wetland, will also require consideration of layout and design of future land uses to ensure the ongoing quality of stormwater runoff entering this catchment.

However, these constraints to development are considered equally as potential ecological opportunities for the ongoing planning and development for Eco-tourism and recreational uses.

Accordingly, the **Ecological Masterplan** has mapped these constraints and sensitive areas as High Ecological Importance, and areas requiring further investigation as Ecological Investigation Areas. It is recommended that future uses of these areas should be restricted to non-invasive, passive activities, such as bushwalking, cycling and hiking along formalised trails. The emphasis on passive activities is to ensure the conservation of these High Ecological Importance areas. Improving connectivity and strengthening corridors between areas of High Ecological Importance and Regional corridors would be greatly beneficial for the site, sub regional and regional ecological corridors, and significantly support compliance with the desired Ecological Outcomes of the State Government's State Planning Policies.

Areas identified as an Ecological Investigation Area in the **Ecological Masterplan** provides a greater scope of potential future uses and activities allowed to occur in these areas.

For example, the Ecological Investigation Area includes a number of cleared/partially cleared high points that may allow for the siting of one or a number of scenic lookouts, surrounded by strategic low height rehabilitation to maintain views into the future.

It is recommended that formalised trails, recommended as passive activities for the High Ecological Importance area, are also mapped through Ecological Investigation Areas along ridgelines. Making use of the few unvegetated areas would be ideal for the location of Lookout points, as described above, which will be a valuable attraction for the site (refer **Ecological Masterplan**) Strategic rehabilitation in these areas, utilising native shrubs specific to the mapped RE will ensure minimal maintenance of the lookouts, and avoid vegetation interfering with the view in the future. Refer to **Table 7** for further recommendations and future detailed design plans for these areas.

Mapped as Medium Ecological Importance Areas in the Ecological Masterplan are the numerous small tributaries mapped by the *Gold Coast City Plan Version 8.0* Wetlands and Waterways sub-category Overlay. Local Legislation requires the protection and rehabilitation of the mapped wetlands, waterways and their associated buffers. The **Ecological Masterplan** intends to fulfil these requirements by proposed restoration, revegetation and weed control of these areas mapped as Medium Ecological Importance areas. Improving local connectivity within the site, via the restoration and enhancement of these Medium Ecological Importance areas will provide a long-term Ecological gain.

Similarly to the High Ecological Importance areas, passive recreation is recommended, and is mapped with Ecological Investigation Areas as a buffer. Subject to detailed design, viewing platforms and walkways along these small tributaries and dams may be an Eco-tourism activity worth exploring. It is noted that some of the small tributaries within the site appear to not provide as great an opportunity to improve local connectivity within as others and as such have been mapped as General Ecological Importance.

These lower value tributaries are currently unvegetated. Accordingly, rehabilitation and erosion control should be the main focus for these tributaries. Refer to **Table 7** for further detail with regard to these areas.

Further Eco-tourism opportunities exist within the Low Impact Use areas. Surrounded by High Ecological Importance vegetation and topographically constrained, these areas can support low impact uses such as informal camping and picnic areas (refer to **Figure 14**). Native beehives placed in these areas will help support the biodiversity of the neighbouring High Ecological Importance vegetation, while also potentially providing the Parkland with income through the option harvesting and selling local native honey. Koala food tree plantations may also assist in the ecological health of these areas, with periodic harvesting of foliage to provide feed for local koala care groups or wildlife sanctuaries.

Areas mapped as Active Use/Recreation area show lower ecological value and may be used for higher impact activities such as sports fields and formalised camping/BBQ areas. Native beehives and Koala food trees can again be considered for these areas. Utilisation of native species for any landscaping or gardening is highly recommended.

The Ecological Masterplan also proposes adequate buffering adjacent to these sensitive areas to minimise/mitigate edge effects from future uses and to ensure these areas are maintained and protected. Intensive uses of the site will largely be restricted to the lower flatter areas along Currumbin Creek Road. This area is highly degraded and holds little ecological value in its current state. It is recommended that any built structures and car parks are placed in these areas.

This opens up the potential for community engagement, through the addition of an Environmental Education Centre, similar to the Brisbane City Council's Downfall Creek Bushland Centre, Karawatha Forest Discovery Centre and Boondall Wetlands Environmental Centre. These centres add immense value to the community and can utilise the surrounding vegetation and small tributaries for educational purposes. Community members can be involved in nature-based activities, including guided bushwalks, native plant identification and spotlighting. Again, native species are recommended for gardens surrounding built structures.

The site for the proposed Currumbin-Eco Parkland has many opportunities for conservation of the ecologically significant vegetation. With the native vegetation on site shown to be able to support threatened species, the **Ecological Masterplan** (refer to **Figure 14**) provides a recommendation of the most appropriate use of space from an ecological perspective. With conservation and rehabilitation taking priority, strategic planning will allow for a range of uses for the community to enjoy, while supporting the Federally, State and Locally protected flora and fauna species.

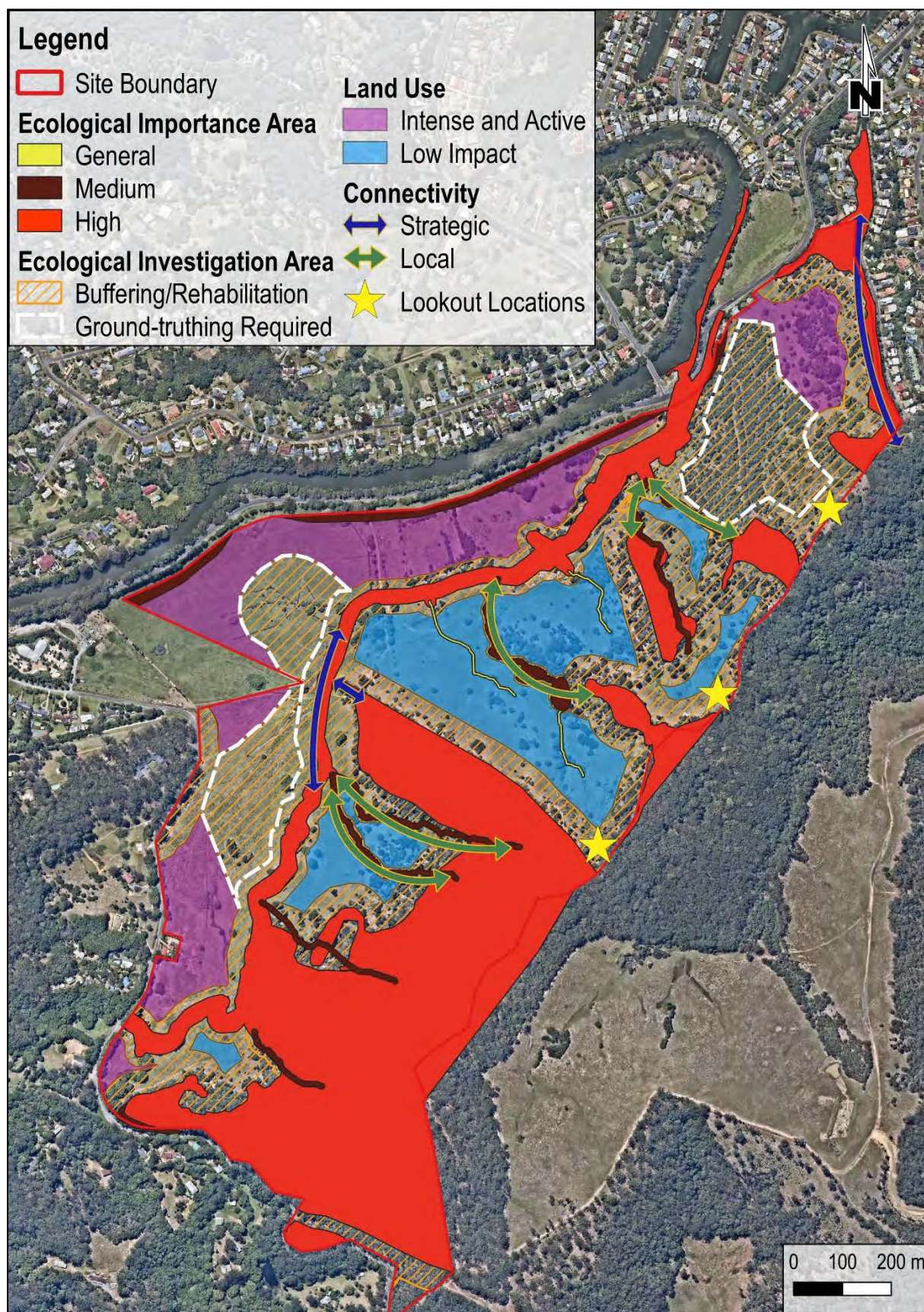


Figure 14. Ecological Masterplan

Table 7. Ecological Master Planning Land Use Intent and Recommendations

Area		Intent	Recommendations
Ecological Importance	High	<u>Mapped State Ecological Constraints and Strategic Corridor</u> Areas mapped as high ecological importance include areas mapped under State legislation as Category B and C under the Vegetation Management Act, State Koala Habitat Areas, and the main tributary flowing through the site, mapped in the GC City Plan V.8's Wetlands and Waterway Overlay – Minor waterway mapping. The intent of this area is for conservation of high ecological values including threatened species habitat and maintain and enhance Strategic Connectivity (blue arrows). Suitable for passive uses, such as bushwalking.	• Protect area through restricting/formalising access; • Minimal formal trails • Clearing of native vegetation is prohibited • Construction of 'natural' stairs using rocks to minimise erosion from hiking; • Installation of tree species identification signage along the trail; • Limit road waterway crossings – Maintain waterway and fauna connectivity, bridges preferred to culverts; and • Rehabilitation – weed removal and revegetation. Targeted plantings for threatened species. Minimise disruption to wildlife from light pollution.
	Medium	<u>Local Connectivity Corridors</u> Areas mapped GC City Plan V.8's Wetlands and Waterway overlay – Minor waterway mapping. These waterways are smaller Order 1 tributaries scattered throughout the site. With	• Rehabilitate area and improve minor tributary health and increase riparian vegetation; • Potential for raised platform around dams – bird watching

		revegetation and rehabilitation can act as a wildlife corridor, connecting two or more valuable patches of vegetation and buffer waterways. The site also is in close proximity to a State significant Wetland (Currumbin Creek), and a riparian buffer of 60m has been incorporated, as per recommendations from the <i>Environmental Significance Overlay Code</i>. This area also includes two small dams. Site inspection needed to confirm health and potential of rehabilitation. Intent of these areas is to improve waterway health and wildlife connectivity. rehabilitate and improve connection through the site (green arrows). Suitable for rehabilitation and passive recreation like bird watching, bush walking, mountain bike riding.	• Mostly closed for rehabilitation; • Some tributaries would benefit from bank stabilisation and coir logs to event erosion; and • Limit road waterway crossings – Maintain waterway and fauna connectivity, minimise road crossing widths, maximise the diameter of culverts, include fauna movement furniture like rocks and logs.
	General	<u>Water Quality Management</u> Area mapped as GC City Plan V.8's Wetlands and Waterway Overlay – Minor waterway mapping. These waterways are smaller tributaries scattered throughout the site, which do not provide or adjoin any High Ecological Importance Areas. Generally, are currently unvegetated. Intent of these areas is for water quality management and incorporate tree retention and into rehabilitation areas where possible. Site inspection required to determine ecological value.	• Rehabilitate invert and banks of waterway where possible. • Incorporate tree retention, especially any large trees and hollow-bearing trees. • Manage stormwater flows into waterways. • Coir logs to prevent erosion and aid in bank stability during high rainfall events.

		Suitable for passive to high intensity uses where water quantity and quality is managed.	
Ecological Investigation Area	<u>Buffer to High and Medium Ecological Importance Areas</u> All of this area is mapped as Category X but adjacent to High and Medium Ecological Importance Areas. Areas outlined by dashed white line require ground proofing to investigate whether they align with GC City Plan V8.0 mapped values - Wetland Ecosystem (GC Local Significant Wetland) and General Priority vegetation. Extent of ecological values to be determined. Intent of this area is to act as a buffer for areas mapped as High and Medium Ecological Importance within and adjacent the site to address edge effects. Includes a 50m buffer State Koala Habitat Area and 20m buffer to the main waterway through the site to address potential impacts to MSES and MLES and legislative requirements. Suitable for Passive Use, Low Impact and Active/Recreation Uses where incorporating the Recommendations. Some Intense Use may be appropriate where topography allows, is informed by detailed design, and incorporates Recommendations.	• Some intrusion of future proposed uses appropriate where based on detailed design and investigation to ensure impacts to Ecological Importance Areas are managed; • Ensure Masterplan is consistent with Assessment Benchmarks in <i>Planning Regulation 2017 Schedule 11 Part 2 Development on premises in koala priority areas not interfering with koala habitat</i>; • Ensure Masterplan is consistent with GC Wetlands and Waterway Overlay Code Performance Outcomes; • Ensure layout does not result in clearing of High and Medium Ecological Importance Areas for bushfire hazard mitigation; • Incorporate dense planting to buffer High and Medium Ecological Importance Areas from Intense Uses (e.g. roads, carparks, sporting fields); • Retain native vegetation, with emphasis on providing fauna movement (corridors) or habitat (hollow bearing trees and clumps of habitat trees); • Weed removal; • May have room for viewing platform along QLD/NSW Border; and	

		Investigate opportunities for rehabilitation of local and strategic wildlife corridors.
Low Impact Use	<u>Lower ecological value</u> Access topologically constrained, and/or surrounded by Ecological Investigation Areas. Intent is to allow for activation of the space through low impact recreation, eco-tourism, and business ventures that provide ecological benefits. Suitable for mountain bike trails, walking trails, informal camping, picnic areas, open space areas, Koala Food tree plantation, native beehives. Restricted vehicle access. Some higher intensity uses may be appropriate where topography allows.	- Retention of native vegetation where possible - Minimise disruption to wildlife from light pollution - Weed management
Active and Intense Use	<u>Lower ecological value</u> Area mapped as Category X, highly modified, and likely low ecological value. Situated between Currumbin Creek buffer and main waterway on site. <u>Active use</u> Intent is to allow activation of the space through higher intensity recreation uses.	- Native species to be used in gardens ; - Weed management; and - Consider fauna movement where roads intersect strategic and local connectivity corridors.

	Suitable for sporting fields, formal camping areas, Picnic shelters and BBQ Areas, hardwood plantations, bee hives, paved walking and cycle paths. <u>Intense use</u> Intent is to allow for all possible uses including permanent structures. Suitable for buildings, roads, carparks and sporting fields.	
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8.0 REFERENCES

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APPENDIX A

Database 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.

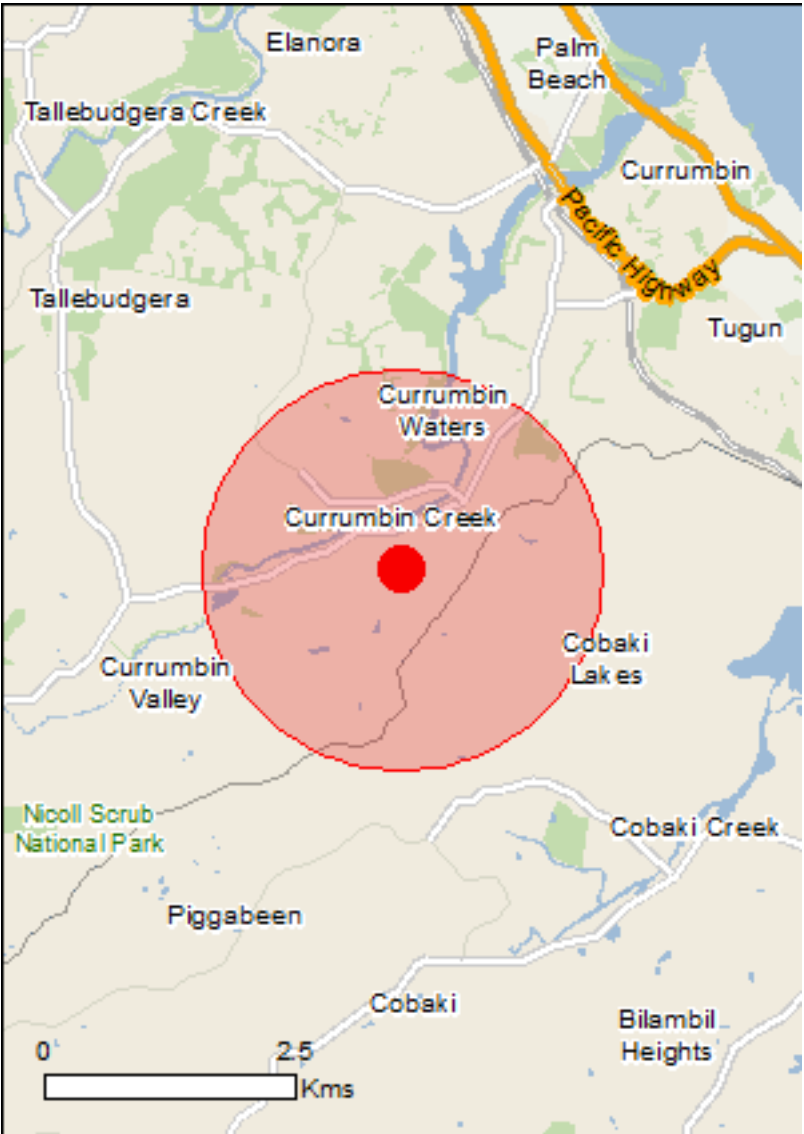
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 08/04/21 11:02:45

- [Summary](#)
- [Details](#)

[Matters of NES](#)[Other Matters Protected by the EPBC Act](#)[Extra Information](#)
- [Caveat](#)
- [Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2015

[Coordinates](#)

Buffer: 2.0Km



Summary

Matters of National Environmental 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:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	65
Listed Migratory Species:	35

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 <http://www.environment.gov.au/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 Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	46
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	1
Invasive Species:	37
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	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.

Name	Status	Type of Presence
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area

Listed Threatened Species

[Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	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	Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area
Erythroriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	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
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	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
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
Thinornis cucullatus cucullatus Hooded Plover (eastern), Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat known to occur within area
Frogs		
Litoria olongburensis Wallum Sedge Frog [1821]	Vulnerable	Species or species habitat may occur within area
Mixophyes fleayi Fleay's Frog [25960]	Endangered	Species or species habitat likely to occur within area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Endangered	Species or species habitat may occur within area
Insects		
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
Phyllodes imperialis smithersi Pink Underwing Moth [86084]	Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within 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]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Other		
Thersites mitchellae Mitchell's Rainforest Snail [66774]	Critically Endangered	Species or species habitat may occur within area
Plants		
Acronychia littoralis Scented Acronychia [8582]	Endangered	Species or species habitat likely to occur within area
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Baloghia marmorata Marbled Balogia, Jointed Baloghia [8463]	Vulnerable	Species or species habitat likely to occur within area
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat likely to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat may occur within area
Davidsonia johnsonii Smooth Davidsonia, Smooth Davidson's Plum, Small-leaved Davidson's Plum [67178]	Endangered	Species or species habitat may occur within area
Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat likely to occur within area
Endiandra floydii Floyd's Walnut [52955]	Endangered	Species or species habitat likely to occur within area
Endiandra hayesii Rusty Rose Walnut, Velvet Laurel [13866]	Vulnerable	Species or species habitat likely to occur within area
Floydia praealta Ball Nut, Possum Nut, Big Nut, Beefwood [15762]	Vulnerable	Species or species habitat likely to occur within area
Fontainea australis Southern Fontainea [24037]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Gossia fragrantissima Sweet Myrtle, Small-leaved Myrtle [78867]	Endangered	Species or species habitat may occur within area
Hicksbeachia pinnatifolia Monkey Nut, Bopple Nut, Red Bopple, Red Bopple Nut, Red Nut, Beef Nut, Red Apple Nut, Red Boppel Nut, Ivory Silky Oak [21189]	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 likely to occur within area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat likely to occur within area
Marsdenia longiloba Clear Milkvine [2794]	Vulnerable	Species or species habitat known to occur within area
Ochrosia moorei Southern Ochrosia [11350]	Endangered	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area
Plectranthus nitidus Nightcap Plectranthus, Silver Plectranthus [55742]	Endangered	Species or species habitat may occur within area
Randia moorei Spiny Gardenia [10577]	Endangered	Species or species habitat known to occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to occur within area
Sarcochilus fitzgeraldii Ravine Orchid [19131]	Vulnerable	Species or species habitat may occur within area
Sophora fraseri [8836]	Vulnerable	Species or species habitat likely to occur within area
Syzygium hodgkinsoniae Smooth-bark Rose Apple, Red Lilly Pilly [3539]	Vulnerable	Species or species habitat likely to occur within area
Syzygium moorei Rose Apple, Coolamon, Robby, Durobby, Watermelon Tree, Coolamon Rose Apple [12284]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Tylophora woollsii [20503]	Endangered	Species or species habitat may occur within area
Reptiles		
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		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 known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	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

Name	Threatened	Type of Presence
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	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
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur

Name	Threatened	Type of Presence
Gallinago megala Swinhoe's Snipe [864]		within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Roosting likely to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Species or species habitat known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Roosting known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Roosting known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat may occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		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
Numenius minutus Little Curlew, Little Whimbrel [848]		Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pachyptila turtur Fairy Prion [1066]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Breeding known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area

Name	Threatened	Type of Presence
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Extra Information

Regional Forest Agreements	[Resource Information]
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Note that all areas with completed RFAs have been included.

Name	State
North East NSW RFA	New South Wales

Invasive Species	[Resource Information]
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Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine,		Species or species

Name	Status	Type of Presence
Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643] Asparagus aethiopicus		habitat likely to occur within area
Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425] Asparagus africanus		Species or species habitat likely to occur within area
Climbing Asparagus, Climbing Asparagus Fern [66907]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171] Chrysanthemoides monilifera		Species or species habitat likely to occur within area
Bitou Bush, Boneseed [18983]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892] Pinus radiata		Species or species habitat likely to occur within area
Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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.

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

Where very little information is available for 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 reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-28.16733 153.45909

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

Wildlife Online Extract

Search Criteria: Species List for a Specified Point

Species: All

Type: All

Status: All

Records: All

Date: All

Latitude: -28.1673

Longitude: 153.4590

Distance: 2

Email: chloe@s5consulting.com.au

Date submitted: Thursday 08 Apr 2021 11:04:56

Date extracted: Thursday 08 Apr 2021 11:10:02

The number of records retrieved = 276

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

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Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	<i>Rhinella marina</i>	cane toad	Y			3
animals	amphibians	Hylidae	<i>Litoria tyleri</i>	southern laughing treefrog		C		4
animals	amphibians	Hylidae	<i>Litoria chloris</i>	orange eyed treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria dentata</i>	bleating treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria peronii</i>	emerald spotted treefrog		C		3
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		4
animals	amphibians	Hylidae	<i>Litoria gracilentia</i>	graceful treefrog		C		5
animals	amphibians	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog		C		3
animals	amphibians	Hylidae	<i>Litoria nasuta</i>	striped rocketfrog		C		1
animals	amphibians	Limnodynastidae	<i>Adelotus brevis</i>	tusked frog		V		2
animals	amphibians	Limnodynastidae	<i>Limnodynastes peronii</i>	striped marshfrog		C		2
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		1
animals	amphibians	Myobatrachidae	<i>Crinia tinnula</i>	wallum froglet		V		1/1
animals	amphibians	Myobatrachidae	<i>Crinia signifera</i>	clicking froglet		C		1
animals	amphibians	Myobatrachidae	<i>Mixophyes fasciolatus</i>	great barred frog		C		1
animals	birds	Acanthizidae	<i>Gerygone mouki</i>	brown gerygone		C		1
animals	birds	Acanthizidae	<i>Acanthiza lineata</i>	striated thornbill		C		1
animals	birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		C		50
animals	birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		C		1
animals	birds	Acanthizidae	<i>Gerygone levigaster</i>	mangrove gerygone		C		1
animals	birds	Acanthizidae	<i>Acanthiza reguloides</i>	buff-rumped thornbill		C		3
animals	birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		C		31
animals	birds	Acanthizidae	<i>Sericornis magnirostra</i>	large-billed scrubwren		C		15
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		6
animals	birds	Accipitridae	<i>Haliastur indus</i>	brahmny kite		C		7
animals	birds	Accipitridae	<i>Pandion cristatus</i>	eastern osprey		SL		13
animals	birds	Accipitridae	<i>Accipiter fasciatus</i>	brown goshawk		C		2
animals	birds	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza		C		4
animals	birds	Accipitridae	<i>Haliastur sphenurus</i>	whistling kite		C		10
animals	birds	Accipitridae	<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle		C		6
animals	birds	Accipitridae	<i>Hieraaetus morphnoides</i>	little eagle		C		3
animals	birds	Accipitridae	<i>Accipiter cirrocephalus</i>	collared sparrowhawk		C		1
animals	birds	Accipitridae	<i>Erythroriorchis radiatus</i>	red goshawk		E	V	1
animals	birds	Alcedinidae	<i>Ceyx azureus</i>	azure kingfisher		C		11
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		25
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		21
animals	birds	Anhingidae	<i>Anhinga novaehollandiae</i>	Australasian darter		C		3
animals	birds	Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail		V	V	3
animals	birds	Ardeidae	<i>Egretta garzetta</i>	little egret		C		1
animals	birds	Ardeidae	<i>Butorides striata</i>	striated heron		C		4
animals	birds	Ardeidae	<i>Ardea alba modesta</i>	eastern great egret		C		5
animals	birds	Ardeidae	<i>Ixobrychus flavicollis</i>	black bittern		C		1
animals	birds	Ardeidae	<i>Nycticorax caledonicus</i>	nankeen night-heron		C		3
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		23
animals	birds	Ardeidae	<i>Ardea intermedia</i>	intermediate egret		C		5
animals	birds	Ardeidae	<i>Bubulcus ibis</i>	cattle egret		C		36

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Ardeidae	<i>Ardea pacifica</i>	white-necked heron		C		2
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		6
animals	birds	Artamidae	<i>Artamus leucorhynchus</i>	white-breasted woodswallow		C		3
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird		C		19
animals	birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		C		35
animals	birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		C		50
animals	birds	Cacatuidae	<i>Eolophus roseicapilla</i>	galah		C		19
animals	birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		C		2
animals	birds	Cacatuidae	<i>Calyptorhynchus funereus</i>	yellow-tailed black-cockatoo		C		15
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		51
animals	birds	Cacatuidae	<i>Calyptorhynchus lathami lathami</i>	glossy black-cockatoo (eastern)		V		58
animals	birds	Campephagidae	<i>Coracina papuensis</i>	white-bellied cuckoo-shrike		C		1
animals	birds	Campephagidae	<i>Lalage leucomela</i>	varied triller		C		2
animals	birds	Campephagidae	<i>Coracina tenuirostris</i>	cicadabird		C		2
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		24
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		11
animals	birds	Charadriidae	<i>Elseya melanops</i>	black-fronted dotterel		C		2
animals	birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		C		7
animals	birds	Cisticolidae	<i>Cisticola exilis</i>	golden-headed cisticola		C		1
animals	birds	Climacteridae	<i>Climacteris picumnus</i>	brown treecreeper		C		2
animals	birds	Climacteridae	<i>Cormobates leucophaea metastasis</i>	white-throated treecreeper (southern)		C		2
animals	birds	Columbidae	<i>Lopholaimus antarcticus</i>	topknot pigeon		C		5
animals	birds	Columbidae	<i>Leucosarcia melanoleuca</i>	wonga pigeon		C		21
animals	birds	Columbidae	<i>Streptopelia chinensis</i>	spotted dove	Y			15
animals	birds	Columbidae	<i>Macropygia amboinensis</i>	brown cuckoo-dove		C		26
animals	birds	Columbidae	<i>Ptilinopus magnificus</i>	wompoo fruit-dove		C		2
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		5
animals	birds	Columbidae	<i>Chalcophaps indica</i>	emerald dove		C		22
animals	birds	Columbidae	<i>Ptilinopus regina</i>	rose-crowned fruit-dove		C		3
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		17
animals	birds	Columbidae	<i>Columba leucomela</i>	white-headed pigeon		C		25
animals	birds	Columbidae	<i>Columba livia</i>	rock dove	Y			3
animals	birds	Columbidae	<i>Geopelia striata</i>	peaceful dove		C		1
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		5
animals	birds	Corcoraciidae	<i>Corcorax melanorhamphos</i>	white-winged chough		C		1
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		64
animals	birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		C		9
animals	birds	Cuculidae	<i>Cacomantis flabelliformis</i>	fan-tailed cuckoo		C		4
animals	birds	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal		C		8
animals	birds	Cuculidae	<i>Eudynamis orientalis</i>	eastern koel		C		8
animals	birds	Cuculidae	<i>Cacomantis variolosus</i>	brush cuckoo		C		2
animals	birds	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo		C		1
animals	birds	Cuculidae	<i>Cacomantis pallidus</i>	pallid cuckoo		C		2
animals	birds	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		31
animals	birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		C		20
animals	birds	Estrildidae	<i>Lonchura castaneothorax</i>	chestnut-breasted mannikin		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		2
animals	birds	Eurostopodidae	<i>Eurostopodus mystacalis</i>	white-throated nightjar		C		1
animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		72
animals	birds	Halcyonidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		9
animals	birds	Halcyonidae	<i>Todiramphus macleayii</i>	forest kingfisher		C		4
animals	birds	Hirundinidae	<i>Petrochelidon nigricans</i>	tree martin		C		1
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		17
animals	birds	Laridae	<i>Chroicocephalus novaehollandiae</i>	silver gull		C		2
animals	birds	Laridae	<i>Thalasseus bergii</i>	crested tern		SL		2
animals	birds	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		9
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		4
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		16
animals	birds	Megaluridae	<i>Megalurus timoriensis</i>	tawny grassbird		C		2
animals	birds	Megapodiidae	<i>Alectura lathami</i>	Australian brush-turkey		C		46
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		17
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		3
animals	birds	Meliphagidae	<i>Anthochaera carunculata</i>	red wattlebird		C		1
animals	birds	Meliphagidae	<i>Anthochaera chrysoptera</i>	little wattlebird		C		2
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		2
animals	birds	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater		C		2
animals	birds	Meliphagidae	<i>Acanthorhynchus tenuirostris</i>	eastern spinebill		C		27
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		12
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		26
animals	birds	Meliphagidae	<i>Melithreptus gularis</i>	black-chinned honeyeater		C		1
animals	birds	Meliphagidae	<i>Melithreptus lunatus</i>	white-naped honeyeater		C		2
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		19
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		31
animals	birds	Meliphagidae	<i>Caligavis chrysops</i>	yellow-faced honeyeater		C		12
animals	birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		C		78
animals	birds	Meliphagidae	<i>Myzomela obscura</i>	dusky honeyeater		C		32
animals	birds	Meliphagidae	<i>Ptilotula fusca</i>	fuscous honeyeater		C		1
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		4
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		51
animals	birds	Monarchidae	<i>Monarcha melanopsis</i>	black-faced monarch		SL		4
animals	birds	Monarchidae	<i>Symposiachrus trivirgatus</i>	spectacled monarch		SL		12
animals	birds	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher		C		7
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		5
animals	birds	Monarchidae	<i>Myiagra cyanoleuca</i>	satin flycatcher		SL		1
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		13
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		1
animals	birds	Oriolidae	<i>Sphecotheres vieilloti</i>	Australasian figbird		C		41
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		12
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		10
animals	birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		C		15
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		6
animals	birds	Pachycephalidae	<i>Colluricincla megarhyncha</i>	little shrike-thrush		C		10

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		C		3
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		16
animals	birds	Passeridae	<i>Passer domesticus</i>	house sparrow	Y			3
animals	birds	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		C		5
animals	birds	Petroicidae	<i>Eopsaltria australis</i>	eastern yellow robin		C		50
animals	birds	Petroicidae	<i>Petroica rosea</i>	rose robin		C		8
animals	birds	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	great cormorant		C		2
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		6
animals	birds	Phalacrocoracidae	<i>Phalacrocorax varius</i>	pied cormorant		C		1
animals	birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		C		6
animals	birds	Phasianidae	<i>Coturnix ypsilophora</i>	brown quail		C		2
animals	birds	Pittidae	<i>Pitta versicolor</i>	noisy pitta		C		5
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		10
animals	birds	Podargidae	<i>Podargus ocellatus plumiferus</i>	plumed frogmouth		V		1
animals	birds	Procellariidae	<i>Pachyptila turtur</i>	fairy prion		C		1/1
animals	birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		C		17
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		19
animals	birds	Psittacidae	<i>Platycercus eximius</i>	eastern rosella		C		13
animals	birds	Psittacidae	<i>Platycercus adscitus palliceps</i>	pale-headed rosella (southern form)		C		1
animals	birds	Psittacidae	<i>Trichoglossus haematodus moluccanus</i>	rainbow lorikeet		C		67
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		13
animals	birds	Psittacidae	<i>Parvipsitta pusilla</i>	little lorikeet		C		1
animals	birds	Psittacidae	<i>Platycercus elegans</i>	crimson rosella		C		1
animals	birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		C		49
animals	birds	Ptilonorhynchidae	<i>Sericulus chrysocephalus</i>	regent bowerbird		C		3
animals	birds	Ptilonorhynchidae	<i>Ptilonorhynchus violaceus</i>	satin bowerbird		C		1
animals	birds	Ptilonorhynchidae	<i>Ailuroedus crassirostris</i>	green catbird		C		1
animals	birds	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen		C		2
animals	birds	Rallidae	<i>Gallinula tenebrosa</i>	dusky moorhen		C		2
animals	birds	Recurvirostridae	<i>Himantopus himantopus</i>	black-winged stilt		C		2
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		40
animals	birds	Rhipiduridae	<i>Rhipidura rufifrons</i>	rufous fantail		SL		10
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		28
animals	birds	Strigidae	<i>Ninox boobook</i>	southern boobook		C		5
animals	birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	Y			8
animals	birds	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill		C		3
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		8
animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		34
animals	birds	Threskiornithidae	<i>Plegadis falcinellus</i>	glossy ibis		SL		9
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silveryeye		C		16
animals	birds	Turdidae	<i>Zoothera lunulata</i>	Bassian thrush		C		2
animals	birds	Turnicidae	<i>Turnix melanogaster</i>	black-breasted button-quail		V	V	1
animals	birds	Tytonidae	<i>Tyto delicatula</i>	eastern barn owl		C		1
animals	insects	Hesperiidae	<i>Euschemon rafflesia rafflesia</i>	regent skipper (southern subspecies)				1
animals	insects	Nymphalidae	<i>Tirumala hamata hamata</i>	blue tiger				1
animals	insects	Nymphalidae	<i>Charaxes sempronius sempronius</i>	tailed emperor				1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	insects	Nymphalidae	<i>Danaus plexippus</i>	monarch	Y			1
animals	insects	Nymphalidae	<i>Euploea corinna</i>	common crow				1
animals	insects	Papilionidae	<i>Ornithoptera richmondia</i>	Richmond birdwing		V		1
animals	insects	Papilionidae	<i>Graphium choredon</i>	blue triangle				2
animals	insects	Pieridae	<i>Eurema hecabe</i>	large grass-yellow				1
animals	insects	Pieridae	<i>Cepora perimale scyllara</i>	caper gull (Australian subspecies)				1
animals	mammals	Bovidae	<i>Bos sp.</i>	cattle	Y			1
animals	mammals	Canidae	<i>Vulpes vulpes</i>	red fox	Y			1
animals	mammals	Emballonuridae	<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tail bat		C		3
animals	mammals	Equidae	<i>Equus sp.</i>		Y			1
animals	mammals	Leporidae	<i>Lepus europaeus</i>	European brown hare	Y			1
animals	mammals	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo		C		1
animals	mammals	Macropodidae	<i>Wallabia bicolor</i>	swamp wallaby		C		1
animals	mammals	Miniopteridae	<i>Miniopterus australis</i>	little bent-wing bat		C		9
animals	mammals	Miniopteridae	<i>Miniopterus schreibersii oceanensis</i>	eastern bent-wing bat		C		3
animals	mammals	Molossidae	<i>Mormopterus petersi</i>	inland free-tailed bat		C		1
animals	mammals	Molossidae	<i>Austronomus australis</i>	white-striped freetail bat		C		5
animals	mammals	Molossidae	<i>Mormopterus lumsdenae</i>	northern free-tailed bat		C		2
animals	mammals	Molossidae	<i>Mormopterus norfolkensis</i>	east coast freetail bat		C		9
animals	mammals	Muridae	<i>Mus musculus</i>	house mouse	Y			1
animals	mammals	Muridae	<i>Rattus fuscipes</i>	bush rat		C		1
animals	mammals	Muridae	<i>Melomys burtoni</i>	grassland melomys		C		1
animals	mammals	Muridae	<i>Rattus rattus</i>	black rat	Y			1
animals	mammals	Peramelidae	<i>Isodon macrourus</i>	northern brown bandicoot		C		1
animals	mammals	Petauridae	<i>Petaurus norfolcensis</i>	squirrel glider		C		1
animals	mammals	Petauridae	<i>Petaurus breviceps sensu lato</i>	sugar glider		C		1
animals	mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		C		1
animals	mammals	Phalangeridae	<i>Trichosurus caninus</i>	short-eared possum		C		2
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	161
animals	mammals	Pseudocheiridae	<i>Petauroides armillatus</i>	central greater glider		V	V	1
animals	mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		C		1
animals	mammals	Pteropodidae	<i>Pteropus alecto</i>	black flying-fox		C		2
animals	mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox		C	V	2
animals	mammals	Vespertilionidae	<i>Chalinolobus nigrogriseus</i>	hoary wattled bat		C		1
animals	mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		C		7
animals	mammals	Vespertilionidae	<i>Vespadelus darlingtoni</i>	large forest bat		C		1
animals	mammals	Vespertilionidae	<i>Scotorepens orion</i>	south-eastern broad-nosed bat		C		1
animals	mammals	Vespertilionidae	<i>Vespadelus pumilus</i>	eastern forest bat		C		1
animals	reptiles	Agamidae	<i>Pogona barbata</i>	bearded dragon		C		4
animals	reptiles	Agamidae	<i>Intellagama lesueurii</i>	eastern water dragon		C		2
animals	reptiles	Boidae	<i>Morelia spilota</i>	carpet python		C		1
animals	reptiles	Colubridae	<i>Dendrelaphis punctulatus</i>	green tree snake		C		1
animals	reptiles	Colubridae	<i>Boiga irregularis</i>	brown tree snake		C		1
animals	reptiles	Elapidae	<i>Pseudechis porphyriacus</i>	red-bellied black snake		C		2
animals	reptiles	Elapidae	<i>Hemiaspis signata</i>	black-bellied swamp snake		C		1
animals	reptiles	Gekkonidae	<i>Hemidactylus frenatus</i>	house gecko	Y			2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Scincidae	<i>Concinnia martini</i>	dark bar-sided skink		C		1
animals	reptiles	Scincidae	<i>Morethia boulengeri</i>	south-eastern morethia skink		C		1/1
animals	reptiles	Scincidae	<i>Saiphos equalis</i>	three-toed skink		C		2
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink		C		5
animals	reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		C		1
animals	reptiles	Varanidae	<i>Varanus varius</i>	lace monitor		C		1
chromists	brown algae	Scytosiphonaceae	<i>Rosenvingeia orientalis</i>			C		1/1
chromists	brown algae	Scytosiphonaceae	<i>Rosenvingeia intricata</i>			C		1/1
fungi	lecanoromycetes	Caliciaceae	<i>Buellia disciformis</i>			C		1/1
fungi	lecanoromycetes	Caliciaceae	<i>Pyxine cocoos</i>			C		1/1
fungi	lecanoromycetes	Haematommataceae	<i>Haematomma infusum</i>			C		1/1
fungi	lecanoromycetes	Parmeliaceae	<i>Parmotrema tinctorum</i>			C		1/1
fungi	lecanoromycetes	Parmeliaceae	<i>Bulbothrix tabacina</i>			C		1/1
fungi	lecanoromycetes	Parmeliaceae	<i>Parmotrema crinitum</i>			C		1/1
fungi	lecanoromycetes	Pertusariaceae	<i>Pertusaria psoromica</i>			C		1/1
fungi	lecanoromycetes	Pertusariaceae	<i>Pertusaria isidiosa</i>			C		1/1
plants	land plants	Asteraceae	<i>Chrysanthemoides monilifera subsp. rotundata</i>	bitou bush	Y			1/1
plants	land plants	Asteraceae	<i>Senecio madagascariensis</i>	fireweed	Y			5
plants	land plants	Asteraceae	<i>Baccharis halimifolia</i>	groundsel bush	Y			1
plants	land plants	Boraginaceae	<i>Echium plantagineum</i>	Paterson's curse	Y			1/1
plants	land plants	Brassicaceae	<i>Rorippa eustylis</i>			C		1/1
plants	land plants	Caesalpiniaceae	<i>Senna septemtrionalis</i>		Y			1
plants	land plants	Caesalpiniaceae	<i>Cassia marksiana</i>			V		3/3
plants	land plants	Celastraceae	<i>Denhamia celastroides</i>	broad-leaved boxwood		C		1/1
plants	land plants	Cyperaceae	<i>Gahnia aspera</i>			C		1
plants	land plants	Euphorbiaceae	<i>Euphorbia ophthalmica</i>		Y			1/1
plants	land plants	Eupomatiaceae	<i>Eupomatia laurina</i>	bolwarra		C		1
plants	land plants	Fabaceae	<i>Austrostenisia blackii</i>	bloodvine		C		1
plants	land plants	Fabaceae	<i>Tephrosia glomeruliflora</i>	pink tephrosia	Y			1/1
plants	land plants	Flagellariaceae	<i>Flagellaria indica</i>	whip vine		C		1
plants	land plants	Lauraceae	<i>Endiandra globosa</i>	ball-fruited walnut		NT		1
plants	land plants	Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	Y			1
plants	land plants	Mimosaceae	<i>Acacia falcata</i>	sickle wattle		C		1/1
plants	land plants	Mimosaceae	<i>Acacia aulacocarpa</i>			C		1
plants	land plants	Moraceae	<i>Maclura cochinchinensis</i>	cockspur thorn		C		1
plants	land plants	Myrtaceae	<i>Eucalyptus grandis</i>	flooded gum		C		1
plants	land plants	Myrtaceae	<i>Lophostemon confertus</i>	brush box		C		1
plants	land plants	Nephrolepidaceae	<i>Nephrolepis cordifolia</i>	fishbone fern		C		1
plants	land plants	Restionaceae	<i>Baloskion tetraphyllum subsp. meiostachyum</i>			C		1/1
plants	land plants	Rubiaceae	<i>Randia moorei</i>	spiny gardenia		E	E	1/1
plants	land plants	Rutaceae	<i>Flindersia bennettii</i>			C		1
plants	land plants	Sapindaceae	<i>Guioa semiglauc</i>	guioa		C		1
plants	land plants	Sapindaceae	<i>Lepiderema pulchella</i>	fine-leaved tuckeroo		V		1/1
plants	land plants	Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		C		1
plants	land plants	Sapindaceae	<i>Mischocarpus pyriformis</i>			C		1
plants	land plants	Sparrmanniaceae	<i>Triumfetta rhomboidea</i>	chinese burr	Y			1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.



Queensland Government

Department of Environment and Science

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Longitude: 153.459093 Latitude: -28.167329 with 2 kilometre radius

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 1994). 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: 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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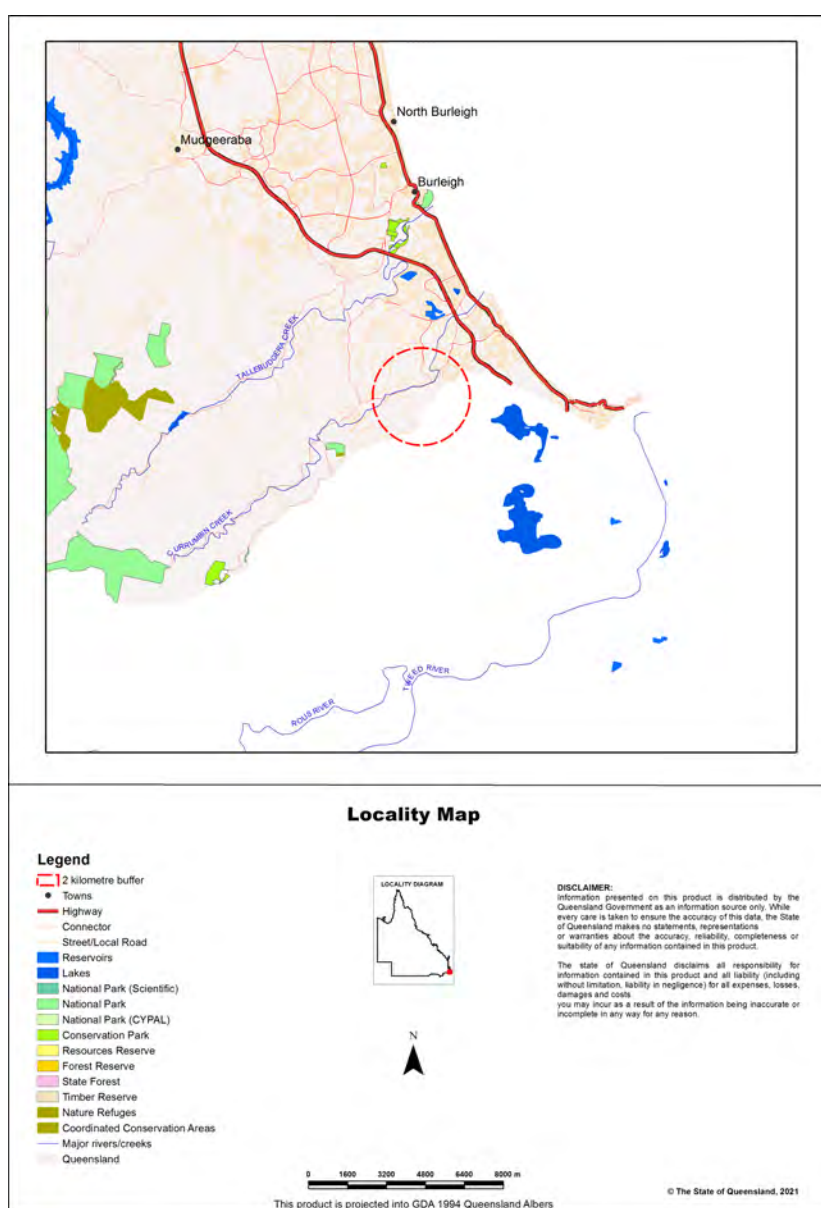
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Assessment Area Details

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 Longitude: 153.459093 Latitude: -28.167329

Size (ha)	1,256.55
Local Government(s)	Gold Coast City
Bioregion(s)	Southeast Queensland
Subregion(s)	Sunshine Coast - Gold Coast Lowlands, Burringbar - Conondale Ranges
Catchment(s)	South Coast



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 planning and development assessment decision-making. Its primary purpose is to support 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. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts 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	0.0 ha	0.0 %
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	15.1 ha	1.2%
6a High Ecological Value (HEV) wetlands	16.34 ha	1.3%
6b High Ecological Value (HEV) waterways **	8.4 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	304.75 ha	24.3%
7b Special least concern animals	121.2 ha	9.6%
7c i Koala habitat area - core (SEQ)	284.6 ha	22.6%
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	206.75 ha	16.5%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	16.47 ha	1.3%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0.0 ha	0.0 %
8d Regulated Vegetation - Essential habitat	283.87 ha	22.6%
8e Regulated Vegetation - intersecting a watercourse **	47.0 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	21.91 ha	1.7%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 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

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

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

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

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

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

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)

Values are present

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

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	Core
<i>Casuarus casuarus johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	Core
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	V	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

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

Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Ornithoptera richmondia</i>	Richmond birdwing	V		
<i>Lepiderema pulchella</i>	fine-leaved tuckeroo	V		
<i>Cassia marksiana</i>		V		
<i>Podargus ocellatus plumiferus</i>	plumed frogmouth	V		
<i>Randia moorei</i>	spiny gardenia	E	E	
<i>Diploglottis campbellii</i>	small-leaved tamarind	E	E	
<i>Macadamia tetraphylla</i>		V	V	
<i>Adelotus brevis</i>	tusked frog	V		
<i>Petauroides volans</i>	greater glider	V	V	

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Syzygium moorei</i>	Durobby	V	V	
<i>Cryptocarya foetida</i>	stinking cryptocarya	V	V	
<i>Endiandra floydii</i>		E	E	
<i>Helicia ferruginea</i>	rusty oak	V		
<i>Gossia fragrantissima</i>		E	E	

Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Tachyglossus aculeatus</i>	short-beaked echidna	
<i>Pandion cristatus</i>	eastern osprey	M-B/E
<i>Actitis hypoleucos</i>	common sandpiper	M-C/J/R/B/E

*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)** 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
12.11.23/12.11.3a	E-dom	rem_end
12.3.20	E-dom	rem_end
12.11.23	E-dom	rem_end
12.3.11	O-dom	rem_oc
12.11.25	O-dom	rem_oc
12.11.3/12.11.9	O-subdom	rem_oc
12.3.1a	E-dom	rem_end
12.3.2	O-dom	rem_oc

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

Regional ecosystem	Vegetation management polygon	Vegetation management status
12.11.23/12.11.3a	E-dom	hvr_end
12.3.20	E-dom	hvr_end
12.3.1a	E-dom	hvr_end

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

Not applicable

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

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

Regulated vegetation map category	Map number	RVM rule
B	9541	2
C	9541	3

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

MSES - Offsets**9a. Legally secured offset areas - offset register areas**

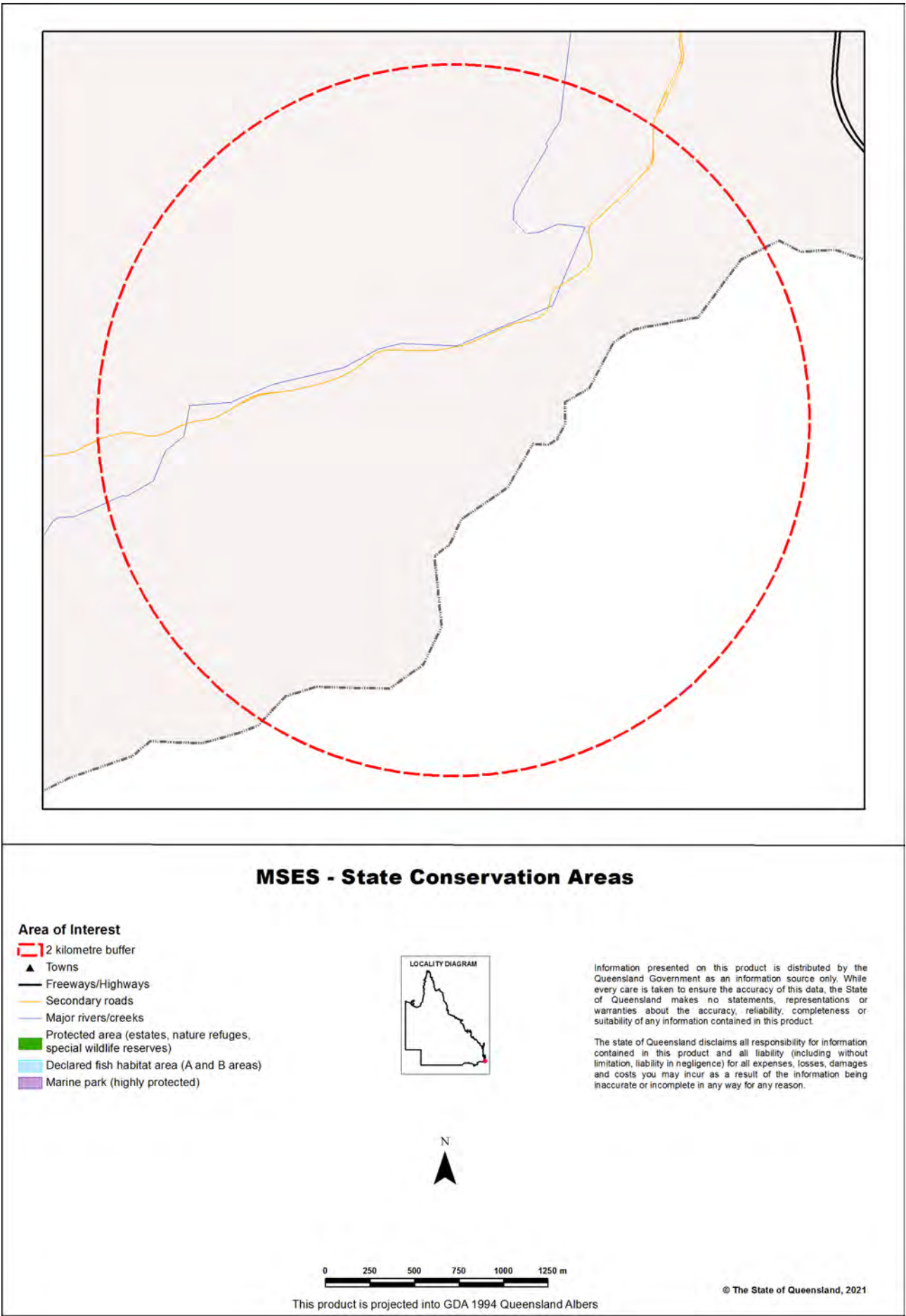
(no results)

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

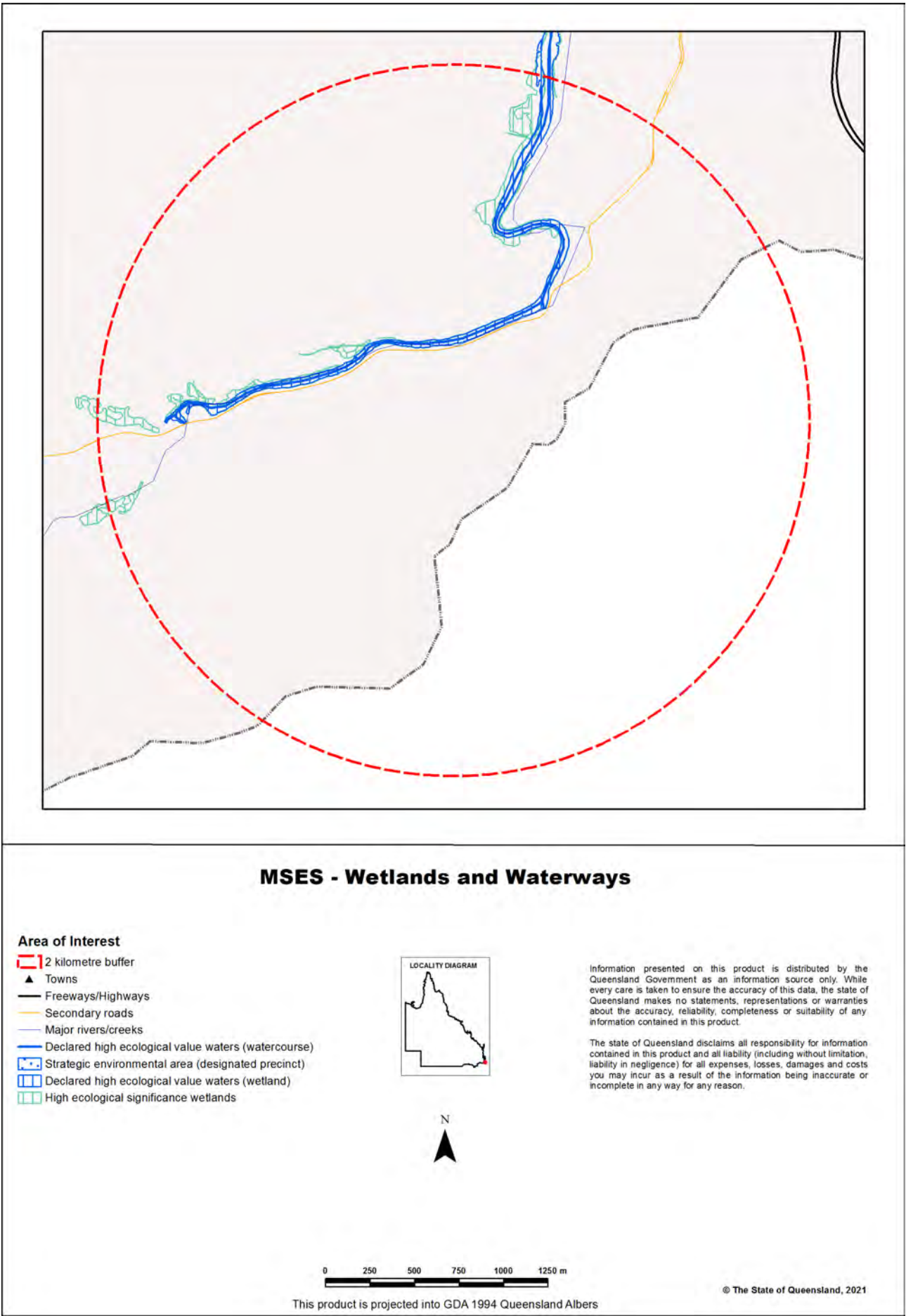
(no results)

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

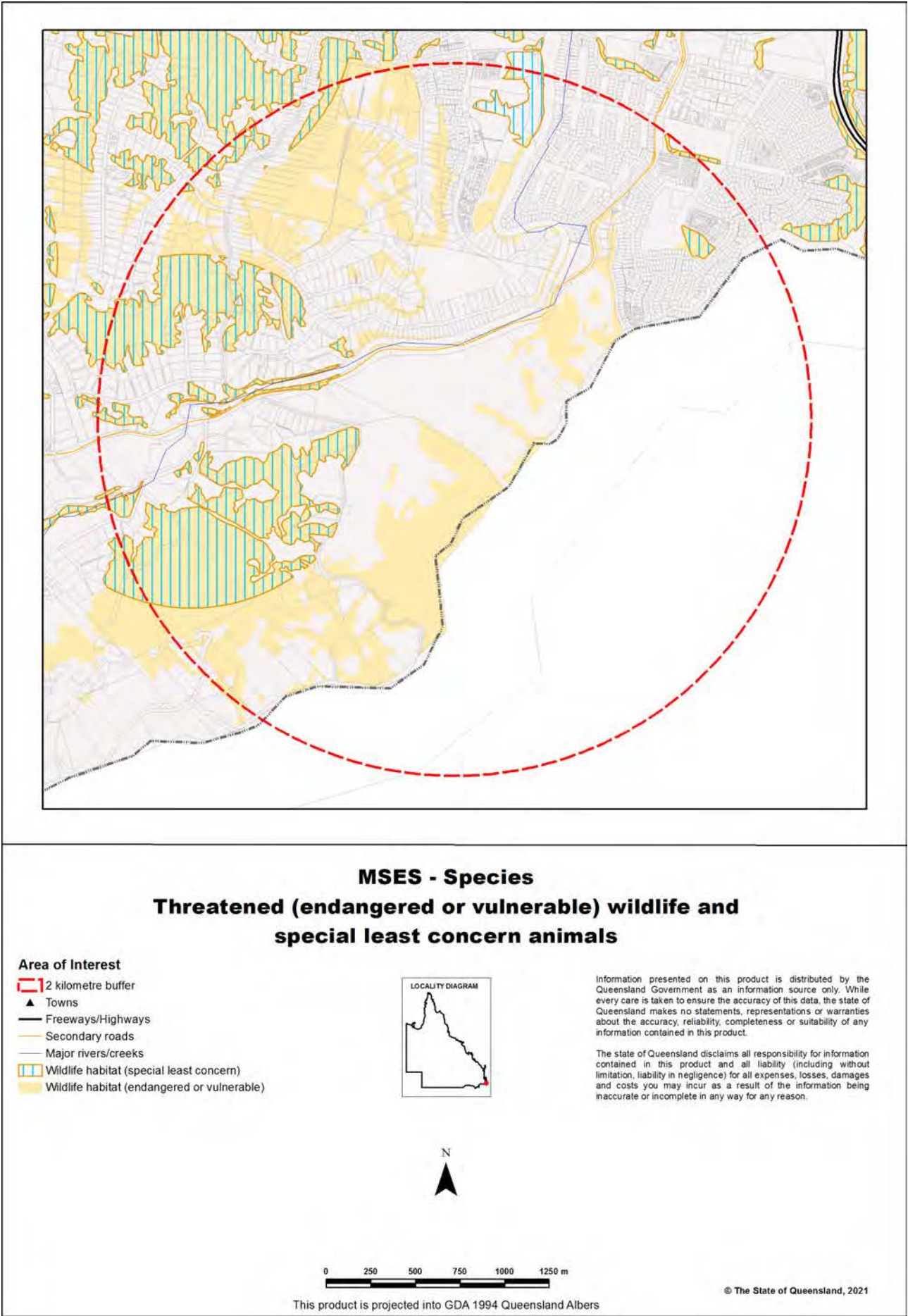
Map 1 - MSES - State Conservation Areas



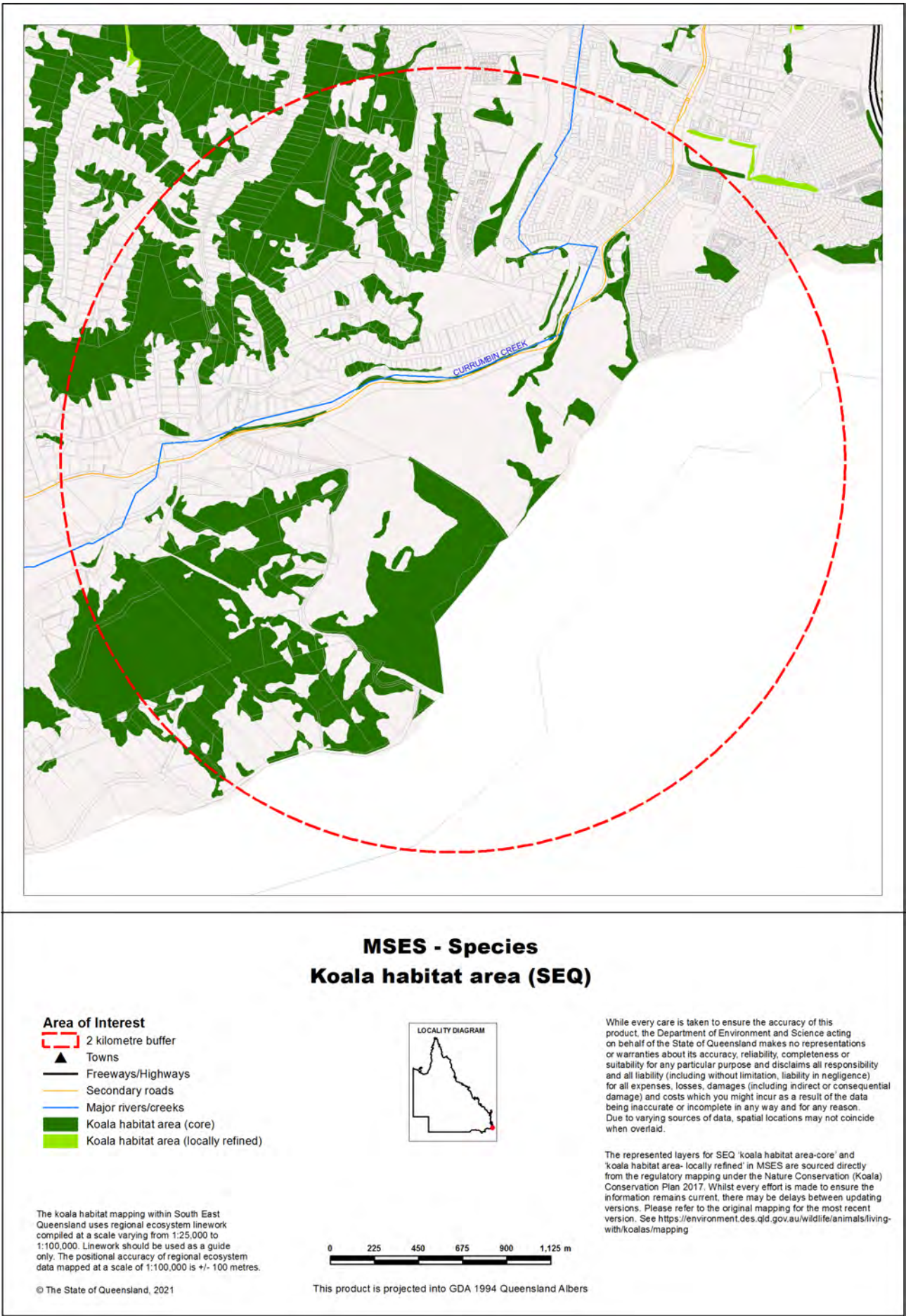
Map 2 - MSES - Wetlands and Waterways



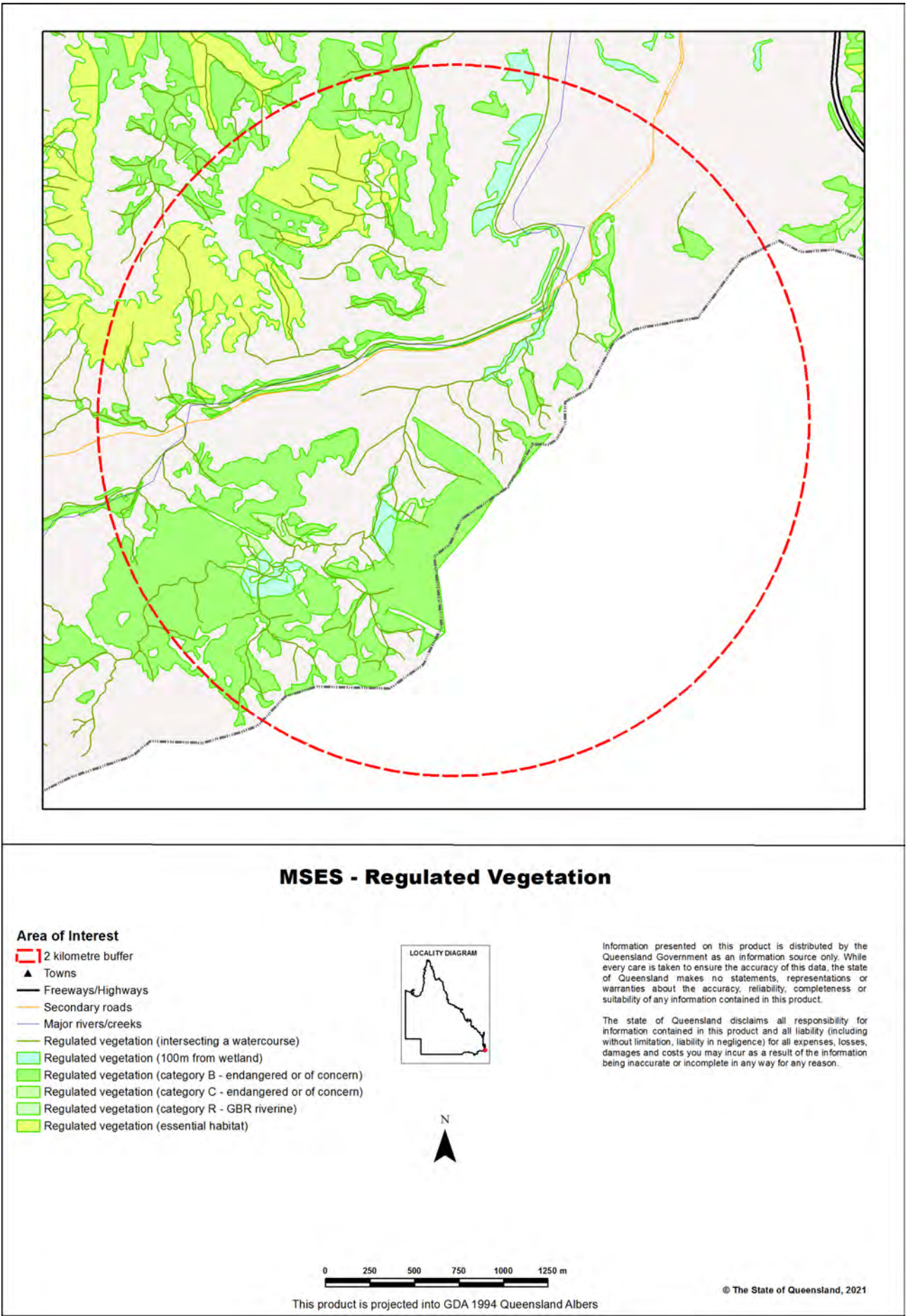
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



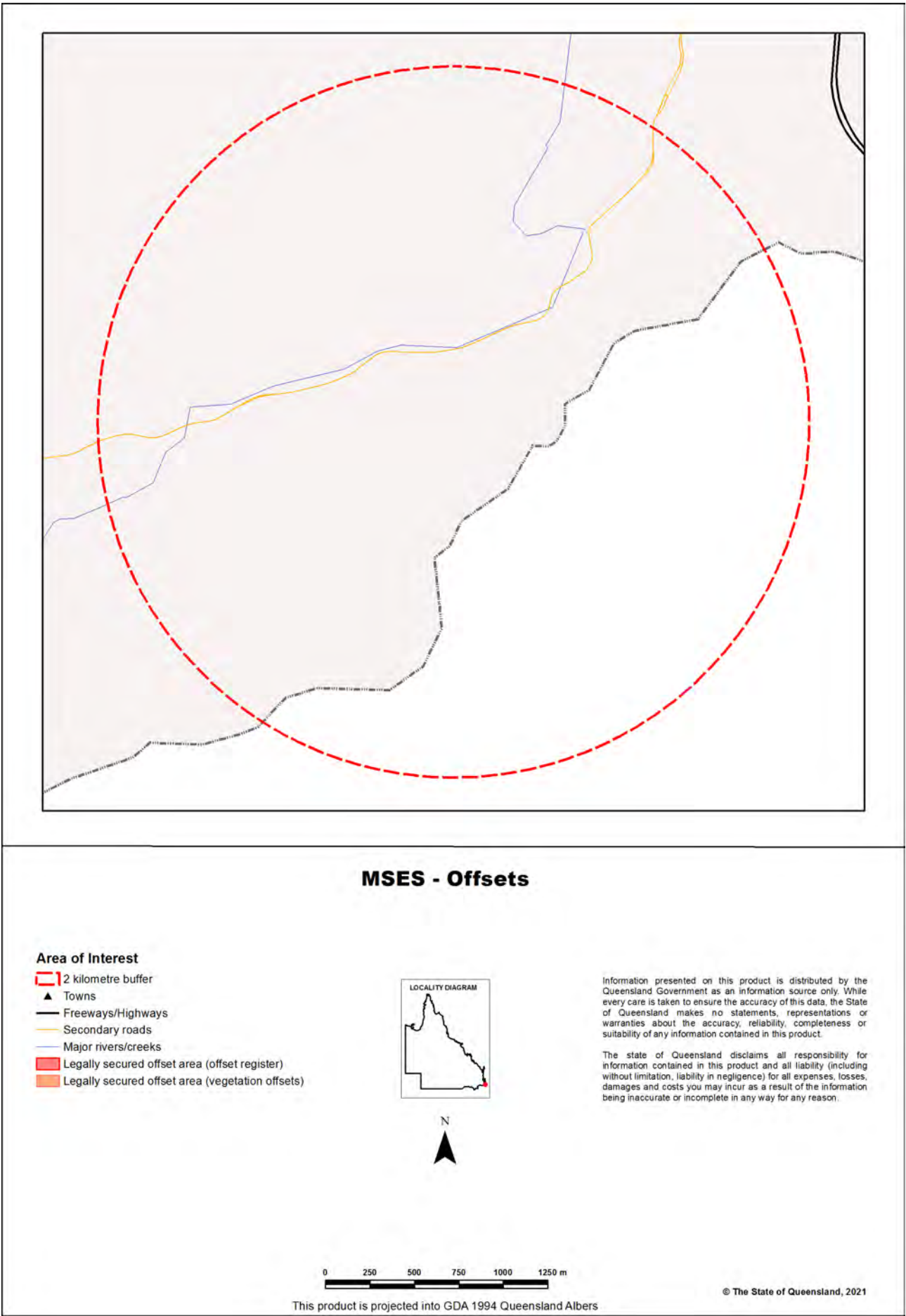
Map 3b - MSES - Species - Koala habitat area (SEQ)



Map 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). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support 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. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" 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:

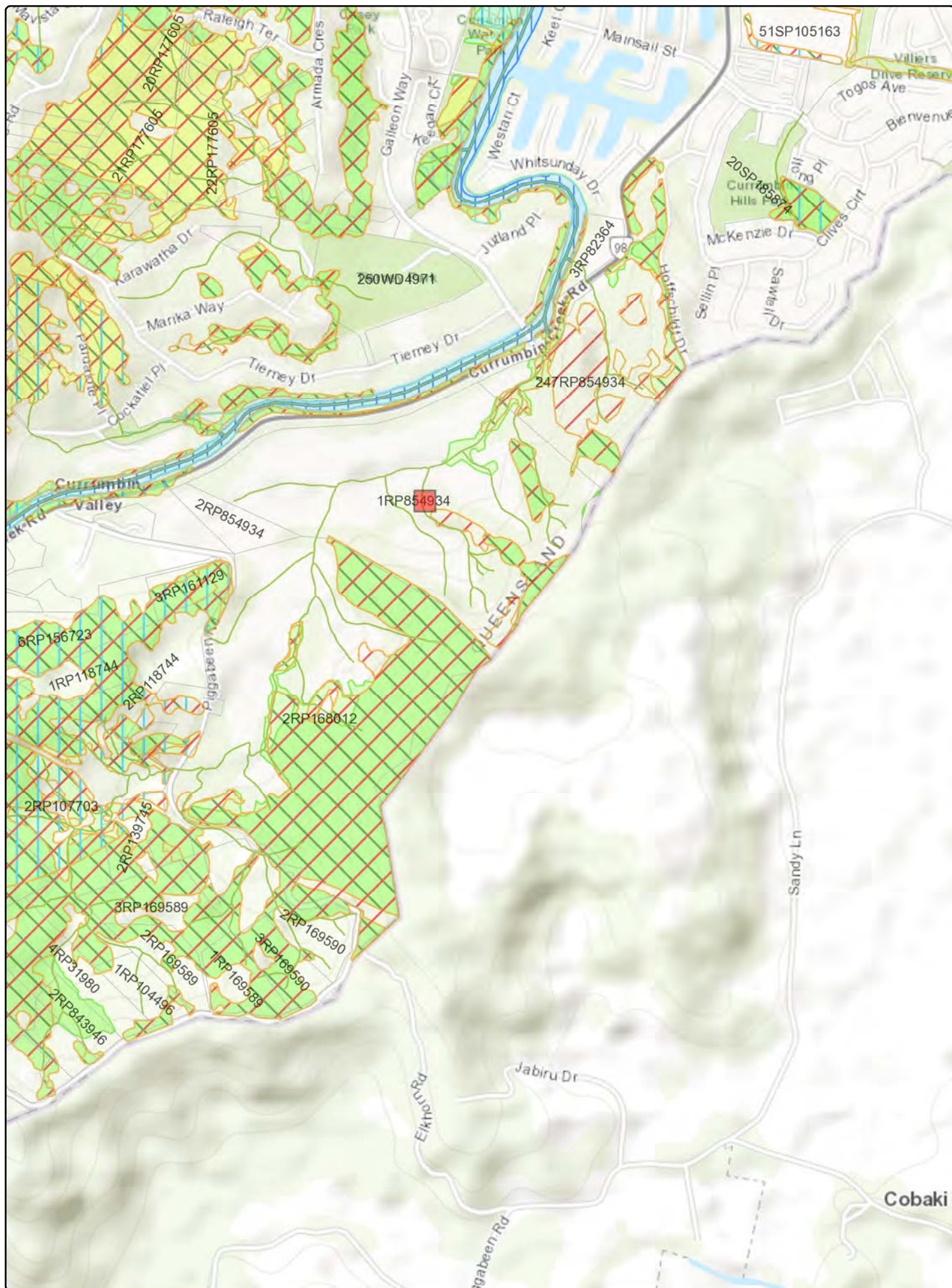
MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park 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 DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>

APPENDIX B

State Mapping



Date: 23/04/2021

State Planning Policy

Making or amending a local planning instrument
and designating land for community infrastructure



Queensland Government

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0 290 580 870 1,160
Metres

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Legend

Cadastre (25k)

 Cadastre (25k)

MSES - Regulated vegetation (intersecting a watercourse)

 MSES - Regulated vegetation (intersecting a watercourse)

MSES - High ecological value waters (watercourse)

 MSES - High ecological value waters (watercourse)

MSES - Wildlife habitat (endangered or vulnerable)

 MSES - Wildlife habitat (endangered or vulnerable)

MSES - Wildlife habitat (special least concern animal)

 MSES - Wildlife habitat (special least concern animal)

MSES - Wildlife habitat (koala habitat areas - core)

 MSES - Wildlife habitat (koala habitat areas - core)

MSES - Wildlife habitat (koala habitat areas - locally refined)

 MSES - Wildlife habitat (koala habitat areas - locally refined)

MSES - Strategic environmental areas (designated precinct)

 MSES - Strategic environmental areas (designated precinct)

MSES - High ecological significance wetlands

 MSES - High ecological significance wetlands

MSES - High ecological value waters (wetland)

 MSES - High ecological value waters (wetland)

MSES - Legally secured offset area (offset register)

 MSES - Legally secured offset area (offset register)

MSES - Legally secured offset area (regulated vegetation offsets)

 MSES - Legally secured offset area (regulated vegetation offsets)

MSES - Protected areas (estate)

 MSES - Protected areas (estate)

MSES - Protected areas (special wildlife reserve)

 MSES - Protected areas (special wildlife reserve)

MSES - Protected areas (nature refuge)

 MSES - Protected areas (nature refuge)

MSES - Marine park (highly protected areas)

 MSES - Marine park (highly protected areas)

MSES - Declared fish habitat area

 MSES - Declared fish habitat area

MSES - Regulated vegetation (category B)

 MSES - Regulated vegetation (category B)

MSES - Regulated vegetation (category C)

 MSES - Regulated vegetation (category C)

MSES - Regulated vegetation (category R)

 MSES - Regulated vegetation (category R)

MSES - Regulated vegetation (essential habitat)

 MSES - Regulated vegetation (essential habitat)

MSES - Regulated vegetation (wetland)

 MSES - Regulated vegetation (wetland)



Queensland Government

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Date: 23/04/2021

State Planning Policy
Making or amending a local planning instrument
and designating land for community infrastructure

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Legend

Cadastre (25k)



Cadastre (25k)

Regional land use categories (SEQ, WBB, MIW, FNQ)



Urban Footprint



Rural Living Area



Regional Landscape and Rural Production Area



Date: 12/04/2021

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State Planning Policy

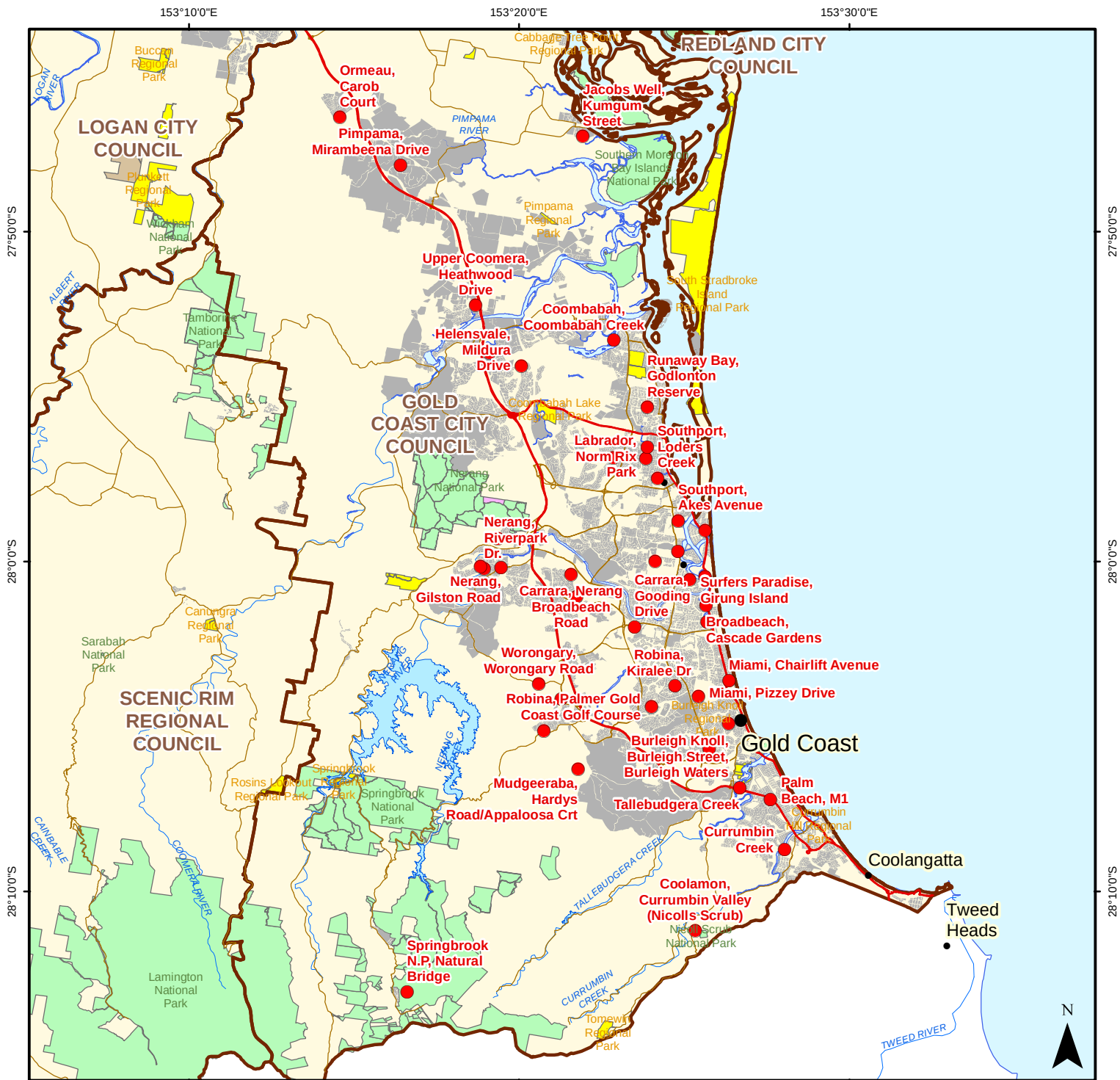
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and designating land for community infrastructure**

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Flying fox camps within Local Government Areas of Queensland

Map 2: Gold Coast City Council



Legend

- Flying fox camps (current on 10 Feb 16)
- Major urban centres
- Regional centres
- Roads
- Local government boundaries
- Urban areas
- Reservoirs
- Principal rivers

- Protected Areas of Queensland
- National Park
 - National Park (CYPAL)
 - Regional Park
 - Forest Reserve
 - State Forest
 - Timber Reserve

Disclaimer

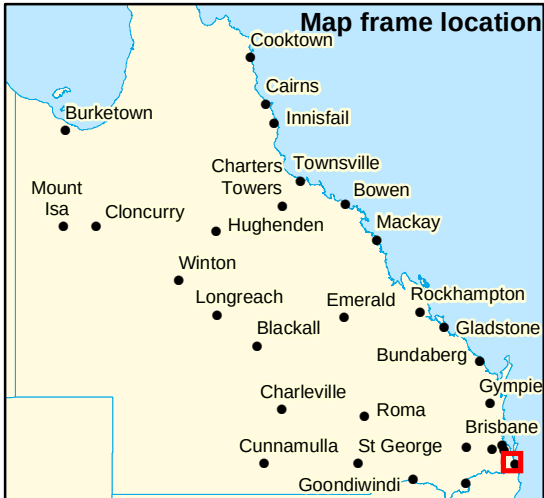
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Horizontal datum: GDA94
Projection: geographical coordinates



Queensland
Government



Fire Ant Biosecurity Zone 1		
Adare	Laidley Creek West	Mutdapilly
Anthony	Laidley Heights	Obum Obum
Blantyre	Laidley North	Peak Crossing
Blenheim	Laidley South	Plainland
Brightview	Lake Clarendon	Prenzlau
Calvert	Lawes	Radford
Coleyville	Limestone Ridges	Regency Downs
College View	Lockrose	Roadvale
Coolana	Lower Mount Walker	Rockside
Crowley Vale	Lower Tenthill	Ropeley
Fassifern	Lyndon	Rosevale
Forest Hill	Merryvale	Silverdale
Frazerview	Milbong	Summerholm
Gatton	Milora	Tarampa
Glen Cairn	Minden	Templin
Glenore Grove	Moorang	Teviotville
Grandchester	Morton Vale	Thornton
Harrisville	Mount Berryman	Townson
Hatton Vale	Mount Forbes	Upper Tenthill
Kalbar	Mount Morb	Warrill View
Kensington Grove	Mount Tarampa	Washpool
Kents Lagoon	Mount Walker	Wilsons Plains
Kentville	Mount Walker West	Woodlands
Kulgun	Mulgowie	Woolooman
Laidley	Munbilla	Woolshed

Fire Ant Biosecurity Zone 2			
Acacia Ridge	Eagleby	Manly	Sherwood
Alberton	East Brisbane	Manly West	Silkstone
Alexandra Hills	East Ipswich	Mansfield	Silverbank Ridge
Algester	Eastern Heights	Marburg	Sinnamon Park
Allenvew	Ebbw Vale	Marsden	Slacks Creek
Amberley	Ebenezer	Maudsland	South Brisbane
Annerley	Edens Landing	Meadowbrook	South Maclean
Anstead	Eight Mile Plains	Middle Park	South Ripley
Archerfield	Ellen Grove	Mitchelton	Southport
Arundel	Enoggera Reservoir	Moggill	Spring Mountain
Ascot	Fairfield	Molendinar	Springfield
Ashmore	Ferry Grove	Monarch Glen	Springfield Central
Ashwell	Fig Tree Pocket	Moorees Pocket	Springfield Lakes
Augustine Heights	Flagstone	Moorooca	Springwood
Bahrs Scrub	Flinders Lakes	Morningside	St Lucia
Balmoral	Flinders View	Mount Cool-tha	Stapylton
Bannockburn	Forest Lake	Mount Cotton	Steiglitz
Banyo	Forestdale	Mount Crosby	Stockleigh
Bardon	Galies	Mount Gravatt	Stones Corner
Barellan Point	Gaven	Mount Gravatt East	Stretton
Basin Pocket	Gaythorne	Mount Marrow	Sumner
Beauesert	Gilberton	Mount Nathan	Sunnybank
Beenleigh	Glamorgan Vale	Mount Ommaney	Sunnybank Hills
Belivah	Glensogle	Mount Warren Park	Surfers Paradise
Bellbird Park	Glenloggie	Muirlea	Swanbank
Bellbowrie	Goodna	Mundooolun	Tabragalla
Belmont	Goolman	Murrubun	Tallegalla
Berrinba	Greenville	Murrarie	Tamborine
Bethania	Greenbank	Nathan	Tamborine Mountain
Biggera Waters	Greenslopes	Nerang	Tanah Merah
Birkdale	Guanaba	New Beith	Taringa
Birnam	Gumdale	New Chum	Tarragindi
Blacksoil	Haigslea	New Farm	Tennyson
Blackstone	Hamilton	Newtown	Thagoona
Booval	Heathorne	Norman Park	The Bluff
Borallan	Heathwood	North Booval	The Gap
Boronia Heights	Helensvale	North Ipswich	Thorneside
Boydland	Hemmant	North Maclean	Thornlands
Brassall	Hendra	North Tivoli	Tingalpa
Brisbane Airport	Heritage Park	Norwell	Tivoli
Brisbane City	Hightgate Hill	Nudgee	Toowong
Bromelton	Hillcrest	Nudgee Beach	Underwood
Brookfield	Holland Park	One Mile	Undullah
Brookwater	Holland Park West	Ormeau	Upper Brookfield
Browns Plains	Hollywell	Ormeau Hills	Upper Coomera
Buccan	Holmview	Ormiston	Upper Kedron
Bulimba	Hope Island	Oxenford	Upper Mount Gravatt
Bundamba	Inala	Oxley	Veresdale
Burbank	Indooroopilly	Pacific Pines	Veresdale Scrub
Calamvale	Ipswich	Pallara	Vernor
Camira	Ironbank	Paradise Point	Victoria Point
Camp Hill	Jacobs Well	Park Ridge	Wacol
Cannon Hill	Jamboree Heights	Park Ridge South	Wakerley
Capalaba	Jeeroipilly	Parkinson	Walloon
Carbrook	Jimboomba	Parkwood	Wanora
Carina	Jindalee	Patrick Estate	Waterford
Carina Heights	Kagaru	Pimpama	Waterford West
Carindale	Kairabah	Pine Mountain	Wellington Point
Carole Park	Kangaroo Point	Pinjarra Hills	West End
Cedar Creek	Kararoo	Pinckenba	West Ipswich
Cedar Grove	Karana Downs	Pot Of Brisbane	Westlake
Cedar Vale	Karawatha	Priestdale	White Rock
Chambers Flat	Karrabin	Pullenvale	Willawong
Chandler	Kenmore	Purga	Willow Vale
Chapel Hill	Kenmore Hills	Raceview	Willowbank
Chelmer	Kepperra	Ransome	Windarou
Churchill	Kholo	Redbank	Wishart
Chuwar	Kingsholme	Redbank Plains	Wivenhoe Pocket
Clagiraba	Kingston	Redland Bay	Woffdene
Clarendon	Kuraby	Regents Park	Wongawallan
Cleveland	Labrador	Richlands	Wonglepong
Coalfalls	Lake Manchester	Rifle Range	Woodend
Collingwood Park	Lanefield	Ripley	Woodhill
Coombahbah	Larapinta	Riverbend	Woodridge
Coomera	Lark Hill	Riverhills	Woolloongabba
Coopers Plains	Leichhardt	Riverview	Woongoolba
Coorparoo	Logan Central	Robertson	Wulkuraka
Corinda	Logan Reserve	Rochedale	Wyaralong
Cornubia	Logan Village	Rochedale South	Wynnum
Crestmead	Loganholme	Rocklea	Wynnum West
Daisy Hill	Loganlea	Rosewood	Yamanto
Darra	Lota	Runaway Bay	Yarrabilba
Deebing Heights	Lowwood	Runcorn	Yatala
Dinmore	Luscombe	Sadliers Crossing	Yeerongilly
Doolandella	Lyons	Salisbury	Yeronga
Drewvale	Lytton	Seven Hills	
Durack	MacGregor	Seventeen Mile Rocks	
Dutton Park	MacKenzie	Shailer Park	
Eagle Farm	Main Beach	Sheldon	

National Red Imported Fire Ant Eradication Program: Fire Ant Biosecurity Zones

Fire Ant Biosecurity Zone Map as at 27 May 2020, 12:00 am

Legend:

- Fire Ant Biosecurity Zone 1 (Yellow)
- Fire Ant Biosecurity Zone 2 (Grey)
- Local Government Area (Red outline)
- Suburb (Black outline)

Scale: 0 to 10 km

Contact: Contact the Department of Agriculture and Fisheries for more information or request a biosecurity instrument permit at www.daf.qld.gov.au/fireants or call 13 25 23

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APPENDIX C

Local Zone Mapping

