COMMERCIAL IN CONFIDENCE
(whole report)

North Coast Environmental Services
Environmental Management Consultants

ECOLOGICAL ASSESSMENT REPORT v1

J001119

LOT 105 ON SP118458
62 LAKE MACDONALD DRIVE,
COOROY, QLD

FOR
NOOSA SHIRE COUNCIL
NOVEMBER 2022

PO Box 9566 Pacific Paradise QLD 4564
ABN 60 625 108 625

DOCUMENT CONTROL TABLE

Document: Ecological Assessment Report

Client: Noosa Shire Council

Project Number: J001119

Project: Future Development Application

Site: Lot 105 on SP118458
62 Lake MacDonald Drive, Cooroy, QLD

File Ref: C:\ CLIENTS\NOOSA COUNCIL\62 Lake Macdonald Dr, COOROY\04 REPORTING\Ecological Assessment Report v1 – 62 Lake MacDonald Dr, COOROY.docx

Version	Date	Distribution	Author/s	Approved
1	18/11/2022	Glen Conforti – Noosa Shire Council	J. Isaacs (B. Env Sc.) Environmental Scientist; Joshua Lee (B. Sc. AES) – Director / Principal Environmental Scientist	Joshua Lee (B. Sc. AES) – Director / Principal Environmental Scientist 

DISCLAIMER
To the extent permitted by law, North Coast Environmental Services (including its employees, partners and consultants) excludes all liability to any person for any consequences, including but not limited to all losses, damages, costs, expenses, and any other compensation, arising directly or indirectly, from using this publication (in part or whole) and any information or material contained in it.

EXECUTIVE SUMMARY

North Coast Environmental Services have been commissioned to prepare an Ecological Assessment Report for Lot 105 on SP118458, located at 62 Lake MacDonald Drive, Cooroy QLD (herein referred to as 'the site'). The report was requested to identify the environmental values of the site and to determine any constraints to the development potential of the site.

The outcomes of the environmental investigations identified the following:

- The site supports local level biodiversity values.
- The site is mapped within the Noosa Plan 2020 as containing an *Area of Biodiversity Significance* and *MSES Regulated Vegetation – Category R GBR riverine.*
- The site comprises cleared areas host to a scattering of native and exotic trees, a native Gympie messmate plantation, an exotic Slash Pine plantation and is flanked by native open forest along its southern boundary. An unmapped, vegetated 1st order stream was also identified adjacent to the eastern site boundary.

The application has been assessed against several assessment frameworks assuming a large scale development was to occur and determined to be compliant as follows:

- *Noosa Plan 2020,* Code 8.2.2 Biodiversity, Waterways and Wetlands – Compliant subject to avoiding impact to the non-mapped waterway and assuming it is agreed that the native hardwood plantation does not represent an *Ecologically Important Area*.
- *Vegetation Management Act 1999* and the associated *State Code 16 Native Vegetation Clearing* – No further assessment is required.
- *State Code 25 Development in South East Queensland koala habitat areas* – No further assessment is required.
- *Nature Conservation Act 1992* – Compliant provided the provision of;
    - A suitably qualified and experienced fauna spotter/catcher is present during all vegetation clearing onsite.
- *Environment Protection and Biodiversity Conservation Act 1999* – Referral is deemed unnecessary.
- *Fisheries Act 1994* – Compliant.

The following recommendations are set to reduce the environmental impact of the proposal and to secure DA approval:

- Appropriate erosion and sediment control works are conducted to mitigate the impact to the waterway during construction;
- A Fauna Management Plan is prepared for the future OPW application to manage the risk of impact to terrestrial fauna during civil works. The FMP includes a requirement for a suitably qualified and experienced fauna spotter catcher to be engaged to supervise vegetation clearing on the site;
- A Waterway Rehabilitation Plan is prepared to direct revegetation and weed control works within 10m of the top of bank of the waterway;
- A Native Tree Survey is prepared to identify the number of native trees required to be offset; and
- All future landscaping and revegetation work consists of suitable local native species (NOTE: revegetation design should consider tree fall risk and bushfire risk).

Contents

1 INTRODUCTION

1.1 Background

North Coast Environmental Services have been commissioned to prepare an Ecological Assessment Report for Lot 105 on SP118458 located at 62 Lake MacDonald Drive, Cooroy QLD (herein referred to as 'the site'). The report was requested to identify the environmental values of the site and to determine the suitability of a future Material Change of Use or Reconfiguration of A Lot development application to be submitted to Noosa Shire Council. The scope of works addressed in this report comprises:

- A desktop assessment of the potential ecological planning constraints acting on the site;
- A site inspection to 'ground truth' the results of the desktop findings;
- A flora and fauna habitat survey of the site;
- A discussion of the likely impacts associated with development of the site on the ecological resources identified through the desktop and field investigations;
- Analysis of compliance with relevant government environmental assessment frameworks; and
- Identification of suitable mitigation measures to minimise the environmental impacts of a proposed development and to assist in securing relevant development permits.

1.2 Development Proposal

It is understood the proponent seeks to develop the site for a future Material Change of Use or Reconfiguration of A Lot development application. A plan of development was not available at the time of assessment.

1.3 Site Description

The site covers approximately 3.5 ha and is located in the northern extent of the Cooroy area. The site currently supports a cleared pasture area with scattered mature trees in its northern extent and a slash pine plantation in its southern extent.

A concrete building pad was under construction at the time of inspection in the southwest corner of the site. No other infrastructure was present onsite.

Plate 1 depicts site conditions.

Plate 1 – Site Conditions (Source: Nearmap 2022)

1.4 Topography

The site is located on the northern and eastern face of a low hill which peaks adjacent to the south-west corner of the site.

The site reaches a topographic high of approximately 128m AHD about the southwest corner and declines towards the northern corner to a topographic low of 103m AHD and south-east corner to a low of 110m AHD. Side slopes range between 5-7 degrees.

No permanent waterbodies were observed on the site. A small 1st order stream commences in the east of the site via throughflow recharge and exits through the eastern boundary where it appears to enter the stormwater system and is piped through an easement down to Lake MacDonald Drive.

Plate 2 depicts the topographic conditions within and adjacent to the site.

Plate 2 – Site Topography (Source: NSC IntraMaps)

2 SURVEY METHODOLOGY

2.1 Desktop Assessment

The desktop assessment comprised an investigation of the previously mapped and recorded vegetation communities and species, as well as vegetation communities and species which have the potential to be present. The following resources were accessed during the desktop assessment:

- The Noosa Plan 2020 *Biodiversity, Waterways and Wetlands Overlay*;
- The Department of Resources (DoR) Vegetation Management Supporting Map;
- South East Queensland Koala Conservation Strategy, Koala Habitat mapping;
- The Department of Environment and Science's (DES) Wildlife Online database;
- The DES Protected Plants Flora Survey Trigger Area mapping;
- The Commonwealth Department of Agriculture, Water and the Environment's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool;
- The Department of Agriculture and Fisheries' Queensland Waterways for Waterway Barrier Works GIS layer;
- QLD Globes Hillshade Topography overlay mapping; and
- QLD Globes Rights and Interests (covenants) overlay mapping.

2.2 Field Survey

A field survey was undertaken on 10 November 2022 to verify the composition, extent and abundance of native plant species, vegetation communities and fauna habitat within the site. The field survey methodology comprised a walking meander through the site whilst observations were made of the *in-situ* vegetation species and habitat elements including adjoining vegetation and specific habitat features such as nests and tree hollows. The survey included a targeted search for the presence of any flora species listed under the *Nature Conservation Act 1992* (NC Act) and/or the EPBC Act.

3 DESKTOP ASSESSMENT RESULTS

3.1 General

The following sections detail the results of the desktop assessment undertaken for the site. A copy of the desktop search results is contained within Appendix 1.

3.2 The Noosa Plan 2020

3.2.1 Zone Precinct Mapping

The Zone mapping nominates the site within the Community Facilities Zone (refer to Plate 3). The allotment to the north of the site beyond Lake MacDonald Drive is zoned as Recreation and Open Space. An Environmental Management and Conservation zoned allotment is present to the southeast and east of the site.

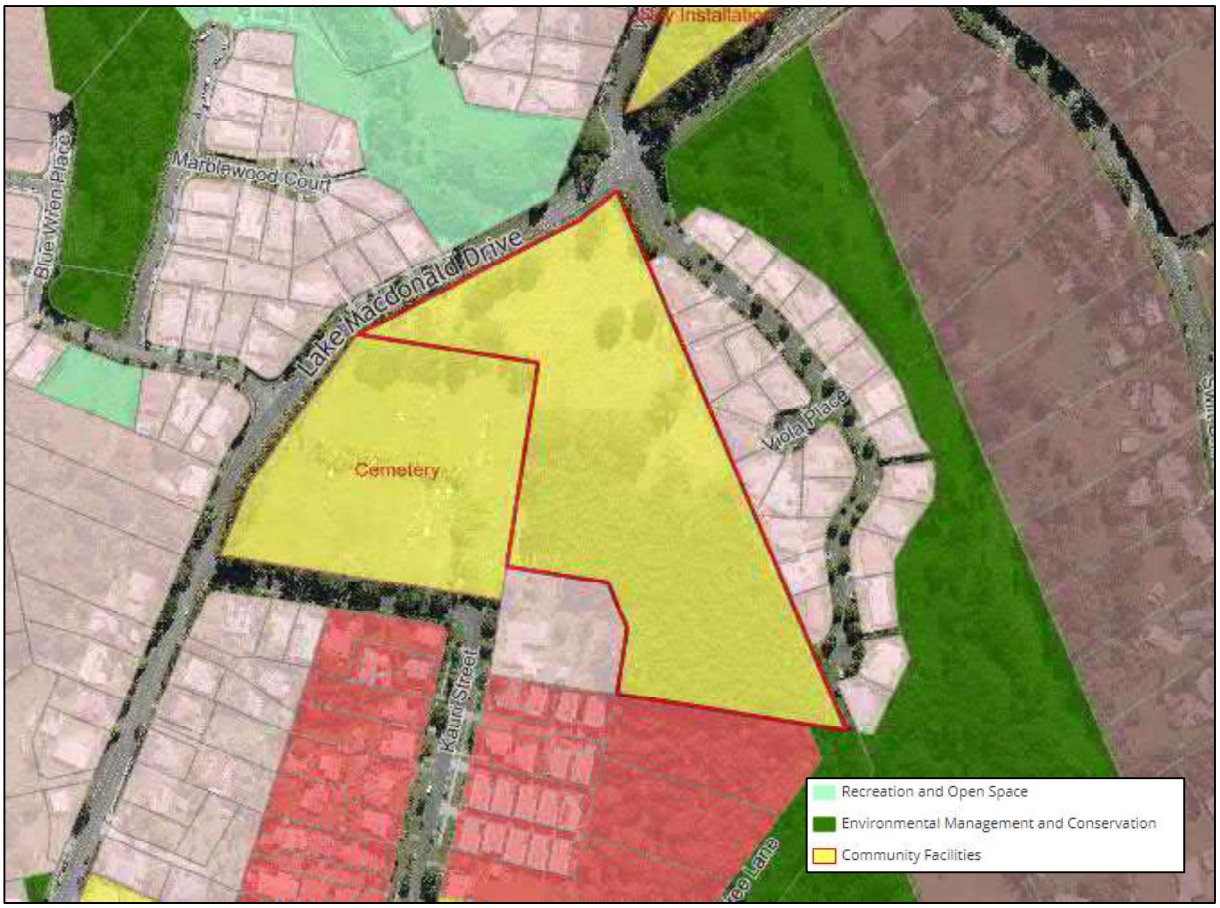


Plate 3 – *Noosa Planning Scheme 2020*'s Zone Mapping

3.2.2 Biodiversity, Waterways and Wetlands Mapping

The Biodiversity, Waterways and Wetlands overlay mapping layer depicts the presence of the following within the site (refer to Plate 4):

- *Area of Biodiversity significance;* and
- *MSES Regulated Vegetation – Category R GBR riverine* (far north corner).

Plate 4 – *Noosa Planning Scheme 2020*'s Biodiversity, Waterways and Wetlands mapping

3.3 The Department of Resources Regulated Vegetation Management Supporting Map

The Department of Resources Vegetation Management Supporting Map identifies that regulated vegetation is mapped within the site (refer to Plate 5). The regulated vegetation contains the following regional ecosystems (RE):

- Category R RE 12.11.10, described as the 'least concern' *Notophyll vine forest +/- Araucaria cunninghamii* on metamorphics +/- interbedded volcanics (0.07ha area);
- Category R RE 12.11.2, described as the 'least concern' *Eucalyptus saligna or E. grandis, E. microcorys, Lophostemon confertus* tall open forest on metamorphics +/- interbedded volcanics (0.01ha area);
- Category R RE 12.9-10.1, described as the 'of concern' Tall open forest often with *Eucalyptus resinifera, E. grandis, E. robusta and Corymbia intermedia* on sedimentary rocks, usually coastal (0.03ha area); and
- Category R RE 12.9-10.16, described as the 'of concern' Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments (0.01ha area).

A stream order 1 waterway is mapped offsite to the north, east, and west of the site

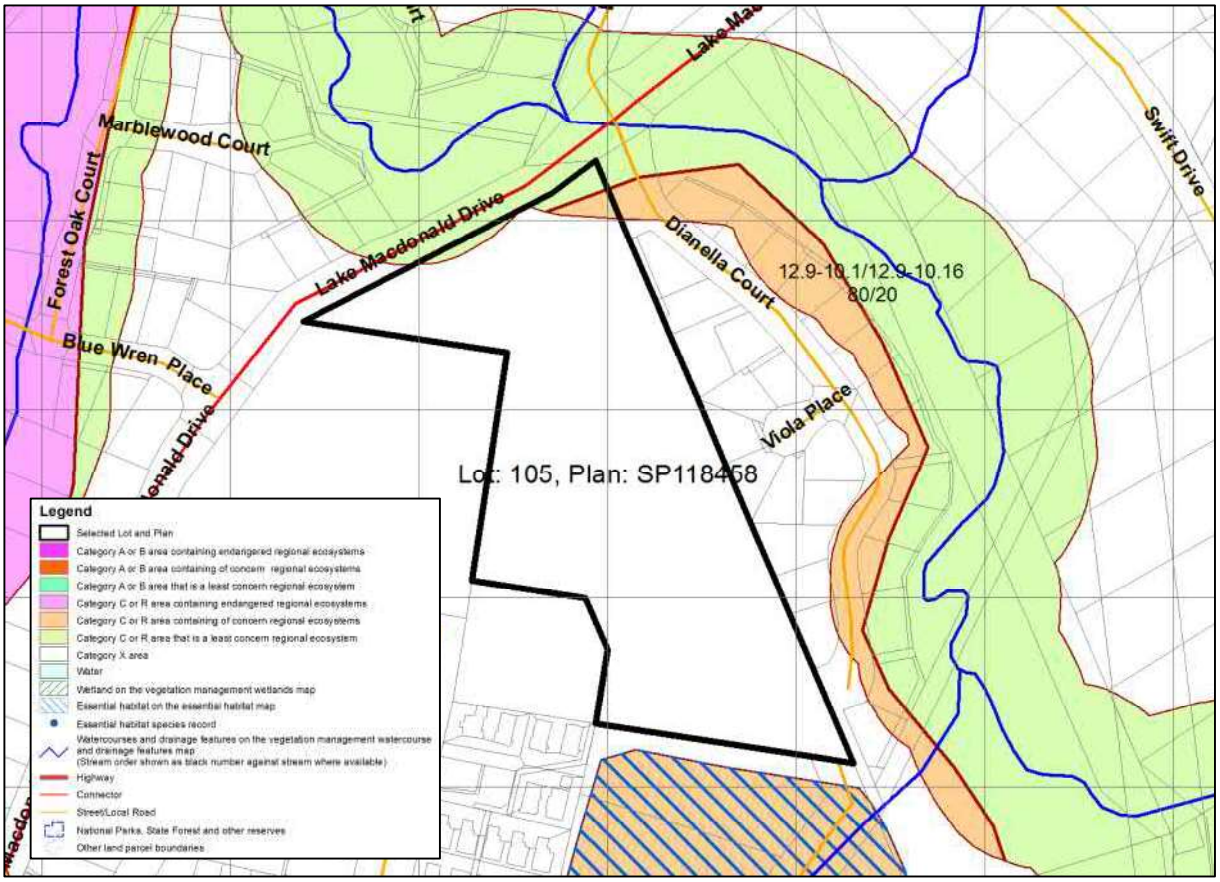


Plate 5 – Vegetation Management Supporting Map (Source: DoR)

3.4 South East Queensland Koala Conservation Strategy – Koala habitat mapping

The South East Queensland Koala Conservation Strategy mapping administered by DES identifies the site is located outside of a Koala Priority Area and contains no Koala Habitat Area (core or locally refined) (refer Plate 6).

Plate 6 – Koala Habitat Area mapping (Source: DoR)

3.5 Wildlife Online database

The Wildlife Online database was queried in November 2022 using a 2km search radius. The database identifies 275 previously recorded flora and fauna species within a 2km radius of the site, comprised of the following:

- 10 amphibian species;
- 159 bird species;
- 2 insect species;
- 6 mammal species;
- 4 ray-finned fish species;
- 4 reptile species;
- 1 Agaricomycetes (fungi) species; and
- 89 flora species.

In addition to several 'special least concern' species, the following conservation significant flora and fauna species have been recorded within the 2km search extent:

Fauna

- *Adelotus brevis* (tusked frog) – listed as 'vulnerable' under the NC Act;
- *Erythrotriorchis radiatus* (red goshawk) – listed as 'endangered' under the NC Act and 'vulnerable' under the EPBC Act;
- *Hirundapus caudacutus* (white-throated needletail) – listed as 'vulnerable' under the NC Act and EPBC Act;
- *Litoria pearsoniana* (cascade tree frog) – listed as 'vulnerable' under the NC Act;
- *Mixophyes iteratus* (giant barred frog) – listed as 'vulnerable' under the NC Act and the EPBC Act; and
- *Phascolarctos cinereus* (koala) – listed as 'endangered' under the NC Act and EPBC Act.

Flora

- *Rhodomytrus psidioides* (native guava) – listed as 'critically endangered' under the NC Act and EPBC Act; and
- *Symplocos harroldii* (hairy hazelwood) – listed as 'near threatened' under the NC Act.

3.6 Protected Plants Flora Survey Trigger Map

The Protected Plants Flora Survey Trigger Map identifies that the vegetation areas onsite are not mapped within a 'high risk area' prescribed under the *Nature Conservation (Plants) Regulation 2020* (refer to Plate 8).

Plate 8 – Protected Plants Flora Survey Trigger Map (Source: DoR)

3.7 The Queensland Waterways for Waterway Barrier Works

The Queensland Waterways for Waterway Barrier Works GIS layer indicates that a Low – green waterway is mapped within the northern corner of the site (refer to Plate 9).

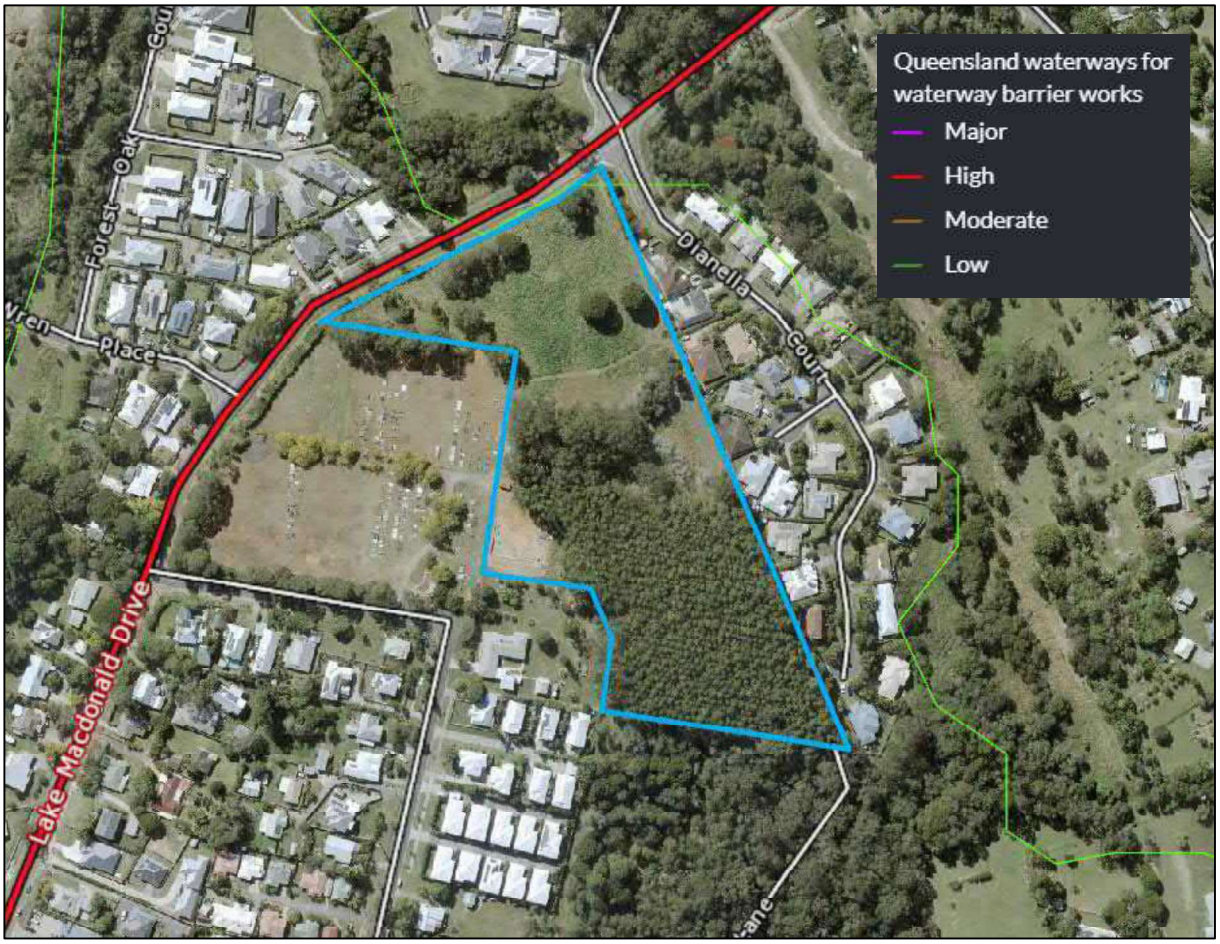


Plate 9 – Queensland Waterways for Waterway Barrier Works GIS layer (Source: QLD Globe)

3.8 EPBC Act Protected Matters Search Tool

The EPBC Act Protected Matters Search Tool was queried in November 2022 using a 2km search radius. The Search uses bio-climatic modelling to predict where protected matters may be present in an area and therefore does not necessarily indicate the actual recorded presence of protected matters.

The Search Result identified that the following Matters of National Environmental Significance (MNES) have the potential to be present within a 2km radius of the site (refer to Appendix 2):

- The 'endangered' Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions TEC;
- The 'endangered' Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland TEC;
- The 'Critically Endangered' Lowland Rainforest of Subtropical Australia TEC;
- 19 listed threatened flora;
- 35 fauna species; and
- Marine, terrestrial and wetland migratory bird species.

3.9 QLD Globe Hillshade Topography Overlay Map

The Queensland Globe's Hillshade Traditional overlay identifies the variance in onsite topography and highlights the defined bed and banks of the unmapped waterway in the eastern site extent. It also clearly shows the mapped Low green waterway on the Queensland Waterways for Waterway Barrier Works GIS layer is located off-site to the north of Lake MacDonald Drive (refer to Plate 10).

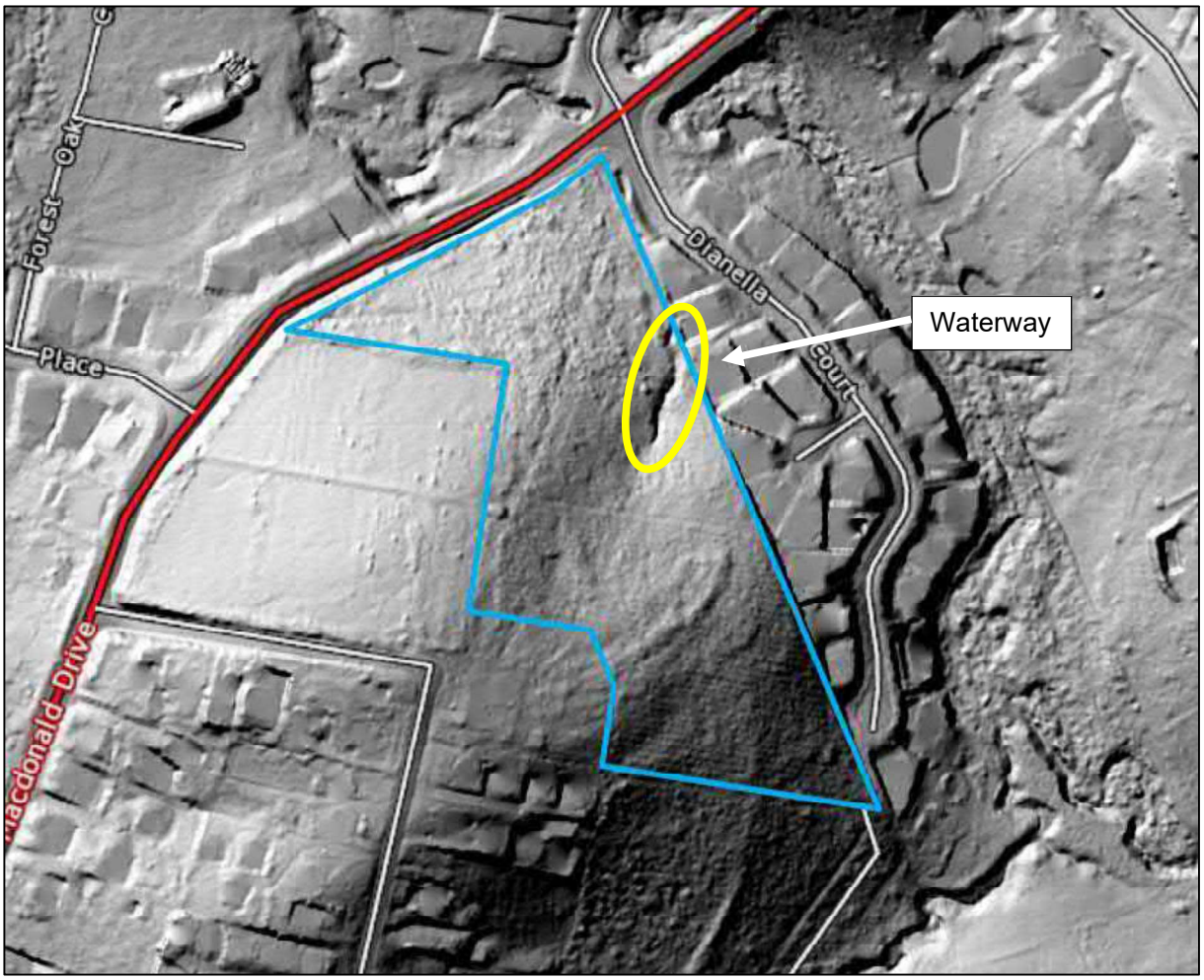


Plate 10 – Hillshade Traditional Topography Overlay (Source: QLD Globe)

3.10 Surrounding Habitat and Connectivity

Aerial imagery was reviewed to assess the extent of vegetation/habitat surrounding the site which has the potential to facilitate dispersal opportunities for flora and terrestrial fauna species (refer to Plate 11 with Vegetation Protection Covenants highlighted in red).

The onsite vegetation (native and exotic plantation) has direct connectivity with adjacent bushland to the south which generally comprises open forest with rainforest understorey. These bushland areas combine to form a dominant vegetation patch in the local area. The local landscape has been heavily urbanized leaving only riparian corridors remaining in the area. A creek corridor is present to the north, southeast, and east of the site and forms the only north south corridor in the local landscape. Lake MacDonald Drive dissects this corridor posing a significant barrier to terrestrial fauna movement along the corridor (refer yellow circle Plate 11).

Johnson Park; a large vegetation patch; is present to the west of the site however cleared residential areas, Elm Street and North Coast/Sunshine Coast train line dissect any viable terrestrial and arboreal dispersal opportunities to this bushland unit.

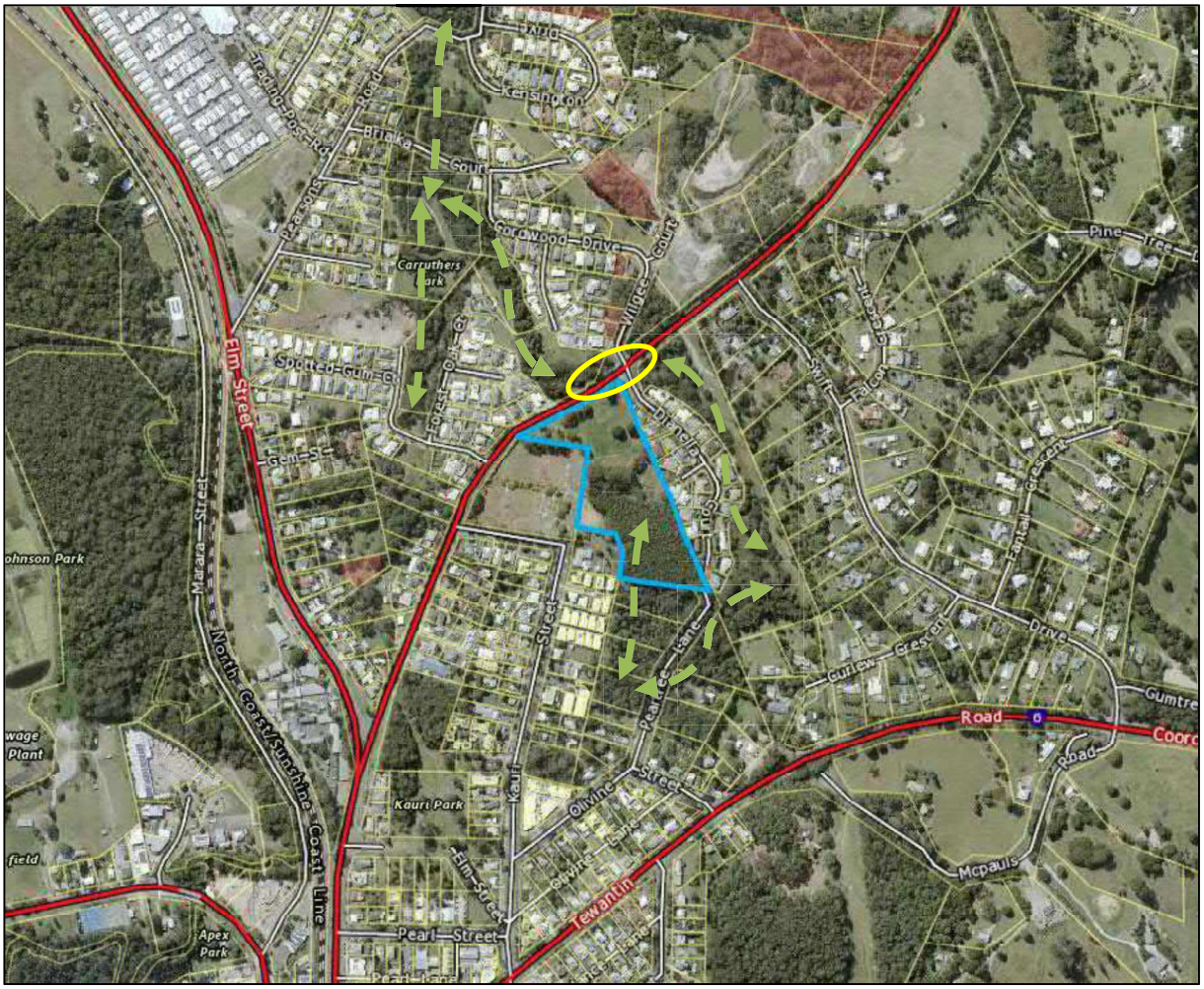


Plate 11 – Surrounding habitat and connectivity (Image source: QLD Globe)

4 FIELD SURVEY RESULTS

4.1 General

The following sections detail the findings of the field surveys undertaken in November 2022, as per the methodology described in Section 2.2.

4.2 Conservation Significant Flora Species and Ecological Communities

No flora species and or ecological communities listed under the NC Act or the EPBC Act were observed during the site inspection. All species and ecological communities are considered common throughout the local landscape.

4.3 Vegetation Communities

Four dominant vegetation communities were identified within and adjacent to the site:

- Vegetation Community 1 (VC 1) – Grassland area with low density of mature trees;
- Vegetation Community 2 (VC 2) – Native hardwood plantation with regrowth understorey;
- Vegetation Community 3 (VC 3) – Slash pine plantation with weed dominated understorey; and
- Vegetation Community 4 (VC 4) – Open eucalypt forest with rainforest understorey.

The distribution of the vegetation communities is shown in Figure 1 with a description of each community presented thereafter.

LEGEND

- THE SITE
  Lot 105 on SP118458
- Vegetation Community 1 - VC1
  Grassland area with low denisty of mature trees
- Vegetation Community 2 - VC2
  Native hardwood plantation with regrowth understorey
- Vegetation Community 3 - VC3
  Slash pine plantation with weed dominated understorey
- Vegetation Community 4 - VC4
  Open Eucalypt forest with rainforest understorey
- Indicative waterway alignment

0 10 20 30 40 50 100 Metres
(A3) 1:1600

North Coast Environmental Services
Environmental Management Consultants
PO Box 9566 Pacific Paradise, Qld. 4564
P: 07 5450 5984
ABN: 60 625 108 625

PROJECT TITLE: ENVIRONMENTAL ASSESSMENT REPORT
62 LAKE MACDONALD DRIVE, COOROY

CLIENT: NOOSA SHIRE COUCNIL

ISSUE	DETAILS	DATE	INIT	CHK'D
A	PRELIMINARY	16-11-2022	JI	JL

TITLE: FIGURE 1 - VEGETATION COMMUNITIES

JOB: J001119 PLAN: VC01 REV: A
SCALE: 1:1600 @ A3
NORTH:

4.3.1 Vegetation Community 1 – Grassland area with low density of mature trees

VC1 dominates the northern site extent and is characterised by periodically slashed grassland with scattered native and exotic native trees. The vegetation community exhibits canopy height range of 15-30m.

Mature tree species present included *Cinnamomum camphora* (camphor laurel), *Pinus elliotii* (slash pine), *Acacia melanoxylon* (blackwood), *Lophostemon confertus* (brushbox), and *Corymbia intermedia* (pink bloodwood).

A windbreak was present in the western site extent dominated by *Corymbia intermedia* (pink bloodwood) but also contained *Lophostemon confertus* (brushbox), *Pinus elliotii* (slash pine), and *Cinnamomum camphora* (camphor laurel).

A constructed building pad was present in the south-western corner of the site. It was assumed this was for a maintenance shed associated with the cemetery (refer Plate 13 left).

A narrow linear tract of vegetation lined a 1st order stream adjacent to the eastern site boundary (refer Plate 13 right). The canopy was dominated by *Cinnamomum camphora* (camphor laurel) but also contained *Acacia spp., Lophostemon suaveolens* (swamp box), and *Corymbia intermedia* (pink bloodwood). The understorey was sparse due to low light conditions and leaf fallout but where present was most commonly dominated by *Pteridium esculentum* (hard bracken fern) and grasses.

The identified waterway and its asscoiated vegetation lining the waterway (refer VC01 cyan linework) is considered an *Ecologically Important Area* by definition under the NC Planning Scheme. The remaining area of VC1 (i.e., the bul of the unit) is not considered representative of an *Ecologically Important Area* and is not mapped as an *Area of Biodiversity Significance* under the Planning Scheme.

Plate 12 depicts typical vegetation within VC1.

Plate 12 – VC1 – Grassland area with low density of mature trees (windbreak right)

Plate 13 – VC1 – Constructed building pad (left) & drainage line vegetation (right)

4.3.2 Vegetation Community 2 – Native hardwood plantation with regrowth understorey

VC2 is present in a single unit within the central site extent and is characterised by a native hardwood plantation with regrowth understorey. The vegetation community exhibits an average canopy height range of 30m.

The canopy was dominated by *Eucalyptus cloeziana* (Gympie messmate) planted in rows. The mid-storey and understorey is clearly subject to intermittent clearing. The mid-storey contained *Cinnamomum camphora* (camphor laurel), *Acacia melanoxylon* (blackwood), *Alphitonia excelsa* (soap tree), *Heptapleurum actinophyllum* (umbrella tree), *Glochidion ferdinandi* (cheese tree), *Cupaniopsis anacardioides* (tuckeroo), and *Homalanthus populifolius* (bleeding heart) to approximately 2-3m height.

The understorey showed evidence of previous slashing. Common species present included *Pteridium esculentum* (hard bracken fern), *Bidens Pilosa* (Cobbler's pegs), and *Desmodium uncinatum* (silver leaf desmodium) and several exotic grass species as well as *Imperata cylindrica* (blady grass).

The VC2 plantation contains a native canopy however its planted structure, managed mid canopy and understory and general lack of flora diversity indicates it would not be an *Ecologically Important Area* under the NC Planning Scheme.

Plate 14 depicts typical vegetation within VC2.

Plate 14 – VC2 – Native hardwood plantation with regrowth understorey

4.3.3 Vegetation Community 3 – Slash pine plantation with weed dominated understorey

VC3 dominates the southern site extent and is characterised by a slash pine plantation with weed dominated understorey. The vegetation community exhibits an average canopy height of approximately 28-30m.

The canopy contained a monoculture of *Pinus elliotii* (slash pine). The mid-storey contained juvenile *Cinnamomum camphora* (camphor laurel), *Alphitonia excelsa* (soap tree), and *Cupaniopsis anacardioides* (tuckeroo).

The understorey was dominated by *Lantana camara* (lantana) but also contained *Ochna serrulata* (ochna), *Senna pendula var. glabrata* (Easter cassia), *Passiflora spp., Ipomoea cairica* (morning glory), *Ardisia crenata* (coral berry), and *Pteridium esculentum* (hard bracken fern).

VC3 is not considered representative of an *Ecologically Important Area* under the NC Planning Scheme nor a native vegetation community. Plate 15 depicts typical vegetation within VC3.

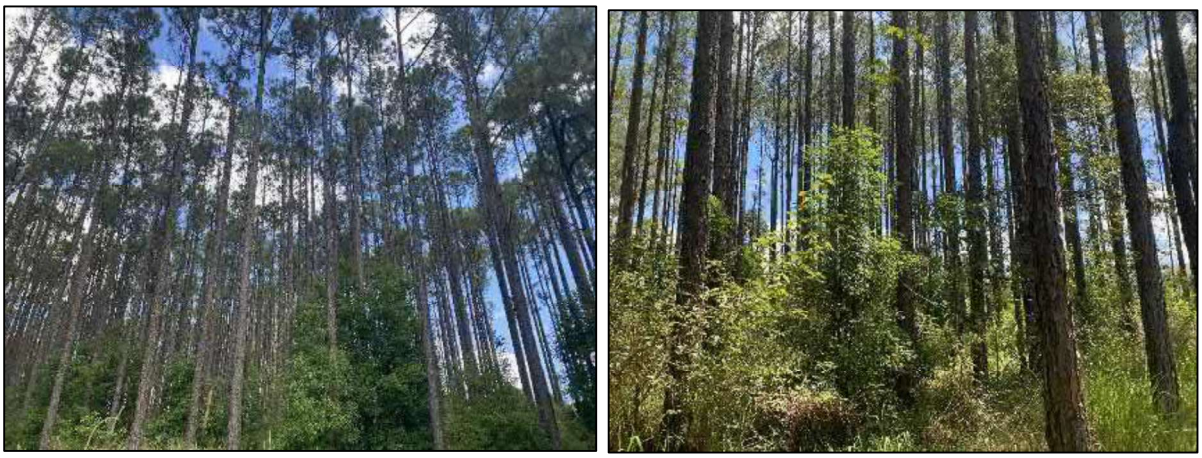


Plate 15 – VC3 – Slash pine plantation with weed dominated understorey

4.3.4 Vegetation Community 4 – Open eucalypt forest with rainforest understorey

VC4 is located entirely offsite to the immediate south and is characterised by an open eucalypt forest with rainforest understorey. The vegetation community exhibits an average canopy height of 25-28m grading to lower heights and an increased dominance of rainforest species adjacent the south-west corner of the site .

The canopy was dominated by *Cinnamomum camphora* (camphor laurel), *Acacia melanoxylon* (blackwood), *Lophostemon confertus* (brushbox), *Lophostemon suaveolens* (swamp box) but also contained *Eucalyptus grandis* (flooded gum) and Elaeocarpus grandis (Blue Quandong).

The mid-storey contained rainforest emergents such as *Archontophoenix cunninghamiana* (bangalow palm), *Diploglottis australis* (native tamarind), and *Heptapleurum actinophyllum* (umbrella tree).

The understorey contained grasses, *Pteridium esculentum* (hard bracken fern), and *Parsonsia straminea* (monkey rope) but also contained a low density of *Ochna serrulata* (ochna).

VC4 is considered representative of an *Ecologically Important Area* under the NC Planning Scheme. Plate 16 depicts typical vegetation within VC4.

Plate 16 – VC4 – Open eucalypt forest with rainforest understorey

4.4 Fauna

4.4.1 Fauna Habitat Values

The observed habitat within and adjacent to the site includes open Eucalypt forest, timber plantation and open grassy areas, all of which exhibit potential to provide suitable habitat for numerous fauna species.

A specific fauna survey of the site was not undertaken as part of the scope of works and would be required to confirm the specific fauna species utilising the site's habitat. Nonetheless, inferences about the composition of the local fauna assemblage can be drawn from local knowledge, site conditions and database search results.

Vegetated areas of the site contain a variety of fauna habitat types and exhibit direct connectivity with offsite vegetation areas to the south. These areas have the potential to offer fauna species the following habitat opportunities:

- Open canopy and mid-canopy nesting sites and perches which may be used by birds and arboreal mammals;
- Fallen logs and dead trees with exfoliating bark;
- A mix of vegetation communities which provides a wide range of foraging and breeding opportunities;
- Flower pollen from the mix of canopy and mid-strata species may provide a food source for nectivorous species including possums, gliders, flying foxes and birds;
- Scattered Koala food trees that may provide a food, breeding and resting resource for koalas;
- Sun exposed areas below canopy gaps and on forest fringes may be suitable habitat for exothermic reptiles such as snakes, skinks, small lizards and possibly larger reptiles such as lace monitors;
- Areas of light to heavy leaf litter have the potential to host small reptiles, amphibious species and may provide breeding opportunities for brush turkeys;
- Grass and sedge groundcovers (native and exotic) have the potential to provide shelter and movement pathways for small terrestrial mammals as well as foraging and resting areas for larger macropods; and
- An ephemeral waterway with the potential to host freshwater crustacean and amphibian species during periods of flow.

No other conservation significant fauna species were incidentally observed during the site investigation. Should such species be present it is anticipated they would inhabit the intact bushland areas about the site peripheries rather than the cleared open space areas in the central and northern site extents.

At least 1 arboreal termatia nest was observed within a mature *Corymbia intermedia* (pink bloodwood) amongst the northern boundary vegetation within VC1.

The site does not support estuarine areas hence is only likely to support freshwater aquatic species within its waterbodies.

4.4.2 Habitat for Previously Recorded Conservation Significant Fauna

Table 1 identifies the conservation significant fauna species which have been previously recorded within a 2km radius of the site on Wildlife Online for which the site offers suitable habitat.

Table 1 – Habitat value for previously recorded conservation significant fauna species

Previously Recorded Fauna Species	Preferred Habitat	Habitat Value within the Site
Adelotus brevis (tusked frog) – listed as 'vulnerable' under the NC Act	Inhabits wet eucalypt forest, rainforest, and sometimes dry eucalypt forest, where it can be found in close proximity to suitable breeding habitat such as ponds and slow-moving sections of streams). Also recorded from dams and garden ponds in urban and peri-urban areas (Queensland Government 2019).	Potential habitat within the ephemeral waterway during periods of flow, however, unlikely to occur otherwise.
Erythrotriorchis radiatus (red goshawk) – listed as 'endangered' under the NC Act and 'vulnerable' under the EPBC Act	Occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia (Marchant & Higgins 1993).	Potential foraging within VC1 & VC2 onsite.
Hirundapus caudacutus (white-throated needletail) – listed as 'vulnerable' under the NC Act and EPBC Act	A migratory aerial bird which winters in Australia. It forages on flying insects in forests shrublands and grasslands on the east and north coast of Australia and roosts in trees (DES, 2020).	Potential habitat within the site, however, would not be considered important to the species.
Litoria pearsoniana (cascade tree frog) – listed as 'vulnerable' under the NC Act;	Inhabits flowing creeks in rainforests and wet sclerophyll forests in highland and coastal areas (Atlas of Living Australia, 2020)	No suitable habitat on site. VC4 off-site to south represents potential suitable habitat.
Mixophyes iteratus (giant barred frog) - listed as 'endangered' under the NC Act and EPBC Act;	The Giant Barred Frog occurs in rainforests and wet sclerophyll forests in upper to lower catchment areas (Ingram & McDonald 1993)	Potential habitat within the offsite VC4 extent where waterways occur.
Phascolarctos cinereus (koala) – listed as 'endangered' under the NC Act and EPBC Act	Forest and woodlands with a dominance of koala food trees.	Foraging and breeding within low density of Eucalypt trees onsite.

The field investigations did not incidentally identify the presence of any conservation significant fauna species previously recorded on Wildlife Online and identified in Table 1.

5 DEVELOPMENT IMPACTS AND MITIGATION

This assessment assumed Noosa Shire Council is looking to develop the entire site.

5.1 Flora and Vegetation Communities

5.1.1 Impacts

5.1.1.1 Native Vegetation

No impacts to natural bushland areas are expected to arise as a result of the development of the site. The proposal will impact scattered native vegetation contained across the site.

No impacts to any conservation significant flora species or ecological communities listed under the Nature Conservation Act and/ or the EPBC Act is expected to occur. No impact to any remnant regional ecosystems or high value regrowth regional ecosystems protected under the Vegetation Management Act would occur, noting the mapped Category C high value regrowth vegetation in the far north of the site comprises a single isolated tree hence is considered a component of a mapping error.

Development of the southern site extent has potential to impact the tree protection zone (TPZ) and structural rootzone (SRZ) of the offsite identified *Ecologically Important Area*. A cleared fire break trail to approximately 4m width was present offsite adjacent to the boundary hence only minor additional separation would be necessary to avoid impacts to either the TPZ and or SRZ of the adjacent trees (refer Plate 17).

Plate 17 – Cleared fire break separating the offsite bushland from the site (red line = approx. site boundary)

5.1.2 Mitigation Measures

The impacts to native vegetation onsite can be mitigated via a compensatory offsite to be prepared in accordance with the QLD Environmental Offsets Act 2014. A native tree survey will be required to

identify the number of native trees onsite required to be offset noting most are located along the property boundaries. Discussions should be held with NSC regarding excluding the native hardwood plantation from any offset calculation.

The future development design can include an open space area along the southern site boundary comprised of either road or park to separate future housing from the offsite bushland area to the south. The siting of building envelopes in close proximity to the southern boundary should be avoided to mitigate the risk of storm damage risk to new housing and complaints of risk from future owners.

Bushfire setback requirements will need to be further investigated to ensure appropriate setbacks are available to future dwellings (i.e., Bushfire Hazard Assessment & Management Plan to accompany future DA) to satisfy the Council Bushfire Hazard Overlay Code and the SPP Bushfire 2019 setback requirement (i.e., <29kW/m² radiant heat flux exposure for non-vulnerable uses and <10kW/m² radiant heat flux exposure for vulnerable uses).

5.2 Fauna

5.2.1 Impacts

The impacts to fauna species anticipated as a result of the development are anticipated to and primarily relate to the development of the existing modified area and pine & hardwood plantations.

Potential impacts to fauna comprise:

- Loss of breeding and foraging habitat;
- Reduced nocturnal habitat/foraging suitability via introduction of artificial lighting of external buildings environs;
- Injury or death of fauna during vegetation clearing; and
- Potential negative impact to onsite waterway via comprehensive earthworks associated with the development.

5.2.2 Mitigation Measures

The impact of the proposed development to fauna is proposed to be mitigated/minimised by:

- Providing a suitable buffer to the open forest habitat adjacent to the southern boundary;
- A compensatory offset for impacts to native vegetation;
- Appropriate erosion and sediment control works to mitigate any significant impacts to the open forest habitat adjacent to the southern boundary and the onsite waterway (if it is to be retained) ; and
- A Fauna Management Plan is prepared for the future OPW application to manage the risk of impact to terrestrial fauna during civil works. The FMP includes a requirement for a suitably qualified and experienced fauna spotter catcher to be engaged to supervise vegetation clearing on the site.

5.3 Waterways

5.3.1 Impacts

An ephemeral waterway flowing north is present in the eastern site extent. Its source comprises subsurface throughflow being discharged through a cutting in the slope, or possibly a spring (refer Plate 18 & VC01 cyan linework). The waterway has a total length of approximately 60m and include a barrier in the form of a vehicular crossing of its northern extent adjacent to the eastern boundary. The waterway exits the site into a NSC designated easement which tracks the western boundary of the adjacent residual lots before entering the Dianella Court stormwater system.

Development may result in clearing and filling of the waterway or, where retained, it has the potential to impact the waterway's function, quality, and extent.

The waterway is not mapped on the NC Biodiversity, Waterways, and Wetlands Overlay mapping hence it could potentially be infilled subject to Council approval.

Further investigation is recommended to verify the source of the waterflow to ensure filling of a possible spring does not occur that leads to issues post development. It is noted Council has historically been protective of all waterways mapped and non-mapped.

Plate 18 – Waterway conditions

5.3.2 Mitigation Measures

The impact to the waterway can be mitigated/minimised by:

- Retaining the waterway and excluding all development within 10m of the top of bank of the waterway; and
- Appropriate erosion and sediment control works to mitigate any significant impacts to the waterway; and
- A Waterway Rehabilitation Plan is developed to reinstate a native vegetation buffer (10m from centreline) along the waterway to manage water quality and provide riparian habitat for local flora and fauna (NOTE: revegetation design should consider tree fall risk and bushfire risk);
- Or;
- A compensatory offsite is provided to ensure no net loss of vegetation arises associated with the waterway.

6 LEGISLATION AND OVERLAYS

6.1 Local Government

6.1.1 Noosa Council Planning Scheme 2020 – Biodiversity Overlay

Table 2 describes the proposal's compliance with the Performance Outcomes and associated Acceptable Outcomes of the Code as detailed in Part 8 Overlays, Table 8.2.2.3 of the Noosa Plan 2020. Overall, comprehensive development of the site appears achievable subject to provision of a suitable separation buffer to the southerly adjacent vegetation unit, resolution of the requirement to retain the unmapped waterway in the east of the site, and provision of a compensatory biodiversity offset for the clearing of scattered native vegetation on the site.

TABLE 2 – BIODIVERSITY, WATERWAYS AND WETLANDS OVERLAY CODE TABLE 8.2.2.3- CRITERIA FOR ASSESSABLE DEVELOPMENT

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	PROPOSAL COMPLIANCE SUMMARY
Ecologically Important Areas		
PO1 Development is sited and designed to protect the physical and ecological integrity and biodiversity of ecologically important areas through protection of: a) existing habitat areas and ecological linkages; and **b)** existing riparian vegetation, waterways and wetland habitat values	**AO1.1** Ecologically important areas are conserved or improved to ensure their ongoing contribution to the natural resources and biological diversity of Noosa Shire. **AND** **AO1.2** Buildings, structures and associated works are located within existing cleared areas or areas of lowest ecological value. **AND** **AO1.3** Where constructing a dwelling house or community residence, buildings and associated structures are not located on land identified as an area of biodiversity significance on a Biodiversity, Waterways and Wetlands Overlay Map. or Clearing vegetation (other than for a driveway access) does not extend beyond— • 30 metres of a habitable building or 10 metres of a class 10 structure on lots greater than 10 hectares; or • 10 metres of a habitable building or class 10 structure on lots 10 hectares or less but more than 3,000m2; or • 3 metres of a habitable building or class 10 structure on lots 3,000m2 or less. **AND** **AO1.4** Clearing of vegetation for a boundary fence does not extend beyond 5 metres either side of the fence.	**AO1.1** The only identified *Ecologically Important Areas* comprise the unmapped 1st order waterway in the east of the site and the open forest located off-site beyond the southern site boundary. Development which avoids these areas can satisfy AO1.1 **AO1.2** The majority of the site exhibits low ecological value. Where possible the development should avoid the identified *Ecologically Important Area* onsite waterway. **AO1.3** The area onsite identified as an Area of Biodiversity Significance on the NC Biodiversity, Waterways and Wetlands Overlay Map captures native and exotic plantations which could reasonably be argued to not represent Areas of Biodiversity Significance. **A01.4** The only identified *Ecologically Important Areas* comprise the unmapped 1st order waterway in the east of the site and the open forest located off-site beyond the southern site boundary. Development which avoids these areas can satisfy AO1.4/ PO1 .
Reconfiguring of a lot		
PO2 New lots are only created if they maintain ecological linkages and minimise the clearing of vegetation.	**AO2** Where clearing vegetation for the purpose of Reconfiguring a Lot— a) new boundaries to lots do not transect and fragment existing native vegetation; b) new lots are created to allow for suitable building envelopes for future buildings and works to be located within existing cleared areas or areas of low ecological value; c) building envelopes are designated for each lot; and d) ecological linkages and ecologically important areas are secured by environmental covenant or transferred to public ownership or through gazettal of a nature reserve.	**AO2** a) No native bushland is present on site. The future development proposal should avoid locating boundaries through the waterway or associated vegetated buffer. b) The future development proposal should avoid development within the waterway and associated vegetated buffer and directly adjacent to the southern site boundary to avoid potential impact to the offsite *Ecologically Important Area.* c) It's assumed the future development proposal will satisfy AO2c. d)It's assumed the future development proposal can satisfy AO2d by designating the retained waterway and associated 10m vegetated buffer within a covenant, easement, reserve or roadside corridor.
Management of Impacts		
PO3 Development is designed and sited to manage adverse impacts on ecologically important areas by: a) minimising the total footprint within which all activities, buildings, structures driveways and other works are contained; b) locating development in existing cleared areas or areas of low ecological value over other areas to the greatest extent possible; and c) incorporating siting and design measures to protect and retain ecological values and ecosystem processes within or adjacent to the development site; and d) where adverse impacts have been minimised, any residual impacts on ecological values are compensated for through suitable	**AO3.1** Where clearing of vegetation cannot be practicably avoided, the development: a) ensures the design and siting limits the loss of vegetation to the smallest extent possible; b) protects and retains ecological values and ecosystem processes to the greatest extent possible within and adjacent to the site; c) provides measures to allow for safe movement of fauna through the site; and d) provides suitable habitat replacement and replanting in accordance with PSP3 Ecological Assessment Guidelines.	**AO3.1 –** Clearing of vegetation cannot be practicably avoided however has been highly minimised. a) The expected impact of the proposal has been located outside of natural bushland areas and away from the identified *Ecologically Important Area* onsite. b) All of the identified *Ecologically Important Areas* will be retained (assuming waterway is retained). c) The proposed development will introduce new barriers to fauna movement through the site, however, as the site contains no natural bushland areas it is not expected to act as a significant movement corridor. If required, a vegetated buffer could be provided through the site connecting the offsite vegetation area to the south with vegetated areas to the north of the site. An understanding of

habitat replacement and replanting on site in the first instance or in a way that results in a net gain and enhancement of the overall habitat values of Noosa Shire.	**AO3.2** Habitat trees, recruitment habitat trees, and roosting, breeding and feeding areas are protected for native fauna habitat.	the likely future clearing impacts in the lots to the south of the site should inform any such decision. d) The impacts to native vegetation onsite can be mitigated via a compensatory offsite to be prepared in accordance with the QLD Environmental Offsets Act 2014. A native tree survey will be required to identify the number of native trees onsite required to be offset. **AO3.2 –** No significant habitat trees for native fauna were identified within the site. The mature *Eucalyptus cloeziana* (Gympie messmate) located within VC2 could be considered *Recruitment Habitat Tree.* Further investigation may be required.
PO4 Development provides for effective measures during construction and operation to protect ecological values including: a) avoiding disturbance to or clearing of vegetation in and within the vicinity of the site; b) managing habitat disturbance and physical harm to fauna from noise, vibration, dust, light, dewatering or excavating; and c) avoiding clearing in areas where erosion or slippage could occur.	**AO4.1** Vegetation is protected from disturbance or damage from construction and operation activities by: a) clearly marking trees to be retained with flagging tape; b) installing protective fencing around the dripline of the vegetation and avoid filling and excavating in these fenced areas; c) ensuring stockpiling, storage and vehicle parking occurs outside the identified vegetation areas; and d) using low impact construction techniques around vegetation. **AO4.2** Vegetation which is capable of forming or contributing to a buffer between different land uses or a buffer against pollution, light spillage or noise is retained. **AO4.3** Lighting associated with development: a) does not contribute an unacceptable level of illuminance (greater than 1 lux) for light sensitive species within or at the boundary of an ecologically important area; and b) does not contribute to an unacceptable level of illuminance on landward horizons along coastal areas and known marine turtle nesting beaches. **AO4.4** Clearing of vegetation does not involve clearing that may cause or contribute to hillslope erosion, bank erosion, or slippage.	**AO4.1 –** A Vegetation Management Plan that details, as a minimum, the protection measures listed in AO4.1 can be produced by the applicant for the future Operational Works application and can be conditioned by Council with an approval. **AO4.2 –** The native vegetation lining the property boundaries represents suitable vegetation for retention to buffer the site from offsite areas. However, tree fall risk to future dwellings onsite must be considered. **AO4.3 -** Lighting associated with development shall comply with AO4.3 and can be conditioned with an approval. b) N/A **AO4.4 –** A large portion of the future development area is located upslope of the waterway onsite. Appropriate engineering design and erosion and sediment controls works are expected to control the potential adverse impacts of hillslope erosion, bank erosion, or slippage on the waterway.
Connectivity		
PO5 Development is designed and operated to maintain and enhance connectivity between and across ecologically important areas and connecting habitat and support unimpeded and safe movement of terrestrial and aquatic fauna.	**AO5** Development is designed and operated to maintain ecological linkages and maximise opportunity for connectivity and the movement of fauna by: a) ensuring protection of wildlife refuges; b) maintaining vegetation in patches of the greatest possible size and within the smallest possible edge-to-area ratio; c) enhancing connectivity through planting and rehabilitation works, including across property boundaries, to areas of national park, state forest or reserve; d) avoiding the creation of physical barriers and safety hazards (such as roads, pedestrian access and instream structures) along and within the ecological linkage; e) providing mitigation measures such as wildlife movement infrastructure, fauna exclusion and directional fencing, underpasses/overpasses and traffic calming devices, signage and lighting; and f) where offsets are necessary, delivering offsets that support and enhance ecological linkages.	The site does not contain any natural bushland areas. Due to the dominance of modified area (VC1) and exotic plantation (VC3), the site is not expected to exhibit large amounts of fauna utilisation. If required a revegetated corridor could be provided along the eastern site boundary linking the offsite vegetation area to the south with the onsite waterway and associated riparian vegetation & offsite vegetation areas to the north. An understanding of the likely future clearing impacts in the lots to the south of the site should inform any such decision.
Waterways and Wetlands		
PO6 The biodiversity and ecosystem values of waterways, drainage lines, wetlands and adjacent riparian zones are protected by: a) avoiding any new development in a riparian buffer area and wetland area; b) retaining aquatic and terrestrial habitat in riparian zones; c) maintaining and enhancing wildlife corridors and connectivity along watercourses and drainage lines for native fauna movement;	**AO6.1** Development and clearing of vegetation does not occur within: a) a riparian buffer area; b) a wetland area; or c) 10 metres either side of the centre line of other waterways identified on a Biodiversity, Waterways and Wetlands Overlay Map.	**AO6.1** The development does not represent potential to clear vegetation within the following: a) a riparian buffer area; b) a wetland area; or c) 10 metres either side of the centre line of other waterways identified on a Biodiversity, Waterways and Wetlands Overlay Map. Note, a non-mapped waterway is present onsite and its recommended all development is excluded within 10m of the top of bank of the waterway.

d) avoiding edge effects and damage from adjacent land uses; e) maintaining stream integrity and bank stability by minimising bank erosion and slumping; f) maintaining water quality through filtering sediments, nutrients and other pollutants; and g) removing pest species and replacing them with local native species.	**AO6.2** Development provides for the rehabilitation of land within: a) a riparian buffer area; b) a wetland area; and c) 10 metres either side of the centre line of any other waterway identified on a Biodiversity, Waterways and Wetlands Overlay Map. **AO6.3** Recreational facilities (e.g., playgrounds, pergolas, barbeques) are setback a minimum of 10 metres from the top of the bank of a waterway. Editor's Note—Setbacks to waterways for certain uses and works are also specified in the relevant codes. Editor's Note—Wetland areas are identified on the Queensland Wetland Program mapping Editor's Note – Any clearing of vegetation also needs to meet the outcomes of the Earthworks Code and the Water Quality and Drainage Code.	**AO6.2 –** a) N/A – not mapped within the site b) N/A – not mapped within the site c) N/A -not mapped on site* Note, a non-mapped waterway is present onsite and its recommended all development is excluded within 10m of the top of bank of the waterway where possible. If retained, a Waterway Rehabilitation Plan is developed to reinstate a native vegetation buffer (10m from waterway top of bank) along the waterway to manage water quality and provide riparian habitat for local flora and fauna (NOTE: revegetation design should consider tree fall risk and bushfire risk). **AO6.3** If the non-mapped waterway is proposed to be retained, all public recreational facilities are recommended to be setback a minimum of 10m from the waterway and associated riparian vegetation (i.e., 10m from edge of revegetation associated with the waterway).
PO7 Vegetation within 400 metres of the full ponded water within Lake Macdonald is retained.	No acceptable outcome provided.	N/A
PO8 Development on land adjacent to a waterway or wetland maintains appropriate extent of public access to waterways and wetlands and minimises edge effects.	**AO8.1** Development adjacent to a waterway or wetland provides that: a) no new lots directly back onto a riparian buffer area; and b) new public roads are located between a riparian buffer area or riparian zone and the proposed development area.	**AO8.1** a) Future development design can satisfy the requirements of AO8.1a. b) Future development design can satisfy the requirements of AO8.1b.
Surface and ground water hydrology		
PO9 Development ensures that the natural surface water and ground water hydrologic regimes of waterways, wetlands and hydrologically sensitive plant communities are not adversely impacted. Editor's Note—Groundwater dependent ecosystems are identified on Queensland Government Wetland Info mapping.	**AO9.1** Development does not impact on the natural surface water or groundwater hydrologic regimes and this is facilitated by: a) avoiding or minimising channelization, redirection or interruption of flow; b) avoiding groundwater extraction; c) maintaining groundwater recharge and discharge processes; d) maintaining natural groundwater fluctuations; e) avoiding causing ingress of saline water into freshwater aquifers of wetlands; and **f)** avoiding contaminants entering groundwater (e.g., from runoff, effluent disposal).	The development is not proposing activities which are likely to affect natural groundwater hydrologic regimes and onsite waterway (provided all development is setback a minimum of 10m from the top of bank of the waterway). Civil engineering plan to be provided by others. Appropriate erosion and sediment control works are expected to control the potential adverse impacts to the onsite waterway.
Rehabilitation of ecologically important areas		
PO10 Development provides for ecologically important areas to be restored and enhanced through: a) designing landscaped areas to complement and enhance existing vegetation and ecological linkages; b) removing species likely to displace native flora species or degrade fauna habitat; c) replanting and rehabilitating degraded habitat; d) replacing any vegetation removed with suitable local native species; e) providing for fauna habitat; and f) avoiding the planting of pest plant species.	**AO10.1** Landscaping and rehabilitation complements and supports ecologically important areas by: a) utilising local native species; b) utilising suitable plant species identified in PSP2 Landscaping; c) restoring degraded ecosystems to achieve a functional ecosystem state that requires minimal human intervention; d) replicating adjacent remnant habitats of the same type, including the understorey vegetation; e) creating or enhancing linkages between existing habitats; f) avoiding the use of pest plant species listed in PSP2 - Landscaping; g) planting riparian zones to filter stormwater run-off, stabilise soil and provide for wildlife habitat; and h) providing ground and arboreal structures for fauna, which may include ground depressions, rocks, hollows, nesting boxes and in-stream habitat. **AO10.2** Vegetation cleared is replaced with:	**AO10.1** - Site landscaping is recommended to comply with AO10.1 as demonstrated in a Landscape Plan at OPW Stage. **AO10.2 –** Compliance with AO10.2 can be set as a condition of approval. Compliance with AO10.2 is expected to be achieved at OPW stage via additional reporting.

	a) plantings of equivalent area that replicate the floristic structure of the vegetation removed; or b) where this is not possible due to the characteristics of the site and the development, plantings twice the number of the removed trees and plants. Editor's Note — Revegetation and rehabilitation works are to be carried out in accordance with an approved Revegetation and Rehabilitation Management Plan, as referred to in PSP3 Ecological assessment guidelines.	
Koala habitat protection and enhancement		
PO11 Development is designed, constructed and operated to— a) protect and enhance koalas and koala habitat and avoid adverse impacts; b) provide measures to assist the survival of koala populations in the area to mitigate any potential threats or risk to koalas; c) provide for safe and appropriate koala movement across the landscape; and d) provide for a net gain in mature and actively regenerating koala habitat. ***Editor's Note—****Koala habitat mapping is in Schedule 2 Mapping.* ***Editor's Note—****The Planning Regulation 2017, schedule 10 states that development that interferes with koala habitat, in an area that is both a koala priority area and a koala habitat area, is prohibited development (subject to the exceptions stated in schedule 10 of the Planning Regulation 2017).* ***Editor's Note****- These performance outcomes and acceptable outcomes apply to:* *a) development on land in a koala priority area, where the development does not interfere with koala habitat and where the benchmarks are additional to and not inconsistent with, the assessment benchmarks stated in schedule 11, part 2 of the Planning Regulations 2017; and* *b) development on land outside the koala priority area, where the development does not interfere with koala habitat in koala habitat areas.*	**AO11.1** Development design complies with the Koala Sensitive Design Guideline: A guide to koala sensitive design measures for planning and development activities **AO11.2** Development incorporates revegetation and landscaping that provides food, shelter and movement opportunities for koalas **AO11.3** Development is designed to maximise and enhance connectivity between koala habitat trees and ensure safe koala movement. **AO11.4** During construction, measures are incorporated to not increase the risk of death or injury to koalas, by including koala movement measures, as defined in the Planning Regulation 2017	**AO11.1 –** Future development proposal should be designed to comply with AO11.1. **AO11.2 –** The site is not in a mapped KHA however Council may want to consider future landscaping and revegetation associated with the proposal which seeks to satisfy AO11.2 (NOTE: revegetation design should be considered bushfire and storm damage risk). **AO11.3 –** The site is not in a mapped KHA however Council may want to consider reinstatement of a koala corridor through the site to connect the mapped core koala habitat area to the south of the site with Council reserve land to the north of Lake MacDonald Drive. An understanding of the likely future clearing impacts in the lots to the south of the site should inform any such decision. **AO11.4 –** A fauna spotter/catcher is recommended to be present during any future clearing activities to satisfy the duty of care requirements under the *Nature Conservation (Animals) Regulation 2020.* Compliance with AO11.4 can be set as a condition of approval
Bushfire Management		
PO12 Bushfire management measures are adopted based on ecological principles, which: a) maintain and enhance biodiversity; b) minimise threat of fire to the natural environment, as well as life and property; and c) provide for effective use and maintenance of buildings and structures. ***Editor's note—****The performance outcome applies to properties in bushfire hazard areas and only where clearing is reasonably necessary for the control of bushfire risk to a building or structure. Bushfire hazard areas are shown on Bushfire Hazard Overlay maps in Schedule 2.*	No acceptable outcome provided	It is recommended a Bushfire Hazard Assessment and Management Plan is prepared for the future development proposal.
Scenic Amenity		
PO13 The scenic amenity and vegetated character of the landscape is protected by retaining vegetation: a) along and around watercourses and drainage lines; b) on steep slopes and ridgelines; c) along the major road network; and d) that forms coastal vistas to and from beaches.	**AO13.1** Vegetation is retained: a) on and within 30 metres of prominent ridgelines and on sloping sites; b) in gullies; c) along watercourses and drainage lines; d) within 10 metres of the major road network; and e) along the front coastal dune system.	**AO13.1** The development proposal should be designed to retained vegetation as per AO13.1 (where applicable).

6.2 State Government

6.2.1 Remnant Regional Ecosystems

The Vegetation Management Supporting Map identifies that Category C & R remnant vegetation is present within the site. The mapped extent of Cat C vegetation in the far north appears erroneous as only a single tree is present in this area and it captures areas of lawn, housing and Dianella Court.

Category C and Category R vegetation is not assessable under an RoL or MCU application.

Note, Schedule 10, Part 3, Division 4, Table 2 of the *Planning Regulation 2017* requires any reconfiguration of a lot application that is assessable development under section 21, which includes an allotment which is 5ha or larger, to be referred to SARA for assessment against SDAP State Code 16 - Native vegetation clearing.

The site measures <5ha, no further assessment is required.

6.2.2 Nature Conservation (Koala) Conservation Plan 2017 and SDAP State Code 25 Development in South East Queensland koala habitat areas

The SEQ Koala Conservation Strategy Koala Habitat Mapping identifies that the site occurs outside of a Koala Priority Area and contains no Koala Habitat Area (refer section 3.4). Assessment against State Code 25 is not triggered.

The Nature Conservation (Koala) Conservation Plan 2017 requires that any clearing of non-juvenile koala habitat trees in Koala Districts A, B and C is managed under the guidance of a suitably qualified koala spotter catcher. The site is located in Koala District A.

Nature Conservation Act 1992

6.2.2.1 Protected Plants Flora Survey Trigger Map

The Protected Plants Flora Survey Trigger Map identifies that the occurs outside of an area mapped as a 'high risk area' prescribed under the *Nature Conservation (Wildlife Management) Regulation 2006*. No further assessment is required.

6.2.2.2 Fauna

Provision of a suitably qualified and experienced fauna spotter/catcher is necessary during all vegetation clearing activities to satisfy the duty of care obligations under the NC Act and the .

Note, where active breeding habitat for least concern native fauna is observed, the applicant will be required to comply with DES's Species Management Program – low risk of impacts. Where active breeding habitat for Conservation Significant fauna is observed, the applicant will be required to prepare and submit a DES compliant Species Management Program – High risk of impacts for approval prior to clearing commencing.

6.3 Commonwealth Government

No Matters of National Environmental Significance (MNES) were identified during the field investigation undertaken within the site. Whilst a fauna survey has not been completed the results of the habitat assessment infers that the threatened fauna species identified in the Protected Matters Search Report have a low potential to occur within the site due to the limited amount of suitable habitat and/or a lack of existing records in the locality.

Furthermore, given the dominance of exotic vegetation onsite (pine plantation and exotic grassland) and as no natural bushland clearing is proposed the proposal is unlikely to result in a significant impact to any populations of the listed EPBC fauna species hence a referral to the Commonwealth government under the EPBC Act is deemed unnecessary at this time.

6.4 Fisheries Act 1994

The Queensland Waterways for Waterway Barrier Works GIS layer indicates that a green (Low) waterway through the northern corner of the site. The alignment of the waterway is inconsistent with

on ground conditions. The waterway skirts the northern periphery of the site and is piped under the Lake MacDonald Drive intersection.

As the waterway is not onsite any future development would satisfy the Accepted Development Requirements Code for Waterway Barrier Works – Green Waterways, under the *Fisheries Act 1994*

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusion

A desktop and field investigation have been undertaken to determine the environmental values present within Lot 105 on SP118458 located at 62 Lake MacDonald Drive, Cooroy QLD. The outcomes of the desktop and field investigations identified the following:

- The site supports local level biodiversity values.
- The site is mapped within the Noosa Plan 2020 as containing an *Area of Biodiversity Significance* and *MSES Regulated Vegetation – Category R GBR riverine.*
- The site comprises cleared areas host to a scattering of native and exotic trees, a native Gympie messmate plantation, an exotic Slash Pine plantation and is flanked by native open forest along its southern boundary. An unmapped, vegetated 1st order stream was also identified adjacent to the eastern site boundary.

The application has been assessed against several assessment frameworks assuming a large scale development was to occur and determined to be compliant as follows:

- *Noosa Plan 2020,* Code 8.2.2 Biodiversity, Waterways and Wetlands – Compliant subject to avoiding impact to the non-mapped waterway and assuming it is agreed that the native hardwood plantation does not represent an *Ecologically Important Area*.
- *Vegetation Management Act 1999* and the associated *State Code 16 Native Vegetation Clearing* – No further assessment is required.
- *State Code 25 Development in South East Queensland koala habitat areas* – No further assessment is required.
- *Nature Conservation Act 1992* – Compliant provided the provision of;
    - A suitably qualified and experienced fauna spotter/catcher is present during all vegetation clearing onsite.
- *Environment Protection and Biodiversity Conservation Act 1999* – Referral is deemed unnecessary.
- *Fisheries Act 1994* – Compliant.

The following recommendations are set to reduce the environmental impact of the proposal and to secure DA approval:

- Appropriate erosion and sediment control works are conducted to mitigate the impact to the waterway during construction;
- A Fauna Management Plan is prepared for the future OPW application to manage the risk of impact to terrestrial fauna during civil works. The FMP includes a requirement for a suitably qualified and experienced fauna spotter catcher to be engaged to supervise vegetation clearing on the site;
- A Waterway Rehabilitation Plan is prepared to direct revegetation and weed control works within 10m of the top of bank of the waterway;
- A Native Tree Survey is prepared to identify the number of native trees required to be offset; and
- All future landscaping and revegetation work consists of suitable local native species (NOTE: revegetation design should consider tree fall risk and bushfire risk).

8 REFERENCES

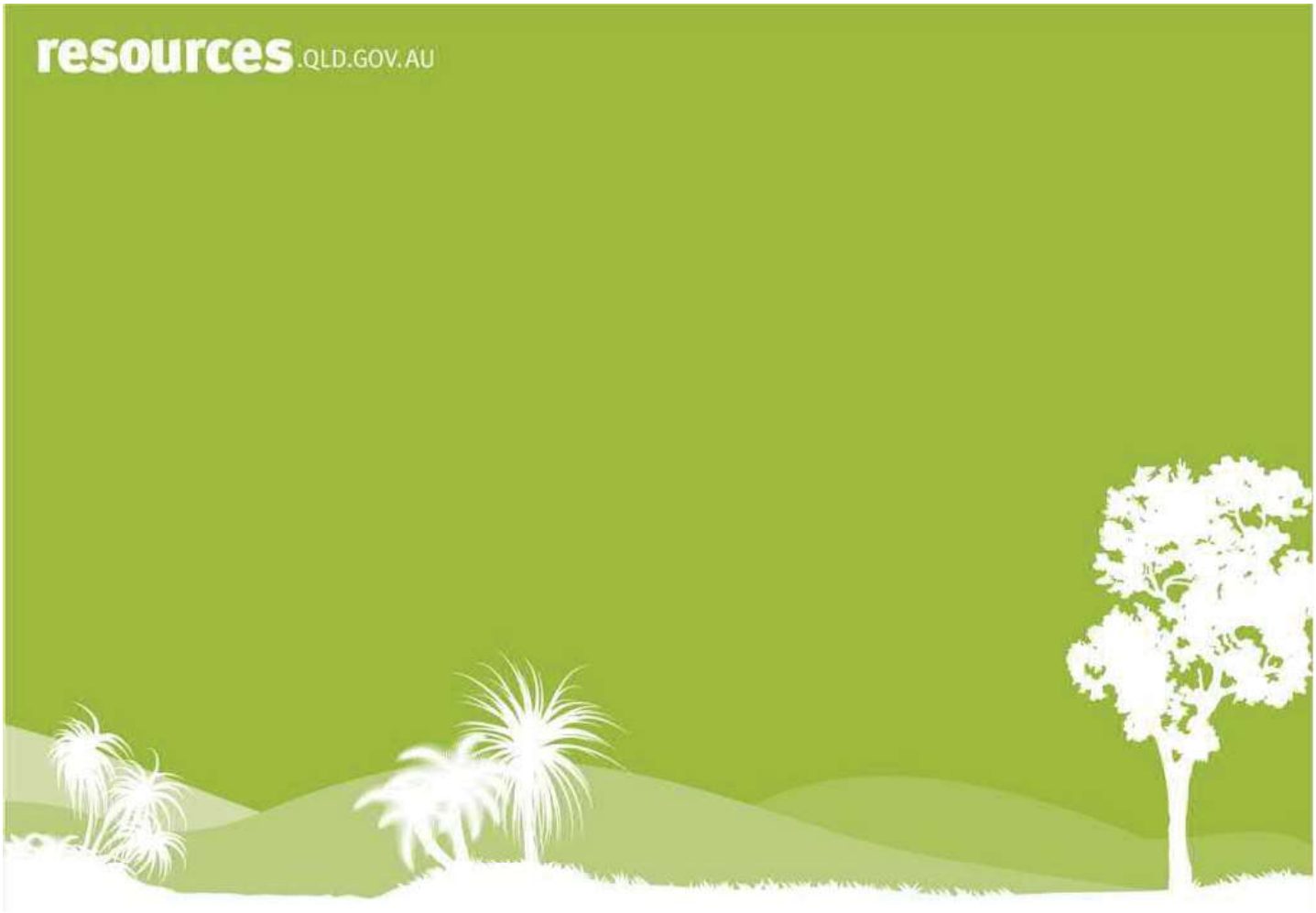
Department of Environment and Science (2020) *Flora Survey Guidelines – Protected Plants*. Wildlife and Threatened Species Operations, Department of Environment and Science, Brisbane.

Department of Agriculture, Water and the Environment (2021). Species Profile and Threats Database, Department of Agriculture, Water and the Environment, Canberra. Available from: http://www.environment.gov.au/sprat.

Noosa Shire Council 2020. N*C Biodiversity Waterways and Wetlands Overlay Code*. 2020 Noosa Shire Council Planning Scheme. Noosa, QLD.

APPENDIX 1 – DESKTOP SEARCH RESULTS

resources.QLD.GOV.AU



Vegetation management report

For Lot: 105 Plan: SP118458

09/11/2022

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 8 September 2022 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

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

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

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

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

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

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

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

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

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

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:
  - exempt clearing work;
  - accepted development vegetation clearing code;
  - an area management plan;
  - a development approval;

- the protected plant framework, which may include:
  - the need to undertake a flora survey;
  - exempt clearing;
  - a protected plant clearing permit;

- the koala protection framework, which may include:
  - exempted development;
  - a development approval;
  - the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

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

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 105 Plan: SP118458, are listed in Table 1.

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

Lot	Plan	Tenure	Property title area (sq metres)
105	SP118458	Freehold	35,370

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

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 105 Plan: SP118458, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Noosa Shire

Bioregion(s)	Subregion(s)
Southeast Queensland	Sunshine Coast - Gold Coast Lowlands

Catchment(s)
Mary

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

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

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

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

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

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions.

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

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes

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

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

2.3 Area management plans

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

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

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

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:
Phone 135VEG (135 834)
Email vegetation@resources.qld.gov.au
Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 105 Plan: SP118458

3.1 Vegetation categories

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

Table 3: Vegetation categories for subject property. Total area: 3.54ha

Vegetation category	Area (ha)
Category R	0.1
Category X	3.4

Table 4: Description of vegetation categories

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

Property Map of Assessable Vegetation (PMAV)

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

3.2 Regional ecosystems

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

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

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
12.11.10	Least concern	R	0.07	Notophyll vine forest +/- Araucaria cunninghamii on metamorphics +/- interbedded volcanics	Dense
12.11.2	Least concern	R	0.01	Eucalyptus saligna or E. grandis, E. microcorys, Lophostemon confertus tall open forest on metamorphics +/- interbedded volcanics	Mid-dense
12.9-10.1	Of concern	R	0.03	Tall open forest often with Eucalyptus resinifera, E. grandis, E. robusta and Corymbia intermedia on sedimentary rocks, usually coastal	Mid-dense
12.9-10.16	Of concern	R	0.01	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	Dense
non-rem	None	X	3.43	None	None

Please note:

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

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

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

3.3 Watercourses

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

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

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

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

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

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

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

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

2) in which the protected wildlife, at any stage of its life cycle, is located.

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

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

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

No records

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

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

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

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

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

No Class A

No Class B

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

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 105 Plan: SP118458.

4. Vegetation management framework maps

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

Regulated vegetation management map

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

Vegetation management supporting map

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

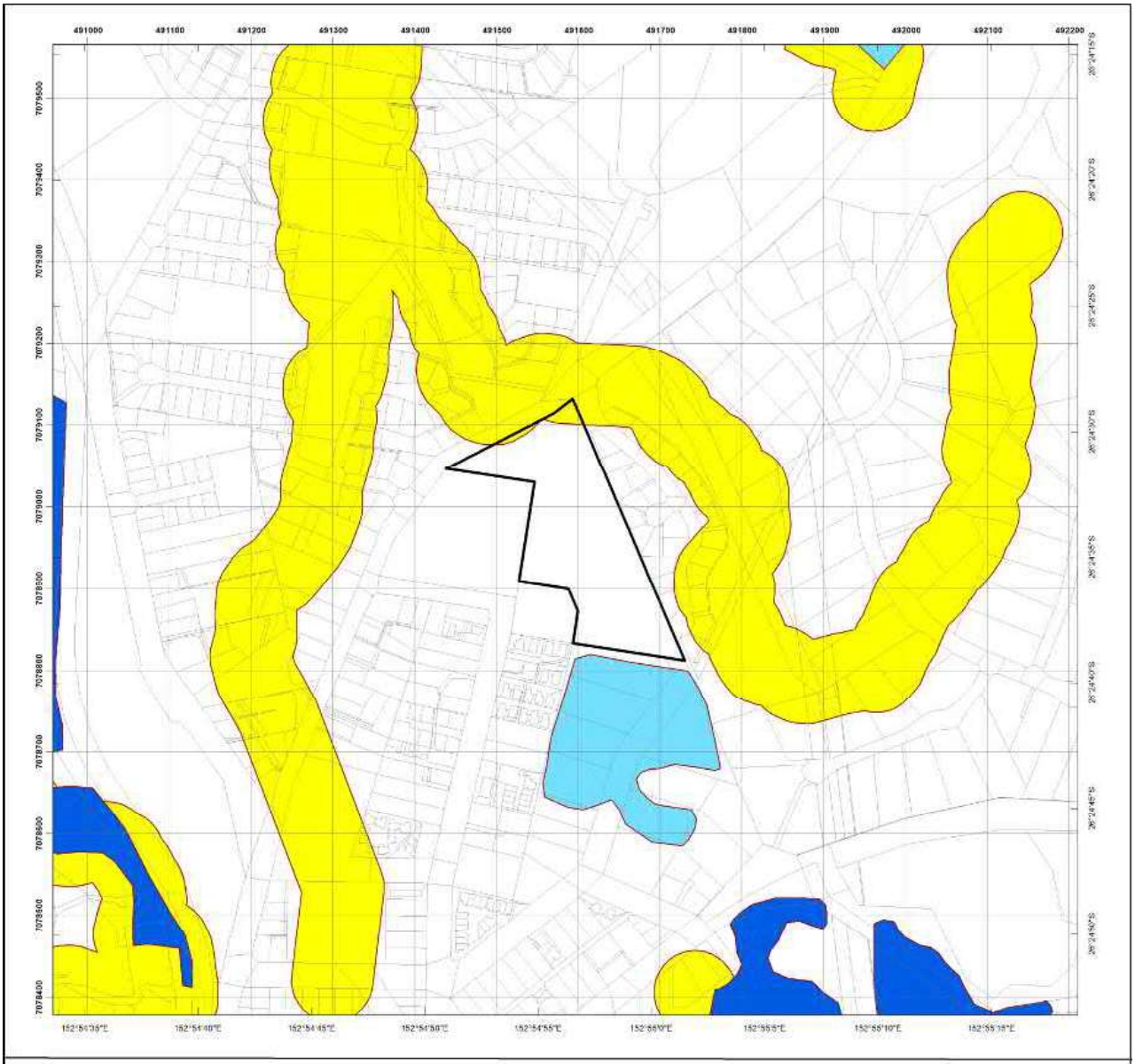
Coastal/non-coastal map

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

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

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

4.1 Regulated vegetation management map



Regulated Vegetation Management Map

Legend

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

LOCALITY DIAGRAM

N

0 60 120 180 240 300 m

This product is projected into:
GDA 1994 MGA Zone 56

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

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

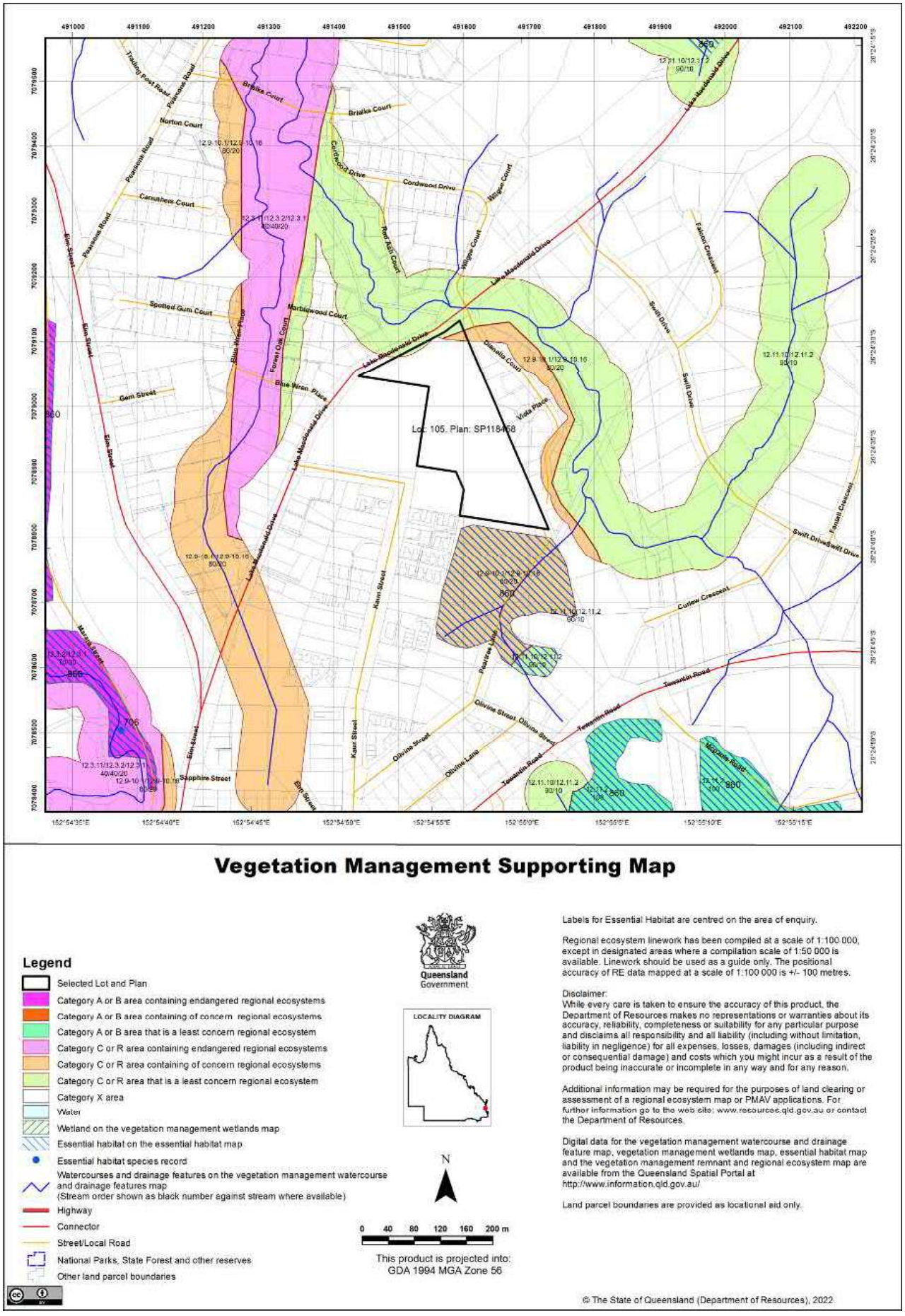
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

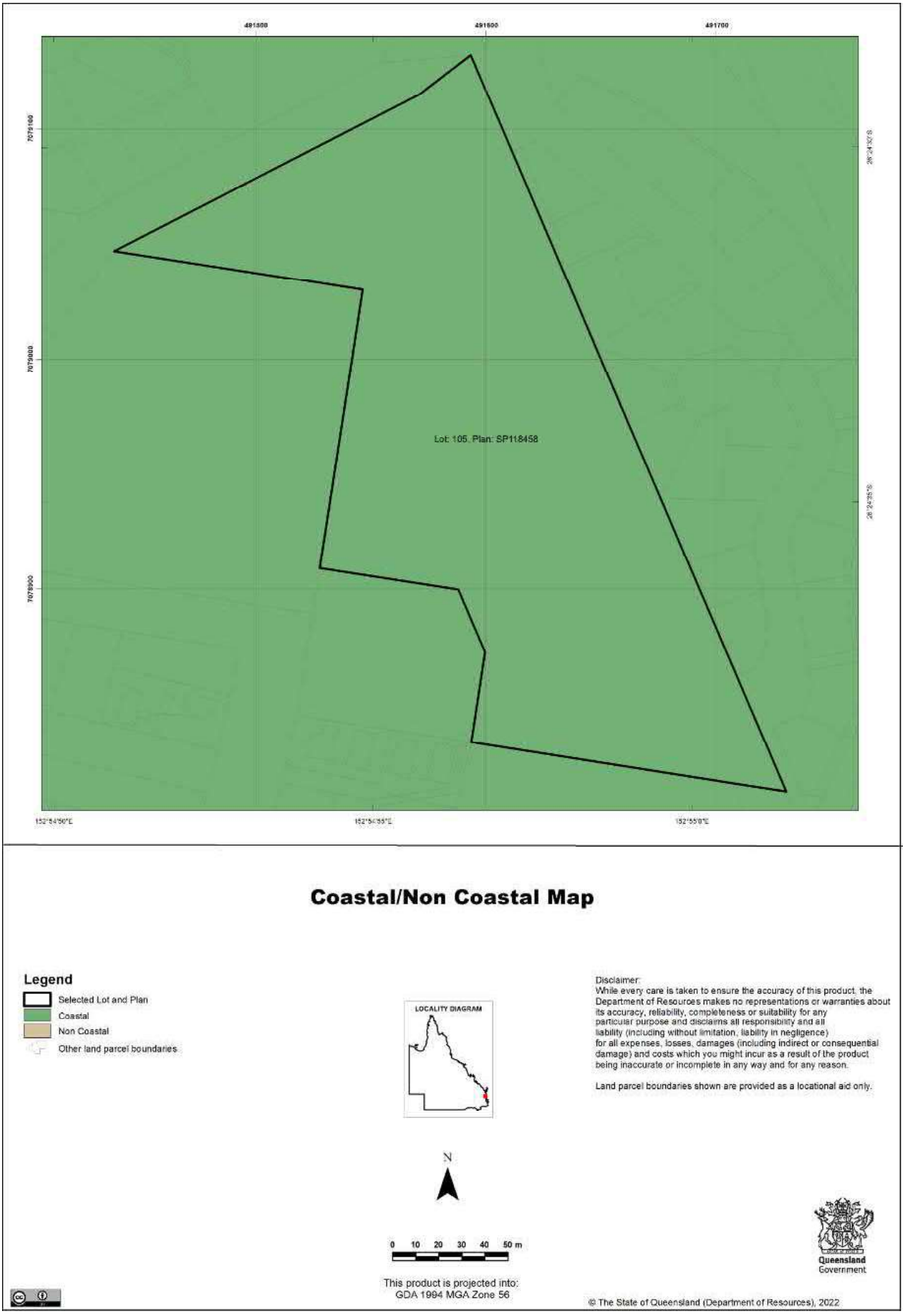
This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

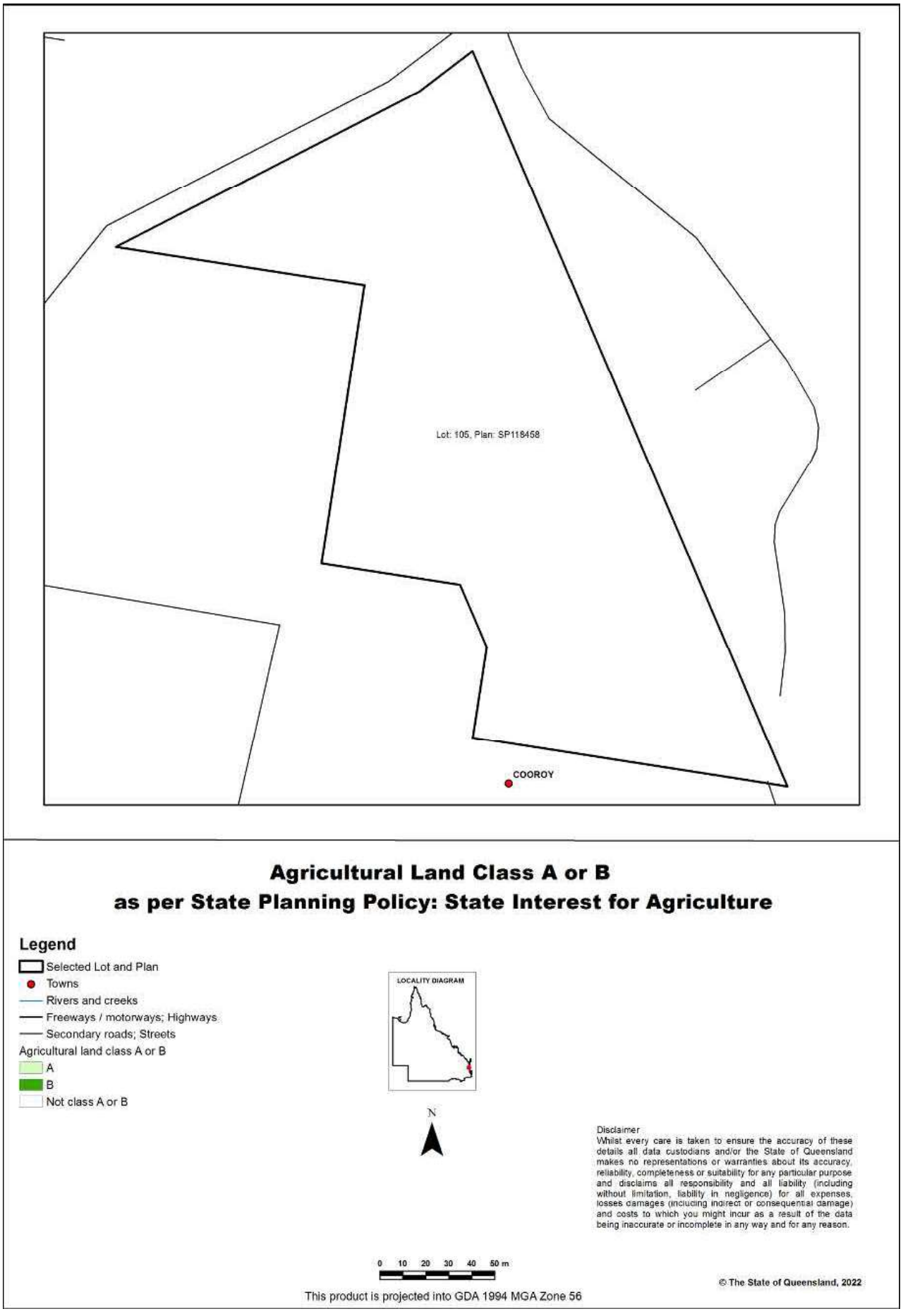
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



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



5. Protected plants framework (administered by the Department of Environment and Science (DES))

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

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

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

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

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

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

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

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

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

5.3 Exemptions

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

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

5.4 Contact information for DES

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

5.5 Protected plants flora survey trigger map

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

Updates to the data informing the flora survey trigger map

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

Species information

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

Protected Plants Flora Survey Trigger Map

Legend

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

LOCALITY DIAGRAM

N

0 10 20 30 40 50 m

This product is projected into:
GDA 1994 MGA Zone 56

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

Land parcel boundaries are provided as locational aid only.

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

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

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

6. Koala protection framework (administered by the Department of Environment and Science (DES))

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

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

6.1 Koala mapping

6.1.1 Koala districts

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

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

6.1.2 Koala habitat areas

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

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

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

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

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

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

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

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

6.1.3 Koala priority areas

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

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

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

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

6.1.4 Identified koala broad-hectare areas

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

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

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

6.2 Koala habitat planning controls

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

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

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

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

Interfering with koala habitat means:

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

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

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

- building works, operational works, material change of use or reconfiguration of a lot where:
  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

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

6.3 Koala Conservation Plan clearing requirements

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

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

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

6.4 Contact information for DES

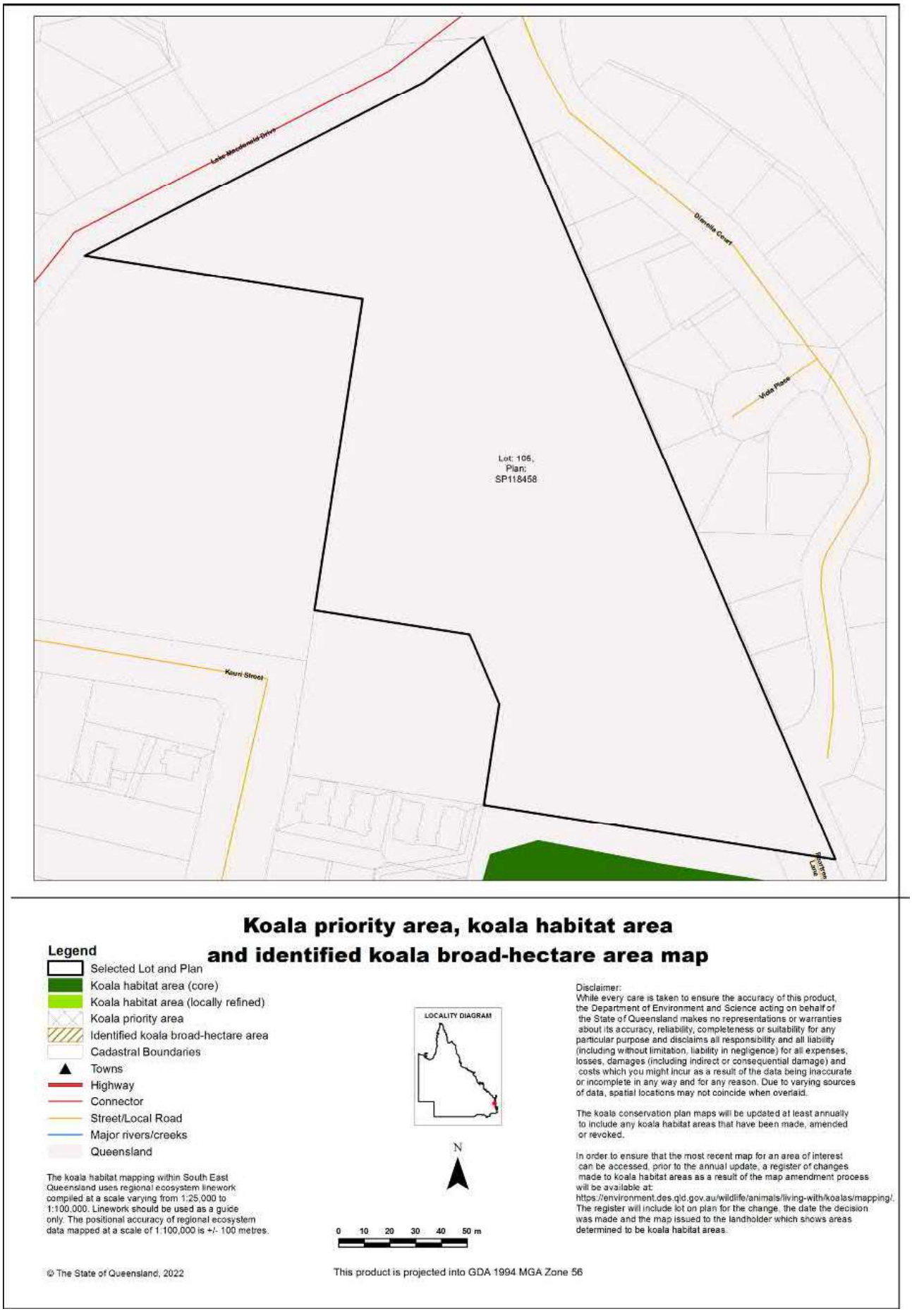
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 105 Plan: SP118458

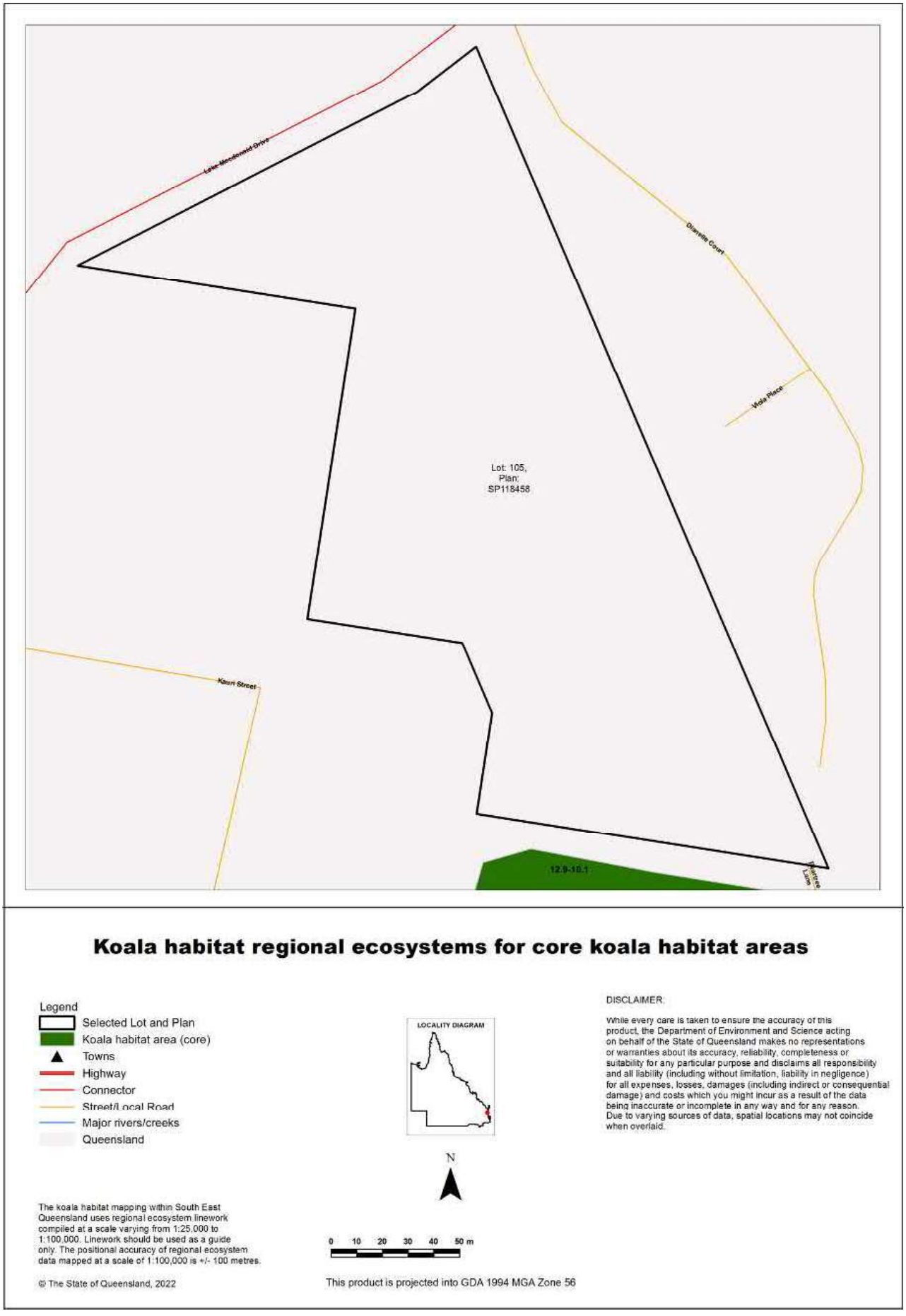
7.1 Koala districts

Koala District A

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



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Queensland status: All
Records: All
Date: Since 1980
Latitude: -26.4094
Longitude: 152.9156
Distance: 2
Email: jisaacs@northcoastenv.com.au
Date submitted: Wednesday 09 Nov 2022 12:23:51
Date extracted: Wednesday 09 Nov 2022 12:30:02

The number of records retrieved = 275

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		2
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		6
animals	amphibians	Hylidae	*Litoria gracilenta*	graceful treefrog		C		1
animals	amphibians	Hylidae	*Litoria nasuta*	striped rocketfrog		C		1
animals	amphibians	Hylidae	*Litoria pearsoniana*	cascade treefrog		V		6
animals	amphibians	Hylidae	*Litoria peronii*	emerald spotted treefrog		C		3
animals	amphibians	Hylidae	*Litoria tyleri*	southern laughing treefrog		C		5
animals	amphibians	Limnodynastidae	*Adelotus brevis*	tusked frog		V		15
animals	amphibians	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog		C		2
animals	amphibians	Myobatrachidae	*Mixophyes iteratus*	giant barred frog		V	V	8
animals	birds	Acanthizidae	*Acanthiza lineata*	striated thornbill		C		1
animals	birds	Acanthizidae	*Acanthiza pusilla*	brown thornbill		C		10
animals	birds	Acanthizidae	*Gerygone mouki*	brown gerygone		C		2
animals	birds	Acanthizidae	*Gerygone olivacea*	white-throated gerygone		C		7
animals	birds	Acanthizidae	*Sericornis frontalis*	white-browed scrubwren		C		7
animals	birds	Acanthizidae	*Sericornis magnirostra*	large-billed scrubwren		C		4
animals	birds	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk		C		1
animals	birds	Accipitridae	*Accipiter novaehollandiae*	grey goshawk		C		4
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		1
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		5
animals	birds	Accipitridae	*Circus approximans*	swamp harrier		C		2
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		4
animals	birds	Accipitridae	*Erythrotriorchis radiatus*	red goshawk		E	V	1
animals	birds	Accipitridae	*Haliaeetus leucogaster*	white-bellied sea-eagle		C		2
animals	birds	Accipitridae	*Haliastur indus*	brahminy kite		C		1
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		6
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		C		11
animals	birds	Alcedinidae	*Ceyx azureus*	azure kingfisher		C		4
animals	birds	Anatidae	*Anas castanea*	chestnut teal		C		1
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		8
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		23
animals	birds	Anatidae	*Aythya australis*	hardhead		C		13
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		10
animals	birds	Anatidae	*Cygnus atratus*	black swan		C		5
animals	birds	Anatidae	*Dendrocygna arcuata*	wandering whistling-duck		C		6
animals	birds	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck		C		3
animals	birds	Anatidae	*Nettapus coromandelianus*	cotton pygmy-goose		C		3
animals	birds	Anatidae	*Stictonetta naevosa*	freckled duck		C		1
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		7
animals	birds	Anseranatidae	*Anseranas semipalmata*	magpie goose		C		4
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		V	V	2
animals	birds	Ardeidae	*Ardea alba modesta*	eastern great egret		C		12
animals	birds	Ardeidae	*Ardea intermedia*	intermediate egret		C		9
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		8
animals	birds	Ardeidae	*Bubulcus ibis*	cattle egret		C		12
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		7

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		18
animals	birds	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron		C		3
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		1
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		18
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		9
animals	birds	Artamidae	*Gymnorhina tibicen*	Australian magpie		C		26
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		16
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		8
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		3
animals	birds	Cacatuidae	*Calyptorhynchus funereus*	yellow-tailed black-cockatoo		C		12
animals	birds	Cacatuidae	*Eolophus roseicapilla*	galah		C		9
animals	birds	Campephagidae	*Coracina lineata*	barred cuckoo-shrike		C		1
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		17
animals	birds	Campephagidae	*Edolisoma tenuirostre*	common cicadabird		C		2
animals	birds	Campephagidae	*Lalage leucomela*	varied triller		C		3
animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		8
animals	birds	Charadriidae	*Erythrogonys cinctus*	red-kneed dotterel		C		1
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		17
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		3
animals	birds	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork		C		2
animals	birds	Cisticolidae	*Cisticola exilis*	golden-headed cisticola		C		16
animals	birds	Climacteridae	*Cormobates leucophaea*	white-throated treecreeper		C		1
animals	birds	Columbidae	*Chalcophaps longirostris*	Pacific emerald dove		C		1
animals	birds	Columbidae	*Columba leucomela*	white-headed pigeon		C		9
animals	birds	Columbidae	*Columba livia*	rock dove	Y			1
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		18
animals	birds	Columbidae	*Geopelia placida*	peaceful dove		C		5
animals	birds	Columbidae	*Lopholaimus antarcticus*	topknot pigeon		C		5
animals	birds	Columbidae	*Macropygia amboinensis*	brown cuckoo-dove		C		7
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		11
animals	birds	Columbidae	*Ptilinopus regina*	rose-crowned fruit-dove		C		2
animals	birds	Columbidae	*Streptopelia chinensis*	spotted dove	Y			17
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		1
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		26
animals	birds	Corvidae	*Corvus sp.*			C		1
animals	birds	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo		C		10
animals	birds	Cuculidae	*Cacomantis variolosus*	brush cuckoo		C		2
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		3
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		1
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		10
animals	birds	Cuculidae	*Chalcites minutillus barnardi*	Eastern little bronze-cuckoo		C		1
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		2
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		2
animals	birds	Dicruridae	*Dicrurus bracteatus*	spangled drongo		C		10
animals	birds	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin		C		17
animals	birds	Estrildidae	*Neochmia temporalis*	red-browed finch		C		9

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		3
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		1
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		1
animals	birds	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra		C		21
animals	birds	Halcyonidae	*Todiramphus macleayii*	forest kingfisher		C		9
animals	birds	Halcyonidae	*Todiramphus sanctus*	sacred kingfisher		C		6
animals	birds	Hirundinidae	*Cheramoeca leucosterna*	white-backed swallow		C		1
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		21
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		12
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		2
animals	birds	Jacanidae	*Irediparra gallinacea*	comb-crested jacana		C		5
animals	birds	Laridae	*Chlidonias hybrida*	whiskered tern		C		1
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		4
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		14
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		19
animals	birds	Megaluridae	*Cincloramphus timoriensis*	tawny grassbird		C		12
animals	birds	Megaluridae	*Poodytes gramineus*	little grassbird		C		2
animals	birds	Meliphagidae	*Acanthorhynchus tenuirostris*	eastern spinebill		C		5
animals	birds	Meliphagidae	*Anthochaera chrysoptera*	little wattlebird		C		7
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		11
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		10
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		19
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		12
animals	birds	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater		C		21
animals	birds	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater		C		6
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		17
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		4
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		11
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		6
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		21
animals	birds	Monarchidae	*Myiagra inquieta*	restless flycatcher		C		2
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		2
animals	birds	Monarchidae	*Symposiachrus trivirgatus*	spectacled monarch		SL		1
animals	birds	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird		C		8
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		4
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		15
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		12
animals	birds	Pachycephalidae	*Colluricincla megarhyncha*	little shrike-thrush		C		4
animals	birds	Pachycephalidae	*Pachycephala pectoralis*	golden whistler		C		11
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		14
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		2
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		13
animals	birds	Passeridae	*Passer domesticus*	house sparrow	Y			1
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		7
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		14
animals	birds	Petroicidae	*Petroica rosea*	rose robin		C		2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		24
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		5
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		17
animals	birds	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant		C		1
animals	birds	Podicipedidae	*Podiceps cristatus*	great crested grebe		C		1
animals	birds	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe		C		21
animals	birds	Psittacidae	*Alisterus scapularis*	Australian king-parrot		C		5
animals	birds	Psittacidae	*Aprosmictus erythropterus*	red-winged parrot		C		1
animals	birds	Psittacidae	*Platycercus adscitus*	pale-headed rosella		C		9
animals	birds	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		10
animals	birds	Psittacidae	*Trichoglossus moluccanus*	rainbow lorikeet		C		18
animals	birds	Psophodidae	*Psophodes olivaceus*	eastern whipbird		C		21
animals	birds	Ptilonorhynchidae	*Ailuroedus crassirostris*	green catbird		C		1
animals	birds	Rallidae	*Fulica atra*	Eurasian coot		C		10
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		21
animals	birds	Rallidae	*Gallirallus philippensis*	buff-banded rail		C		2
animals	birds	Rallidae	*Porphyrio melanotus*	purple swamphen		C		23
animals	birds	Rallidae	*Zapornia pusilla*	Baillon's crake		C		2
animals	birds	Rallidae	*Zapornia tabuensis*	spotless crake		C		2
animals	birds	Recurvirostridae	*Himantopus himantopus*	black-winged stilt		C		2
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		15
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		22
animals	birds	Rhipiduridae	*Rhipidura rufifrons*	rufous fantail		SL		5
animals	birds	Scolopacidae	*Gallinago hardwickii*	Latham's snipe		SL		6
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		1
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		7
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		18
animals	birds	Threskiornithidae	*Plegadis falcinellus*	glossy ibis		SL		2
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		25
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		12
animals	birds	Timaliidae	*Zosterops lateralis*	silvereye		C		15
animals	insects	Nymphalidae	*Danaus plexippus*	monarch	Y			1
animals	insects	Pieridae	*Catopsilia pomona*	lemon migrant				1
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Miniopteridae	*Miniopterus schreibersii oceanensis*	eastern bent-wing bat		C		1
animals	mammals	Muridae	*Rattus fuscipes*	bush rat		C		1
animals	mammals	Ornithorhynchidae	*Ornithorhynchus anatinus*	platypus		SL		13
animals	mammals	Phalangeridae	*Trichosurus caninus*	short-eared possum		C		2
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	3
animals	ray-finned fishes	Anguillidae	*Anguilla australis*	southern shortfin eel				1
animals	ray-finned fishes	Melanotaeniidae	*Melanotaenia duboulayi*	crimsonspotted rainbowfish				1
animals	ray-finned fishes	Plotosidae	*Tandanus tandanus*	freshwater catfish				1
animals	ray-finned fishes	Terapontidae	*Leiopotherapon unicolor*	spangled perch				1
animals	reptiles	Agamidae	*Intellagama lesueurii*	eastern water dragon		C		2
animals	reptiles	Chelidae	*Emydura macquarii macquarii*	Murray turtle		C		1
animals	reptiles	Chelidae	*Wollumbinia latisternum*	saw-shelled turtle		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Elapidae	*Cacophis squamulosus*	golden crowned snake		C		1
fungi	Agaricomycetes	Hymenochaetaceae	*Phellinus gilvus*			C		1/1
plants	land plants	Acanthaceae	*Dyschoriste depressa*		Y			1/1
plants	land plants	Acanthaceae	*Hypoestes phyllostachya*		Y			1/1
plants	land plants	Acanthaceae	*Thunbergia alata*	black-eyed Susan	Y			1/1
plants	land plants	Alismataceae	*Sagittaria platyphylla*	sagittaria	Y			2/2
plants	land plants	Apocynaceae	*Melodinus australis*	southern melodinus		C		1
plants	land plants	Apocynaceae	*Parsonsia straminea*	monkey rope		C		1
plants	land plants	Arecaceae	*Archontophoenix cunninghamiana*	piccabeen palm		C		1
plants	land plants	Asteraceae	*Ageratum houstonianum*	blue billygoat weed	Y			1/1
plants	land plants	Asteraceae	*Calyptocarpus vialis*	creeping cinderella weed	Y			1/1
plants	land plants	Asteraceae	*Centipeda minima subsp. minima*			C		1/1
plants	land plants	Asteraceae	*Eclipta prostrata*	white eclipta	Y			1/1
plants	land plants	Asteraceae	*Galinsoga parviflora*	yellow weed	Y			1/1
plants	land plants	Brassicaceae	*Cardamine flexuosa*	wood bittercress	Y			1/1
plants	land plants	Cabombaceae	*Cabomba caroliniana var. caroliniana*	cabomba	Y			1/1
plants	land plants	Commelinaceae	*Tradescantia fluminensis*		Y			1/1
plants	land plants	Cyatheaceae	*Sphaeropteris australis*			C		1
plants	land plants	Cyperaceae	*Cyperus pilosus*			C		1/1
plants	land plants	Cyperaceae	*Cyperus prolifer*	dwarf papyrus	Y			1/1
plants	land plants	Cyperaceae	*Gahnia clarkei*	tall sawsedge		C		1/1
plants	land plants	Cyperaceae	*Machaerina rubiginosa*			C		1/1
plants	land plants	Cyperaceae	*Scleria sphacelata*			C		1
plants	land plants	Dicksoniaceae	*Calochlaena dubia*			C		1
plants	land plants	Elaeocarpaceae	*Elaeocarpus eumundi*	Eumundi quandong		C		1
plants	land plants	Elaeocarpaceae	*Elaeocarpus obovatus*	blueberry ash		C		1
plants	land plants	Euphorbiaceae	*Acalypha australis*		Y			1/1
plants	land plants	Flagellariaceae	*Flagellaria indica*	whip vine		C		1
plants	land plants	Hemerocallidaceae	*Geitonoplesium cymosum*	scrambling lily		C		1
plants	land plants	Lamiaceae	*Clerodendrum tomentosum*			C		1
plants	land plants	Lamiaceae	*Gmelina leichhardtii*	white beech		C		1
plants	land plants	Lauraceae	*Cinnamomum camphora*	camphor laurel	Y			2/1
plants	land plants	Lauraceae	*Cryptocarya macdonaldii*	McDonald's laurel		C		2/1
plants	land plants	Lauraceae	*Neolitsea dealbata*	white bolly gum		C		1/1
plants	land plants	Laxmanniaceae	*Cordyline rubra*	red-fruited palm lily		C		1
plants	land plants	Leguminosae	*Desmodium intortum*		Y			1/1
plants	land plants	Leguminosae	*Desmodium uncinatum*		Y			1/1
plants	land plants	Leguminosae	*Hovea acutifolia*			C		1/1
plants	land plants	Leguminosae	*Lotononis bainesii*	lotononis	Y			1/1
plants	land plants	Leguminosae	*Macrotyloma axillare var. axillare*		Y			1/1
plants	land plants	Leguminosae	*Mezoneuron scortechinii*			C		1
plants	land plants	Leguminosae	*Senna pendula var. glabrata*	Easter cassia	Y			1
plants	land plants	Leguminosae	*Trifolium repens var. repens*	white clover	Y			1/1
plants	land plants	Lentibulariaceae	*Utricularia aurea*	golden bladderwort		SL		1/1
plants	land plants	Lythraceae	*Cuphea carthagenensis*		Y			1/1
plants	land plants	Martyniaceae	*Ibicella lutea*		Y			1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Meliaceae	*Synoum glandulosum*			C		1
plants	land plants	Molluginaceae	*Mollugo verticillata*		Y			1/1
plants	land plants	Moraceae	*Ficus coronata*	creek sandpaper fig		C		1
plants	land plants	Moraceae	*Trophis scandens subsp. scandens*			C		1
plants	land plants	Myrsinaceae	*Ardisia crenata*		Y			1/1
plants	land plants	Myrsinaceae	*Myrsine variabilis*			C		1
plants	land plants	Myrtaceae	*Archirhodomyrtus beckleri*	rose myrtle		C		1/1
plants	land plants	Myrtaceae	*Backhousia citriodora*	lemon ironwood		C		1/1
plants	land plants	Myrtaceae	*Pilidiostigma rhytispermum*			C		1
plants	land plants	Myrtaceae	*Rhodomyrtus psidioides*	native guava		CR	CE	1
plants	land plants	Myrtaceae	*Syzygium luehmannii*			C		1
plants	land plants	Myrtaceae	*Waterhousea floribunda*	weeping lilly pilly		C		2
plants	land plants	Nephrolepidaceae	*Nephrolepis cordifolia*	fishbone fern		C		1/1
plants	land plants	Oleaceae	*Ligustrum sinense*	small-leaved privet	Y			2/1
plants	land plants	Onagraceae	*Ludwigia octovalvis*	willow primrose		C		4/4
plants	land plants	Onagraceae	*Ludwigia peploides subsp. montevidensis*			C		1/1
plants	land plants	Onagraceae	*Oenothera rosea*	rose evening primrose	Y			1/1
plants	land plants	Orchidaceae	*Stigmatodactylus amplexicaulis*			SL		1/1
plants	land plants	Phyllanthaceae	*Glochidion ferdinandi*			C		1
plants	land plants	Pittosporaceae	*Pittosporum tinifolium*			C		1/1
plants	land plants	Plantaginaceae	*Callitriche sonderi*			C		1/1
plants	land plants	Poaceae	*Cenchrus purpurascens*			C		1/1
plants	land plants	Poaceae	*Oplismenus imbecillis*			C		1/1
plants	land plants	Poaceae	*Paspalum plicatulum*	plicatulum	Y			1/1
plants	land plants	Poaceae	*Setaria palmifolia*	palm grass	Y			1/1
plants	land plants	Poaceae	*Setaria sphacelata*		Y			1/1
plants	land plants	Polygonaceae	*Persicaria attenuata*			C		1/1
plants	land plants	Polygonaceae	*Persicaria lapathifolia*	pale knotweed		C		2/2
plants	land plants	Pontederiaceae	*Pontederia cordata*		Y			1/1
plants	land plants	Rhamnaceae	*Alphitonia excelsa*	soap tree		C		1
plants	land plants	Rhamnaceae	*Alphitonia petriei*	pink ash		C		1/1
plants	land plants	Rosaceae	*Rhaphiolepis indica*	Indian hawthorn	Y			1/1
plants	land plants	Rosaceae	*Rubus moluccanus*			C		1
plants	land plants	Rosaceae	*Rubus moluccanus var. trilobus*			C		1/1
plants	land plants	Rubiaceae	*Cyclophyllum coprosmoides*			C		1
plants	land plants	Rubiaceae	*Gynochthodes jasminoides*			C		1
plants	land plants	Rutaceae	*Flindersia schottiana*	bumpy ash		C		1
plants	land plants	Sapindaceae	*Guioa acutifolia*	northern guioa		C		1
plants	land plants	Sapindaceae	*Mischocarpus pyriformis*			C		1
plants	land plants	Sapindaceae	*Sarcopteryx stipata*	steelwood		C		1
plants	land plants	Sapotaceae	*Pleioluma queenslandica*			C		1
plants	land plants	Sparrmanniaceae	*Triumfetta rhomboidea*	chinese burr	Y			1/1
plants	land plants	Symplocaceae	*Symplocos harroldii*	hairy hazelwood		NT		4/1
plants	land plants	Symplocaceae	*Symplocos thwaitesii*	buff hazelwood		C		1
plants	land plants	Verbenaceae	*Lantana camara*	lantana	Y			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 (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

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

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).
This number is output as 99999 if it equals or exceeds this value. A second number located after a / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

EPBC Act Protected Matters Report

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

Report created: 09-Nov-2022

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	54
Listed Migratory Species:	17

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	1
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	7
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Great sandy strait (including great sandy strait, tin can bay and tin can inlet)	40 - 50km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In feature area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Maccullochella mariensis Mary River Cod [83806]	Endangered	Species or species habitat known to occur within area	In buffer area only
Pseudomugil mellis Honey Blue Eye, Honey Blue-eye [26180]	Vulnerable	Species or species habitat may occur within area	In feature area
FROG			
Mixophyes fleayi Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area	In feature area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Vulnerable	Species or species habitat likely to occur within area	In feature area
INSECT			
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
Phyllodes imperialis smithersi Pink Underwing Moth [86084]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area	In feature area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
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	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus tridactylus Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
PLANT			
Archidendron lovelliae Bacon Wood, Tulip Siris [13451]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cossinia australiana Cossinia [3066]	Endangered	Species or species habitat may occur within area	In feature area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In feature area
Floydia praealta Ball Nut, Possum Nut, Big Nut, Beefwood [15762]	Vulnerable	Species or species habitat may occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macadamia ternifolia Small-fruited Queensland Nut, Gympie Nut [7214]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macrozamia pauli-guilielmi Pineapple Zamia [5712]	Endangered	Species or species habitat may occur within area	In feature area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Sarcochilus fitzgeraldii Ravine Orchid [19131]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sophora fraseri [8836]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
Triunia robusta Glossy Spice Bush [14747]	Endangered	Species or species habitat known to occur within area	In feature area
Xanthostemon oppositifolius Penda, Southern Penda, Luya's Hardwood [8738]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In feature area
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Elseya albagula Southern Snapping Turtle, White-throated Snapping Turtle [81648]	Critically Endangered	Species or species habitat may occur within area	In feature area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Marine Species			
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Heritage Places [Resource Information]

Name	State	Status	Buffer Status
Historic			
Cooroy Post Office	QLD	Listed place	In buffer area only

Listed Marine Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area

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

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Tewantin	National Park	QLD	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Bruce Highway Upgrade - Section A	2011/6024	Controlled Action	Post-Approval	In buffer area only
Northern Pipeline Interconnector Stage 2	2007/3686	Controlled Action	Post-Approval	In feature area
Six Mile Creek Dam Safety Upgrade Project, Qld	2017/8078	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
275 kV double-circuit transmission line between Woolooga Substation & new substation	2009/4840	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Referral decision				
14 km upgrade of the Bruce Highway	2010/5724	Referral Decision	Completed	In buffer area only
Bruce Highway 65 KIm Upgrade Project in Four Sections	2008/4452	Referral Decision	Completed	In buffer area only

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111