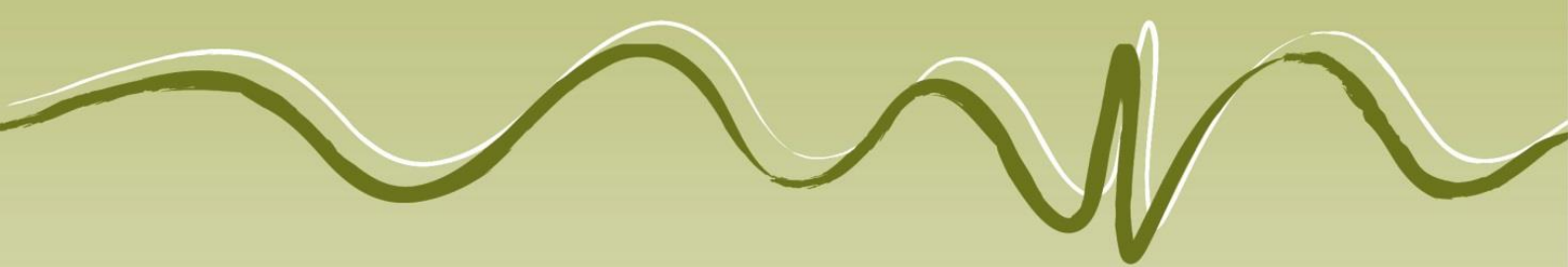


Biodiversity Assessment

Gaudrons Road, Sapphire Beach – Proposed Rezoning



PO Box 119
Lennox Head NSW 2478
T 02 6687 7666

PO Box 1446
Coffs Harbour NSW 2450
T 02 6651 7666

PO Box 1267
Armidale NSW 2350
T 02 6772 0454

PO Box 229
Lismore NSW 2480
T 02 6621 6677

info@geolink.net.au

Prepared for: Keiley Hunter Town Planning
© GeoLINK, 2021

APPENDIX 3 - BIODIVERSITY ASSESSMENT

<i>UPR</i>	<i>Description</i>	<i>Date Issued</i>	<i>Issued By</i>
3695-1011	First issue	16/03/2021	David Havilah
3695-1012	Second Issue	25/03/2021	Jessica O'Leary
3695-1013	Third Issue – Final	04/05/2021	Jessica O'Leary

Table of Contents

1.	Introduction	1
1.1	Background	1
1.2	The Sites	1
1.3	Biodiversity Values Mapping	1
1.4	The Proposal	2
2.	Methodology	5
2.1	Desktop Review	5
2.2	Field Assessment	5
3.	Flora Results	6
3.1	Desktop Analysis	6
3.1.1	Database Search Results	6
3.2	Site Features	6
3.2.1	Vegetation	6
3.2.2	Threatened Flora	7
3.2.3	Threatened Ecological Communities (TECs)	7
3.2.4	Weeds	7
3.2.5	Condition	8
4.	Fauna Habitat Results	12
4.1	Desktop Analysis	12
4.1.1	Database Search Results	12
4.2	Site Features	12
4.2.1	Habitat Values	12
4.2.2	Threatened and Significant Fauna Habitat	12
4.2.3	Potential for Threatened Species Occurrence	12
5.	Impacts and Mitigation	13
5.1	Biodiversity Constraints	13
5.2	Potential Impacts of Rezoning and Development	13
5.2.1	Clearing of Native Vegetation	13
5.2.2	Indirect Impacts	13
5.2.3	Prescribed Impacts	14
5.3	Recommendations	15
5.4	Future Requirements	15

APPENDIX 3 - BIODIVERSITY ASSESSMENT

6.	Statutory Requirements	17
6.1	State Environmental Planning Policy (SEPP) Koala Habitat Protection 2019	17
6.2	Coffs Harbour Development Control Plan (DCP) 2015	18
6.3	Biodiversity Conservation Act 2016 (BC Act)	19
6.4	Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	19

Illustrations

Illustration 1.1	The Sites	3
Illustration 1.2	Biodiversity Values Mapping	4
Illustration 3.1	Biodiversity Constraints Mapping	9

Tables

Table 1.2	Site Details	1
Table 3.1	Native Vegetation at the Sites	6
Table 5.1	Prescribed impacts	14
Table 6.1	High Conservation Value Vegetation Types (as per DCP 2015)	18
Table 6.2	Assessment of MNES	20

Appendices

Appendix A	Concept Subdivision Layouts
Appendix B	Database Search Results
Appendix C	Potential for Threatened Fauna Occurrence

Executive Summary

GeoLINK has been engaged to prepare a Biodiversity Assessment Report (BAR) to inform a rezoning planning proposal for the following three properties off Gaudrons Road at Sapphire Beach (the site):

- 9-9A Gaudrons Road, Sapphire Beach – Lot 11 DP 1141269
- 148-158 Gaudrons Road, Sapphire Beach – Lot 7 DP 555490
- 189 Gaudrons Road, Sapphire Beach – Lot 2 DP 550362

The proposal is to rezone the subject land from RU2 Rural Landscape to R5 Large Lot Residential. The proposal also seeks to amend the minimum lot size to permit the creation of additional lots with a minimum lot size of 0.5 hectares or less.

No Biodiversity Value mapped areas occur on the sites.

Results of field assessment are as follows:

- The three sites have been historically cleared and used for agricultural pursuits. Currently the sites occur as predominantly cleared lands comprising mostly exotic grasses, landscape and horticultural plantings with some peripheral patches of dry and wet sclerophyll forest.
- One threatened flora species, Scrub Turpentine (*Rhodamnia rubescens*) was detected at Lot 11 DP1141269 with two small saplings identified along the western boundary within forested vegetation. This species is listed as Critically Endangered under the BC Act and EPBC Act. Plants recorded were observed to have signs of past myrtle rust infection. The long-term prognosis for these plants is poor.
- No threatened ecological communities (TECs) occur at the sites.
- No significant habitat for threatened fauna occurs at the site although the site provides potential habitat for a number of locally occurring threatened fauna species.

The rezoning (and future development) of the site may result in the following potential biodiversity impacts, which based on the subdivision concept design may include:

- Loss of native vegetation
- Loss of isolated paddock trees
- Minor loss of preferred Koala feed trees
- Minor loss of hollow-bearing trees
- Minor intensification of human occupation with regard to native fauna (e.g. minor increase in traffic movements).
- Introduction of weed species during the construction period.
- Disturbance to fauna during construction and ongoing occupation.
- Fauna roadkill from a minor increase in vehicular traffic.

Review of statutory instruments relevant to the proposed rezoning was completed as follows:

- *State Environmental Planning Policy (SEPP) (Koala Habitat Protection) 2020* applies to all LGAs listed under Schedule 1, which includes the Coffs Harbour LGA. Where an approved Comprehensive Koala Plan of Management (CKPoM) is in place the SEPP defers to this plan. The *Coffs Harbour City Koala Plan of Management (CHCKPoM)* was prepared in accordance with the requirements of the SEPP and introduced in January 1995. Koala Habitat mapping indicates no mapped primary or secondary Koala habitat occurs at the site however areas of tertiary habitat are associated with vegetation on the sites. Compensatory plantings are not required for removal of this habitat.

APPENDIX 3 - BIODIVERSITY ASSESSMENT

- *Coffs Harbour Development Control Plan - (DCP - Part E1.2 (1) of the DCP outlines compensatory planting requirements for the removal of high conservation value vegetation. According to Part E1.2 (Compensatory Requirements) of the DCP, some of the vegetation at the subject site is considered high conservation value habitat. Compensatory planting is triggered by the following habitat types on site:*
 - Hollow-bearing trees - 1:20 replacement rate required.
- *Biodiversity Conservation Act 2016 (BC Act): As part of any future development application the following additional reporting would be required:*
 - For those new lots which require native vegetation clearing of over 0.25 ha the BOS will be triggered and a BDAR will be required. It is noted that this includes impacts associated with APZs and future boundary/ fence lines. The BDAR determines biodiversity credits which are required to be purchased by the proponent to offset impacts of the development.
 - For those lots which don't trigger the BOS (require native vegetation clearing < 0.25 ha) a revised Biodiversity Assessment Report (BAR) will be required to assess impacts of the final subdivision design. This report would be required to include updated statutory assessments including tests of significance (five-part tests) for potentially impacted threatened species.
- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act): review of Matters of Environmental Significance (MNES) listed in the Act indicates that rezoning and subsequent development of the site is unlikely to significantly affect threatened species or communities listed in the EPBC Act.*

It has been recommended that:

- Impacts to threatened flora (Scrub Turpentine) should be avoided on Lot 11 DP1141269 with a minimum 10 m buffer of retained vegetation to provide protection for these plants.
- Clearing of native vegetation (mapped as intact forested PCTs communities [695 and 1268 as mapped in **Illustration 3.1**] and hollow bearing trees) should be avoided in the final design of subdivision with building envelopes, and associated infrastructure and bushfire APZs to be located within previously cleared areas. The priority would be to retain intact native forest vegetation at the site with the derived grassland communities considered to be of relatively low conservation value.
- Measures to identify and protect intact native vegetation at the site be implemented by way of:
 - Subdivision design to avoid impacts to these areas
 - Adding mapped intact forest vegetation to the CHLEP Prescribed Vegetation map to trigger the requirements of the Vegetation SEPP and Part E1.2 (1) of DCP 2015 which outlines compensatory planting requirements for the removal of high conservation value vegetation.
 - Utilization of Section 88b under the Conveyancing Act to restrict use of forested areas by the landholder.

1. Introduction

1.1 Background

GeoLINK has been engaged to prepare a Biodiversity Assessment Report (BAR) to inform a rezoning planning proposal for three properties off Gaudrons Road at Sapphire Beach (the sites).

On this basis, this assessment has been prepared to:

- Identify any ecological constraints to the proposed rezoning (e.g. habitat for threatened species or communities listed in the *Biodiversity Conservation Act 2016* (BC Act) or *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- Identify any significant trees or fauna habitat features of biodiversity importance; and
- Examine the proposal against relevant statutory requirements.

1.2 The Sites

Site details are summarised below in **Table 1.1** Site Details

Table 1.1 Site Details

<i>Lot/ DP</i>	<i>Address</i>	<i>Area (ha)</i>	<i>Land use description</i>
Lot 11 DP 1141269	9-9A Gaudrons Road, Sapphire Beach	5.268	Past and presently used for banana production, the site includes an existing dwelling, sheds and greenhouses.
Lot 7 DP 555490	148-158 Gaudrons Road, Sapphire Beach	2.050	Currently grazed by goats and includes an existing dwelling and sheds.
Lot 2 DP 550362	189 Gaudrons Road, Sapphire Beach	4.475	Currently cleared and occasionally slashed. Includes an existing dwelling.

The sites are currently zoned RU2 (Rural Landscape) under the Coffs Harbour Local Environmental Plan (CHLEP) 2012 with the exception of a small part of 189 Gaudrons Road which is zoned as Environmental (E2).

The location of the sites is shown in **Illustration 1.1**.

1.3 Biodiversity Values Mapping

No Biodiversity Values (BV) mapped land occurs at the sites (refer to **Illustration 1.2**).

It is noted that any impact on BV mapped lands trigger the Biodiversity Offset Scheme (BOS) and the need for a Biodiversity Development Assessment Report (BDAR).

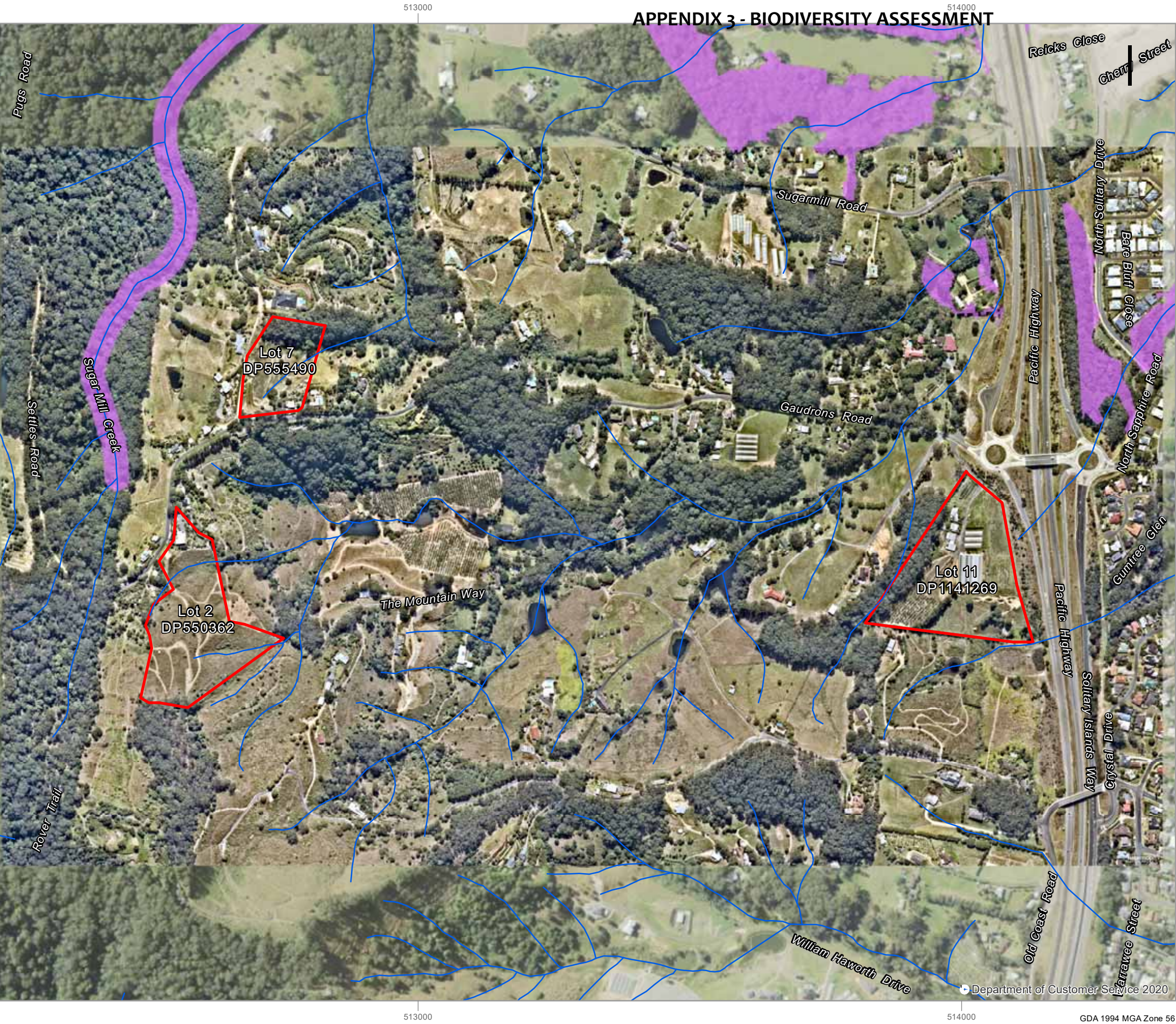
1.4 The Proposal

The proposal is to rezone the subject land from RU2 Rural Landscape to R5 Large Lot Residential. The proposal also seeks to amend the minimum lot size to permit the creation of additional lots with a minimum lot size of 0.5 ha or less. Concept subdivision layouts for the sites are included in **Appendix A.**

APPENDIX 3 - BIODIVERSITY ASSESSMENT



The Site - Illustration 1.1



LEGEND

- Site boundary
- Biodiversity Values mapping
- Watercourse



2. Methodology

2.1 Desktop Review

The following desktop review was completed prior to field assessment:

- A search of the BioNet Wildlife Atlas (10 km x 10 km grid centred on the site); completed February 2021.
- A search of the Protected Matters Search Tool (PMST) for Matters of National Environmental Significance (MNES) within a 5 km radius of the site; completed February 2021.
- Review of Biodiversity Value mapping (as per the OEH Biodiversity Values Map and Threshold Tool).

Details of the methodology used for field assessment are provided in **Section 2.2**. Results of database searches are attached at **Appendix B**.

2.2 Field Assessment

Field assessment was completed on 29 October 2020, using the following methodology:

- Walking survey to identify/ map native vegetation types and identify threatened flora or ecological communities listed in the BC Act or EPBC Act.
- GPS location of isolated paddock trees.
- Searches for Koala scats beneath primary Koala feed trees.
- Identification of hollow-bearing trees (or other significant habitat features) and potential habitat for threatened fauna.
- Opportunistic fauna survey.

Given that the site is relatively disturbed and generally lacking high quality vegetation/ fauna habitat, the scope of assessment is considered adequate.

3. Flora Results

3.1 Desktop Analysis

3.1.1 Database Search Results

BioNet search results identified records of 16 threatened flora species (including seven species also listed in the EPBC Act) and up to 12 threatened ecological communities (seven of which are listed under the EPBC Act) within the locality. PMST results identified habitat for 19 threatened flora species and four threatened ecological communities within the locality. Search results are provided at Error! Reference source not found..

3.2 Site Features

3.2.1 Vegetation

The three sites have been historically cleared and used for agricultural pursuits. Currently the sites occur as predominantly cleared lands comprising mostly exotic grasses, landscape and horticultural plantings with some peripheral patches of dry and wet sclerophyll forest (refer to **Illustration 3.1**). Descriptions of native vegetation at each site are provided in **Table 3.1**. Native vegetation communities are classified in accordance with plant community types (PCTs) in the BioNet Vegetation Classification based on characteristic species and geographical distribution.

Table 3.1 Native Vegetation at the Sites

9-9A Gaudrons Road	
Community	PCT
<p>Open forest (Blackbutt, Turpentine, Tallowwood) An area of open sclerophyll forest occurs along the western boundary of the property. This vegetation is dominated by Blackbutt (<i>Eucalyptus pilularis</i>), Tallowwood (<i>Eucalyptus microcorys</i>) and Small-fruited Grey Gum (<i>Eucalyptus propinqua</i>) with infrequent Grey Ironbark (<i>Eucalyptus siderophloia</i>) and Brush Box (<i>Lophostemon confertus</i>).</p> <p>The midstorey comprises Creek Sandpaper Fig (<i>Ficus coronata</i>), Hairy Psychotria (<i>Psychotria loniceroides</i>), Three-veined Laurel (<i>Cryptocarya triplinervis</i>) and Narrow-leaved Palm Lily (<i>Cordyline stricta</i>).</p> <p>The ground layer is sparse comprising occasional Spiny-headed Mat-rush (<i>Lomandra longifolia</i>), Blue Flax-lily (<i>Dianella caerulea</i>) and Gristle Fern (<i>Blechnum cartilagineum</i>).</p>	<p>PCT 695 - Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion</p>
<p>Native Grassland (Blady Grass/ Kangaroo Grass) A cleared area comprising regularly mown/ slashed grassland including mostly Blady Grass (<i>Imperata cylindrica</i>) and Kangaroo Grass (<i>Themeda triandra</i>) with less occasional Kikuyu Grass and Setaria Grass (<i>Setaria sphacelata</i>) occurs in the southern portion of the site.</p>	<p>Derived PCT 695 - Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion</p>
<p>Slash Pine and Brush Box/ Swamp Oak regrowth An area of Slash Pine (<i>Pinus elliottii</i>) and regenerating Swamp Oak (<i>Casuarina glauca</i>) and Brush Box (<i>Lophostemon confertus</i>) occurs in the south east corner of the site.</p>	<p>Derived PCT 695 - Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion</p>

APPENDIX 3 - BIODIVERSITY ASSESSMENT

148-158 Gaudrons Road, Sapphire Beach		
Community		PCT
<p>Open forest (Blackbutt, Turpentine, Tallowwood) Areas of open sclerophyll forest occur in the northern portion of the site and fringing the site along its southern boundary. This vegetation is dominated by Blackbutt (<i>Eucalyptus pilularis</i>), Tallowwood (<i>Eucalyptus microcorys</i>) and Small-fruited Grey Gum (<i>Eucalyptus propinqua</i>) with infrequent Grey Ironbark (<i>Eucalyptus siderophloia</i>) and Brush Box (<i>Lophostemon confertus</i>).</p> <p>The midstorey comprises Creek Sandpaper Fig (<i>Ficus coronata</i>), Hairy Psychotria (<i>Psychotria loniceroides</i>), Three-veined Laurel (<i>Cryptocarya triplinervis</i>) and Narrow-leaved Palm Lily (<i>Cordyline stricta</i>).</p> <p>The ground layer is sparse comprising occasional Spiny-headed Mat-rush (<i>Lomandra longifolia</i>), Blue Flax-lily (<i>Dianella caerulea</i>) and Gristle Fern (<i>Blechnum cartilagineum</i>).</p>		<p>PCT 695 - Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion</p>
189 Gaudrons Road, Sapphire Beach		
Community		PCT
<p>3 Open forest (Thick-leaved Mahogany, Tallowwood, Pink Bloodwood) Open sclerophyll forest dominated by Thick-leaved Mahogany (<i>Eucalyptus carnea</i>), Pink Bloodwood (<i>Corymbia intermedia</i>) and Tallowwood fringes the site along its southern boundary. The midstorey is sparse and includes Creek Sandpaper Fig and Forest Oak (<i>Allocasuarina torulosa</i>).</p> <p>The ground layer is sparse comprising occasional Spiny-headed Mat-rush (<i>Lomandra longifolia</i>), Blue Flax-lily (<i>Dianella caerulea</i>) and Gristle Fern (<i>Blechnum cartilagineum</i>).</p>		<p>PCT 1268 – Tallowwood open forest of the coastal ranges of the NSW North Coast Bioregion</p>

3.2.2 Threatened Flora

One threatened flora species, Scrub Turpentine (*Rhodamnia rubescens*) was detected at Lot 11 DP1141269 with two small saplings identified along the western boundary within forested vegetation. This species is listed as Critically Endangered under the BC Act and EPBC Act. Plants recorded were observed to have signs of past myrtle rust infection. The long-term prognosis for these plants is poor.

3.2.3 Threatened Ecological Communities (TECs)

Vegetation on the subject sites is not indicative of any TEC.

3.2.4 Weeds

A number of agricultural and environmental weeds occur as well as the following Priority Weeds as listed in the *Biosecurity Act 2015*:

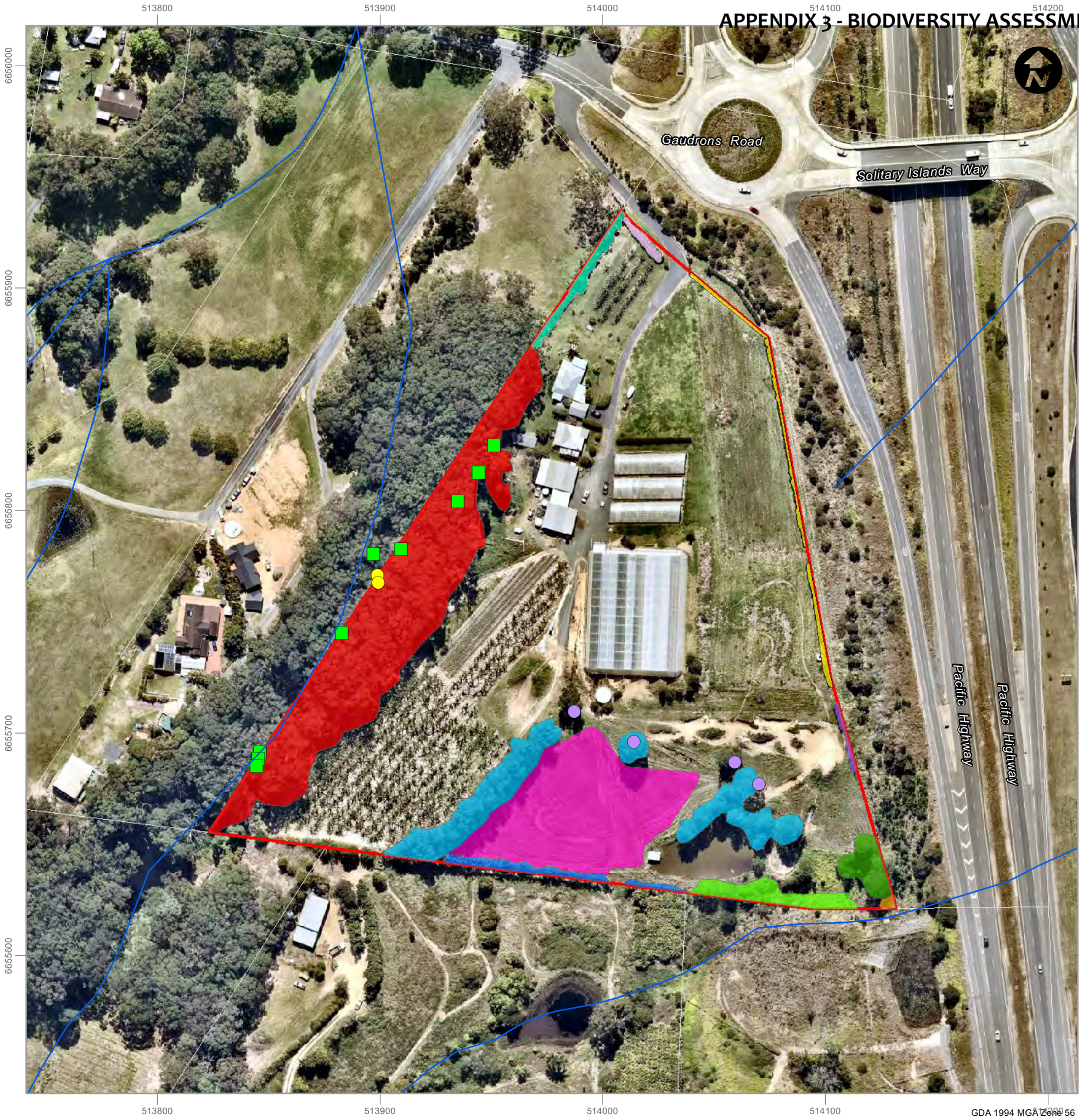
- Lantana (*Lantana camara*).

Relevant biosecurity duties must be enacted by land managers for weeds listed as Priority Weeds under the Biosecurity Act. Lantana is listed in the *Biosecurity Act 2015* as having a biosecurity duty of 'Prohibition of dealings' and "Must not be imported into the State or sold".

3.2.5 Condition

The sites are highly modified and disturbed from historic clearing and ongoing residential maintenance. Areas of eucalypt forest associated with the sites are in moderate condition with weed incursion present.

APPENDIX 3 - BIODIVERSITY ASSESSMENT

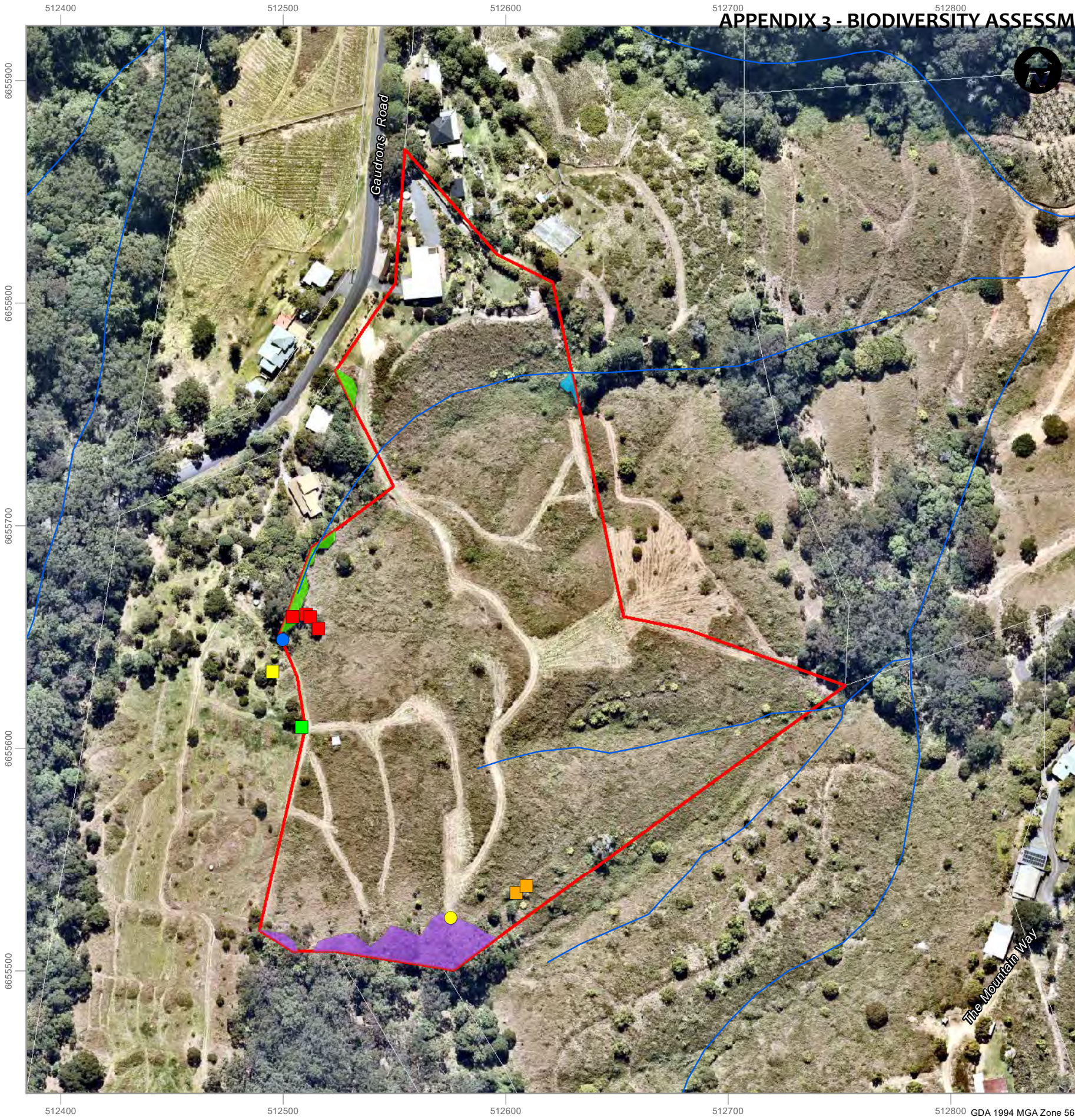


- LEGEND**
- Site boundary
 - Cadastrate
 - Bamboo hedge
 - Blady Grass/ Kangaroo Grass. Derived - PCT 695 Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion
 - Blueberry Ash hedge
 - Common Reed. Derived PCT 780 Coastal floodplain sedgelands, rushlands and forblands of the North Coast
 - PCT 695 Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion
 - Photinia hedge
 - Planted Bangalow Palms
 - Slash Pine
 - Slash Pine and Brush Box/ Swamp Oak regrowth. Derived - PCT 695 Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion
 - Slash Pine regrowth
 - Slash Pine / Lantana (regrowth)
 - Watercourse
 - Habitat tree
 - Scrub Turpentine (Threatened species)
 - Slash Pine

0 40 Metres



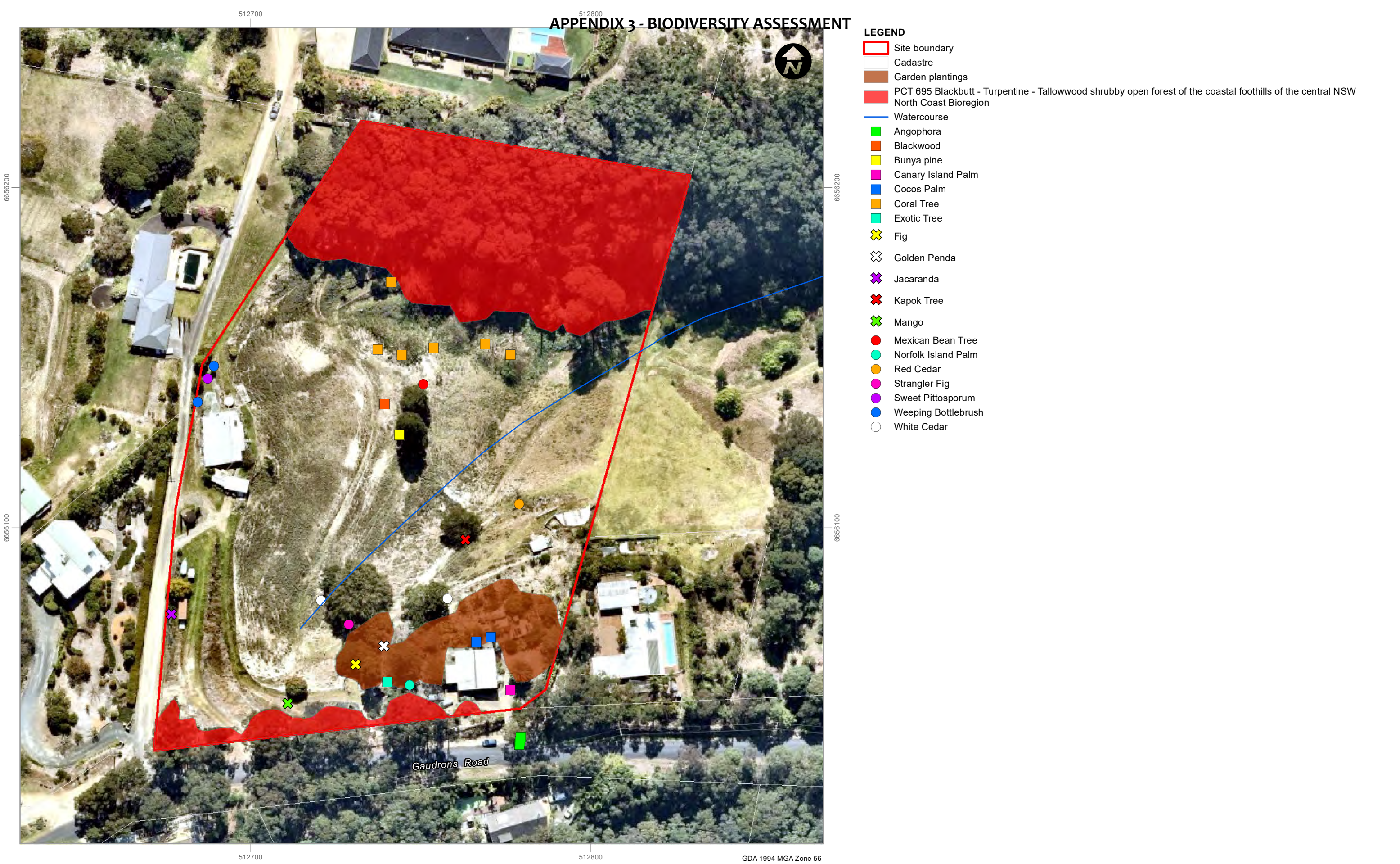
APPENDIX 3 - BIODIVERSITY ASSESSMENT



- LEGEND**
- Site boundary
 - Cadastre
 - Garden escapees and regrowth natives. Derived PCT 1268 Tallowwood open forest of the coastal ranges of the NSW North Coast Bioregion
 - PCT 1268 Tallowwood open forest of the coastal ranges of the NSW North Coast Bioregion
 - Slash Pine
 - Watercourse
 - Acacia
 - Callicoma
 - Creek Sandpaper Fig
 - Flooded Gum
 - Silky Oak
 - Tallowwood



Lot 2 / DP550362 - Biodiversity Constraints Mapping
Illustration 3.1 - Sheet 2 of 3



0 20 Metres



4. Fauna Habitat Results

4.1 Desktop Analysis

4.1.1 Database Search Results

BioNet search results identified records of 54 threatened fauna species (including 13 species also listed in the EPBC Act) within the locality. PMST results identified habitat for 63 threatened fauna species and 60 migratory fauna species within the locality (refer to search results at 0).

4.2 Site Features

4.2.1 Habitat Values

Areas of eucalypt forest and paddock trees associated with the sites provide foraging, roosting and nesting resources for locally occurring native fauna including birds, mammals, megachiropteran bats and micro chiropteran bats associated with seasonally fruiting/ flowering trees.

Hollowing-bearing trees on the sites (refer to **Illustration 3.1**) contain a small number of small to medium sized hollows which provides potential resources for hollow-obligate species such as nesting birds, arboreal mammals and microbats.

Aquatic habitat is largely absent from the sites with the exception of a farm dam on 9-9A Gaudrons Road which has minor potential to provide habitat for aquatic fauna including native fish, eels and turtles.

4.2.2 Threatened and Significant Fauna Habitat

No threatened fauna species were detected at the sites.

Primary Koala feed trees (Tallowwood) are associated with the sites. No Koalas or scats were detected at the sites suggesting a low level of Koala activity at the sites.

Due to the occurrence of several flowering and fruiting trees in the myrtaceae family, potential foraging habitat for the Grey-headed Flying-fox occurs. Several species of microchiropteran bats may forage within the site on an opportunistic or seasonal basis as part of broader areas of similar foraging habitat occurring within the locality.

4.2.3 Potential for Threatened Species Occurrence

Based on the desktop analysis and habitat present, the following threatened fauna species are considered to have a high potential to occur at the site on an opportunistic or seasonal basis (refer to potential occurrence assessment at 0):

- Little Bentwing-Bat
- Grey-headed Flying-fox.

5. Impacts and Mitigation

5.1 Biodiversity Constraints

Biodiversity constraints at the site include:

- Threatened flora species
- Areas of native vegetation
- Associated areas of fauna habitat
- Hollow-bearing trees.

The rezoning proposal would be designed to avoid and minimise impacts to biodiversity constraints with a focus on retaining mapped intact forested vegetation described as PCT 695 and 1268 (refer to **Illustration 3.1**).

5.2 Potential Impacts of Rezoning and Development

5.2.1 Clearing of Native Vegetation

Based on the current concept subdivision layouts (refer to **Appendix A**) rezoning and future development of the site would incur loss of native vegetation including areas of forested vegetation and isolated paddock trees. Whilst it may be possible to site infrastructure within cleared areas it is likely that some clearing would be required to facilitate new access, Asset Protection Zones (APZs) and new lot boundary (fence lines). Recommendations to avoid or minimise impacts to intact forest vegetation have been provided in **Sections 5.3** and **5.4** of this report and should be incorporated into subsequent subdivision design prior to finalising.

Native vegetation clearing would potentially include:

- Minor loss of preferred Koala feed trees comprising mature Tallowwood
- Minor loss of hollow-bearing trees (n= <10).

Clearing areas would need to be determined at the time of submitting a development application based on final subdivision designs.

5.2.2 Indirect Impacts

Indirect impacts are development related activities not associated with clearing for the development footprint and may include matters such as increased noise, dust, light spill, weeds and pathogens and edge effects that can be reasonably attributed to the development. Based on the construction requirements and nature of the proposed development (residential development), anticipated indirect development may include:

1. Minor short-term disturbance (noise, human activity, machine operations) to locally occurring urban-adapted fauna species during development, construction and operation.
2. Minor potential for reduced water quality and altered hydrology due to works.
3. Minor increased risk of roadkill from increased vehicular movements on surrounding roads. It is noted that this is likely to be very minor given the small number of additional residents likely.

APPENDIX 3 - BIODIVERSITY ASSESSMENT

4. Ongoing disturbance to local fauna during occupation of the site from noise, light, human presence.
5. Potential for weeds to be imported to the site and surrounding environments during the construction stage of the proposal.
6. Potential for additional minor impacts on native fauna from additional roaming domestic animals.

5.2.3 Prescribed Impacts

Prescribed impacts are those that may affect biodiversity values in addition to, or instead of, impacts from clearing vegetation, and include (as per cl. 6.1 of the BC Regulation):

- *the impacts of development on the habitat of threatened species or ecological communities associated with:*
 - *karst, caves, crevices, cliffs and other geological features of significance*
 - *rocks*
 - *human made structures*
 - *non-native vegetation*
- *the impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range*
- *the impacts of development on movement of threatened species that maintains their life cycle*
- *the impacts of development on water quality, waterbodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development)*
- *the impacts of wind turbine strikes on protected animals*
- *the impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community.*

An analysis of prescribed impacts is detailed in **Table 5.1**

Table 5.1 Prescribed impacts

Prescribed impact	Response
<i>the impacts of development on the habitat of threatened species or ecological communities associated with:</i> <ul style="list-style-type: none">- <i>karst, caves, crevices, cliffs and other geological features of significance</i>- <i>rocks</i>- <i>human made structures</i>- <i>non-native vegetation</i>	The site does not support karst geology and no rock features are evident. Human-made structures occur on the site but do not represent habitat for threatened species. Non-native vegetation includes landscaping plantings, gardens and lawns associated with existing residences. This vegetation does not represent likely habitat for any threatened species.
<i>the impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range</i>	The proposed rezoning and future subdivision of the site represents a relatively minor intensification of existing land uses on the site. Additional clearing may be required in parts of the sites. The proposal is considered unlikely to adversely affect connectivity for locally occurring threatened species.
<i>the impacts of development on movement of threatened species that maintains their life cycle</i>	Refer above

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Prescribed impact	Response
<i>the impacts of development on water quality, waterbodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development)</i>	No natural waterbodies occur on the subject sites.
<i>the impacts of wind turbine strikes on protected animals</i>	The Proposal is not a wind farm development.
<i>the impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community</i>	The Proposal may result in a very minor increase in vehicular traffic on surrounding roads however this given the additional small volume of traffic the change in risk of vehicle strike is considered to be negligible.

5.3 Recommendations

To minimise biodiversity impacts which may result from the proposed rezoning and future development of the site, the following measures should be considered:

- Impacts to threatened flora (Scrub Turpentine) should be avoided on Lot 11 DP1141269 with a minimum 10 m buffer of retained vegetation to provide protection for these plants.
- Clearing of native vegetation (mapped as intact forested PCTs communities [695 and 1268 as mapped in Illustration 3.1] and hollow bearing trees) should be avoided in the final design of subdivision with building envelopes, and associated infrastructure and bushfire APZs to be located within previously cleared areas. The priority would be to retain intact native forest vegetation at the site with the derived grassland communities considered to be of relatively low conservation value.
- Where native vegetation, tree hollows are to be cleared, compensation will be required (refer to **Section 5.2**).

5.4 Future Requirements

Based on the site assessment the proposed rezoning and future redevelopment of the sites would have relatively low impacts on biodiversity, assuming that future development avoids most areas of intact forested vegetation. In the event the rezoning proposal is accepted, the following requirements would need to be addressed for any future proposal to develop the site:

- Incorporate the recommendations in this assessment (**Section 5.3**) as part of future design.
- Based on the Northern Council's E Zone criteria none of the vegetation on the subject sites represents suitable land for E zones. However, it is recommended that the mapped PCTs 695 and 1268 be added to Councils Prescribed Vegetation mapping to trigger the requirements of the Vegetation SEPP and Part E1.2 (1) of DCP 2015 which outlines compensatory planting requirements for the removal of high conservation value vegetation at the following replacement rates:

APPENDIX 3 - BIODIVERSITY ASSESSMENT

- Native old growth, hollow-bearing or ecologically/aesthetically significant tree (1:20)
 - Endangered Ecological Community, Over-Cleared Vegetation Types and High Value Arboreal Habitats (1:10)
 - Primary Koala Habitat (1:5)
 - Secondary Koala Habitat (adjacent to primary koala habitat) (1:5)
 - Secondary Koala Habitat (not adjacent to primary koala habitat) (1:3)
 - Riparian Zones (1:10)
 - Steep Land (1:3)
 - Other (1:2)
-
- Alternatively, forested areas on the land may be protected on title under Section 88b of the Conveyancing Act 'Restriction as to User'. This would serve to exclude intact native vegetation at the site as part of the developable land use area. An example of where this could be implemented is Lot 11 where the new lot boundary (if fenced) would dissect the existing intact vegetation in the north of the proposed lots (and where significant vegetation clearing would likely be required).
 - As part of any future development application the following additional reporting would be required:
 - For those new lots which require clearing of native vegetation over 0.25 ha the BOS will be triggered and a BDAR will be required. It is noted that this includes impacts associated with APZs and future boundary/ fence lines. The BDAR determines biodiversity credits which are required to be purchased by the proponent to offset impacts of the development.
 - For those lots which don't trigger the BOS (require native vegetation clearing < 0.25 ha) a revised Biodiversity Assessment Report (BAR) will be required to assess impacts of the final subdivision design. This report would be required to include updated statutory assessments including tests of significance (five-part tests) for potentially impacted threatened species.
 - Both the BDAR and revised BARs to be prepared for a future development application will need to address Council's DCP and as such will need to determine compensation requirements and/or vegetation management measures to offset the loss of native vegetation where relevant.

6. Statutory Requirements

The following sections examine the findings of the site assessment with regard to relevant statutory requirements which require consideration for the development application.

6.1 State Environmental Planning Policy (SEPP) Koala Habitat Protection 2019

State Environmental Planning Policy (Koala Habitat Protection) 2020 applies to all LGAs listed under Schedule 1, which includes the Coffs Harbour LGA. Where an approved Comprehensive Koala Plan of Management (CKPoM) is in place the SEPP defers to this plan. The *Coffs Harbour City Koala Plan of Management (CHCKPoM)* was prepared in accordance with the requirements of the SEPP and introduced in January 1995.

Koala Habitat mapping for the sites as per the CHCKPoM is shown in **Figure 6.1 – Figure 6.3**. No mapped primary (red) or secondary (blue) Koala habitat occurs at the sites however areas of tertiary (green) habitat occur on the periphery of all sites. Under the Coffs Harbour DCP compensatory offset plantings are not required for impacts to tertiary Koala habitat (**refer to Section 6.2**).



Figure 6.1 CHCKPoM Koala Habitat Mapping for 9-9A Gaudrons Road



Figure 6.2 CHCKPoM Koala Habitat Mapping for 148-158 Gaudrons Road

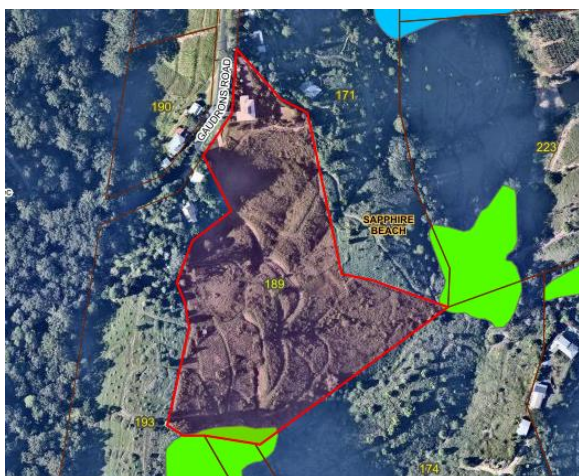


Figure 6.3 CHCKPoM Koala Habitat Mapping for 189 Gaudrons Road

6.2 Coffs Harbour Development Control Plan (DCP) 2015

Part E1.2 (1) of DCP 2015 outlines compensatory planting requirements for the removal of high conservation value vegetation (refer to definitions in **Table 6.1**). According to Part E1.2 (Compensatory Requirements) of the DCP, some vegetation at the subject sites is considered high conservation value habitat. Compensatory planting may be triggered by the following habitat types on the sites:

- Hollow-bearing trees - 1:20 replacement rate required.
- Steep Land - 1:3 replacement rate required.

Table 6.1 High Conservation Value Vegetation Types (as per DCP 2015)

<i>Description of Habitat Type</i>	<i>Replacement Rate</i>	<i>Does the vegetation to be impacted align with the high conservation value vegetation type description or require compensatory planting?</i>
Native old growth, hollow-bearing or ecologically/aesthetically significant tree	1:20	Possible – a number of hollow-bearing trees occur at the sites. Clearing of hollow-bearing trees would require compensatory plantings at a ratio of 1:20. Numbers of compensatory plantings will be determined at a later stage.
Endangered Ecological Community, Over-Cleared Vegetation Types and High Value Arboreal Habitats	1:10	No – the vegetation occurring on the sites does not align with this habitat type description and would not trigger the need for compensatory plantings.
Primary Koala Habitat	1:5	No – the vegetation occurring on the sites does not align with this habitat type description and would not trigger the need for compensatory plantings.
Secondary Koala Habitat (adjacent to primary koala habitat)	1:5	No – the vegetation occurring on the sites does not align with this habitat type description and would not trigger the need for compensatory plantings.
Secondary Koala Habitat (not adjacent to primary koala habitat)	1:3	No – the vegetation occurring on the sites does not align with this habitat type description and

APPENDIX 3 - BIODIVERSITY ASSESSMENT

<i>Description of Habitat Type</i>	<i>Replacement Rate</i>	<i>Does the vegetation to be impacted align with the high conservation value vegetation type description or require compensatory planting?</i>
		would not trigger the need for compensatory plantings.
Riparian Zones	1:10	No – the sites do not include any riparian zones.
Steep Land	1:3	Possible – Much of 189 Gaudrons Road is mapped as 'steep and erodible lands' under the DCP and as such would require compensatory plantings. Numbers of compensatory plantings will be determined at a later stage.
Other	1:2	n/a

6.3 Biodiversity Conservation Act 2016 (BC Act)

As part of any future development application the following additional reporting would be required:

- For those new lots which require native vegetation clearing of over 0.25 ha the BOS will be triggered and a BDAR will be required. It is noted that this includes impacts associated with APZs and future boundary/ fence lines. The BDAR determines biodiversity credits which are required to be purchased by the proponent to offset impacts of the development.
- For those lots which don't trigger the BOS (require clearing of native vegetation < 0.25 ha) a revised Biodiversity Assessment Report (BAR) will be required to assess impacts of the final subdivision design. This report would be required to include updated statutory assessments including tests of significance (five-part tests) for potentially impacted threatened species/ TECs as required under the BC Act.

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

The EPBC Act protects/ regulates matters of national environmental significance (MNES), including:

- World heritage properties
- National heritage places
- Wetlands of international importance
- Nationally threatened species and ecological communities
- Migratory species
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mining)
- A water resource, in relation to coal seam gas development and large coal mining development.

Based on the search results and site assessment, significant impacts to any MNES would not be likely to result from the proposal (refer to **Table 6.2**).

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Table 6.2 Assessment of MNES

Matter	Potential impact
<i>Any impact on a World Heritage property?</i>	
No World Heritage properties occur within a 5 km radius of the site.	Nil
<i>Any impact on a National Heritage place?</i>	
No National Heritage places occur within a 5 km radius of the site.	Nil
<i>Any impact on a Wetland of International Importance?</i>	
No wetlands of international importance (Ramsar sites) occur within a 5 km radius of the site.	Nil
<i>Any impact on the Great Barrier Reef Marine Park?</i>	
The Great Barrier Reef Marine park is distant from the site.	Nil
<i>Any impact on a Commonwealth marine area?</i>	
No Commonwealth marine areas occur within a 5 km radius of the site.	Nil
<i>Any impact on nationally threatened species and ecological communities?</i>	
Habitat for four threatened ecological communities and 82 threatened species is identified within a 5 km radius of the site. No EPBC listed ecological communities occur at the site. No listed threatened fauna species were recorded; the Grey-headed Flying-fox may use the sites on an opportunistic or seasonal basis when myrtaceous trees are in flower. Given the relatively fragmented and disturbed habitat within the site, the proposal would be unlikely result in the removal of habitat important to any threatened fauna species in a local context and would not contribute significantly to any listed key threatening processes.	Minor
<i>Any impact on Migratory species?</i>	
Habitat for 60 migratory species is identified within a 5km radius 10 of the site. Given the relatively fragmented and disturbed habitat present at the sites, migratory species are unlikely to be significantly affected by the proposal.	Minor

References

Biodiversity Conservation Division (2021). *Biodiversity Values Map and Threshold Tool (Version 11)*. Viewed February 2021. {<https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>}.

Coffs Harbour City Council online mapping portal. Viewed February 2021.
<https://enterprise.mapimage.net/intramaps97/default.htm?configId=002f3dcb-246d-4ce9-9a12-ce55e9df910f&project=CoffsHarbour%20Public&module=General%20Enquiry>

Coffs Harbour Development Control Plan (2015). Viewed February 2021. https://chcc-icon.saas.t1cloud.com/public/pages/plan/book.aspx?exhibit=chcc_standard_exhibition_dcp_2015

Department of the Environment and Energy (2021). *Protected Matters Search Tool*. Viewed January 2021.

Lunney, D., Moon, C., Matthews, A. & Turbill, J. (1999). *Coffs Harbour City Koala Plan of Management (Part A: The Plan)*. National Parks and Wildlife Service and Coffs Harbour City Council, NSW.

NSW Department of Planning, Industry and Environment (2020). *NSW BioNet Database Search Tool*. [Accessed 29/01/2021]. <http://www.bionet.nsw.gov.au/>

NSW Department of Planning, Industry and Environment (2020). *Threatened Species Profiles*. [Accessed February 2021]. <https://www.environment.nsw.gov.au/threatenedspeciesapp/>

Copyright and Usage

©GeoLINK, 2021

This document, including associated illustrations and drawings, was prepared for the exclusive use of Keiley Hunter Town Planning. It is not to be used for any other purpose or by any other person, corporation or organisation without the prior consent of GeoLINK. GeoLINK accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

This document, including associated illustrations and drawings, may not be reproduced, stored, or transmitted in any form without the prior consent of GeoLINK. This includes extracts of texts or parts of illustrations and drawings.

The information provided on illustrations is for illustrative and communication purposes only. Illustrations are typically a compilation of data supplied by others and created by GeoLINK. Illustrations have been prepared in good faith, but their accuracy and completeness are not guaranteed. There may be errors or omissions in the information presented. In particular, illustrations cannot be relied upon to determine the locations of infrastructure, property boundaries, zone boundaries, etc. To locate these items accurately, advice needs to be obtained from a surveyor or other suitably-qualified professional.

Appendix A

Concept Subdivision Layouts



PLAN 'D'



BS - BUILDING SITE
ALL DIMENSIONS AND AREAS
ARE SUBJECT TO SURVEY

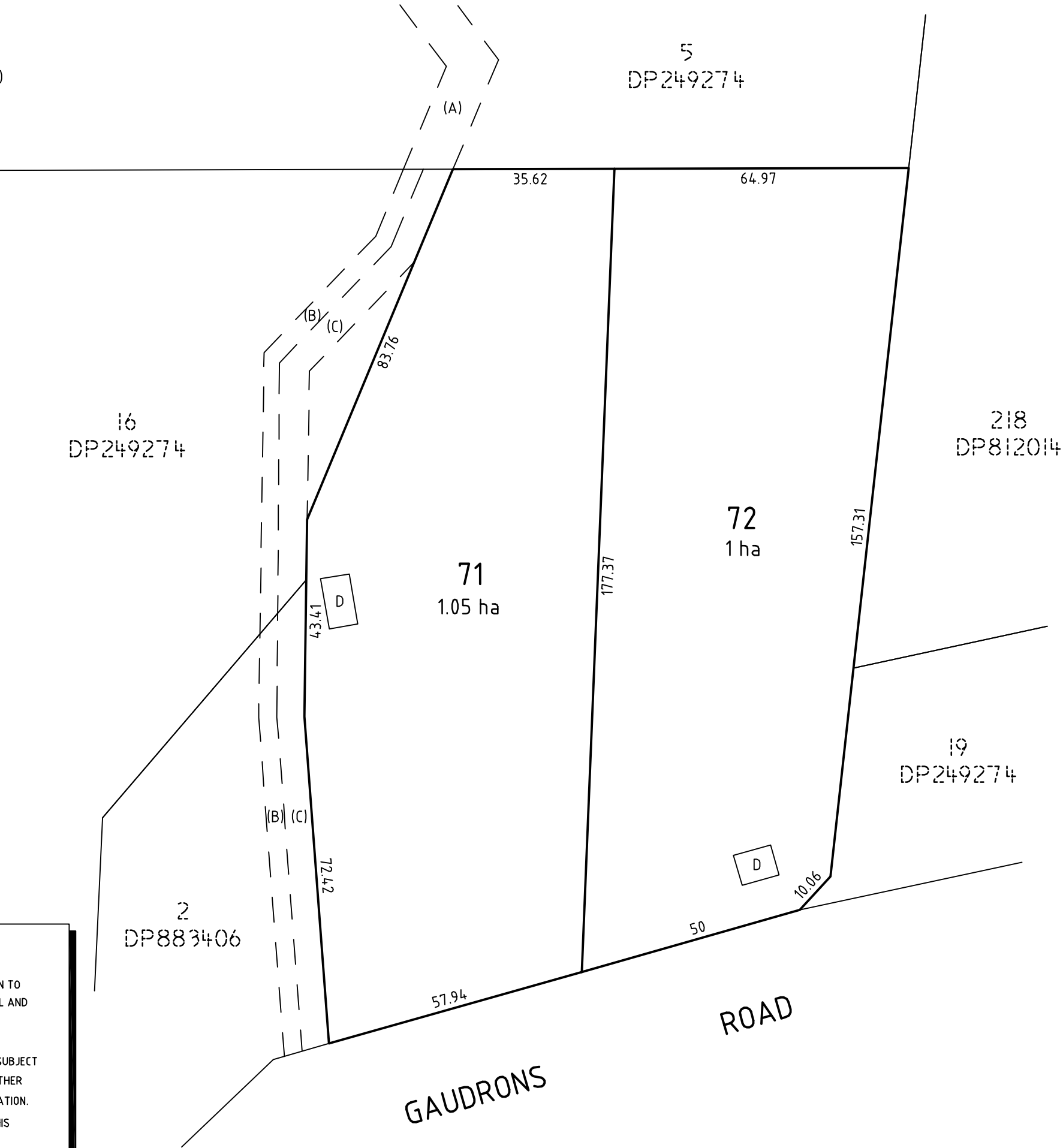
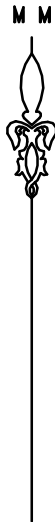
SCALE:					ORIGINAL		PLAN		SHEET		NO. OF		REVISIONS			
1:2000					SHEET SIZE		NO.		NO.		SHEETS		DATE		DETAILS	
					A3		D		5		5					
DATUM: AHD					JOB No:		6511		DRAWN:		IGE					
ORIGIN:					DATE:		22-07-2020									
R.L.:																

IAN G EVISON & PARTNERS
CONSULTING SURVEYORS, ENGINEERS AND PLANNERS
2 SEMAPHORE STREET
EMERALD BEACH NSW 2456
PO BOX 6136
COFFS HARBOUR NSW 2450
Mobile 0408 655 191
Email ige@aapt.net.au

PLAN OF PROPOSED SUBDIVISION OF
LOT 2 DP 550362 – 189 GAUDRONS ROAD
SAPPHIRE BEACH

(A) RIGHT OF CARRIAGEWAY 10.06 WIDE (DP249274)
(B) RIGHT OF CARRIAGEWAY 4.025 WIDE (DP249274)
(C) RIGHT OF CARRIAGEWAY 6.035 WIDE (DP539132)

D DENOTES DWELLING



DEVELOPMENT APPLICATION PLAN

THIS PLAN WAS PREPARED FOR KERRIE HUNTER AS A PROPOSED SUBDIVISION TO ACCOMPANY A DEVELOPMENT APPLICATION TO COFFS HARBOUR CITY COUNCIL AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.

THE DIMENSIONS, AREAS AND TOTAL NUMBER OF LOTS SHOWN HEREON ARE SUBJECT TO FINAL SURVEY AND ALSO TO THE REQUIREMENTS OF COUNCIL AND ANY OTHER AUTHORITY WHICH MAY HAVE REQUIREMENTS UNDER ANY RELEVANT LEGISLATION. IN PARTICULAR NO RELIANCE SHOULD BE PLACED ON THE INFORMATION ON THIS PLAN FOR ANY FINANCIAL DEALINGS INVOLVING THE LAND.

**BLAIRLANSKEY RUSSELL
SURVEYING**

REGISTERED SURVEYORS ABN 66 365 526 230



P. O. Box 2453 COFFS HARBOUR N.S.W. 2450
190 PACIFIC HIGHWAY (NORTH)
COFFS HARBOUR 2450
Tel: (02) 6652 5090
Fax: (02) 6651 1495
Email: bls@blsurvey.com

Client & Project

K HUNTER
LOT 7 DP 555490
148 GAUDRONS ROAD
SAPPHIRE BEACH

Drawing Title
**PLAN OF PROPOSED SUBDIVISION
OF LOT 7 DP 555490**

Scale at A3 1 : 1000	Date JUNE 2016	Approved
Job No. 9194	Datum	Field Book No.

Drawing No.	01	Revision No.	A
-------------	----	--------------	---

Appendix B

Database Search Results



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

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

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

Report created: 19/02/21 13:49:06

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



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

[Coordinates](#)

Buffer: 5.0Km



Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	82
Listed Migratory Species:	60

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	90
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	6
Regional Forest Agreements:	1
Invasive Species:	40
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[Resource Information]

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

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

Listed Threatened Species

[Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Atrichornis rufescens Rufous Scrub-bird [655]	Endangered	Species or species habitat may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Name	Status	Type of Presence
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Erythroriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Name	Status	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Thalassarche bulleri_platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis cucullatus_cucullatus Hooded Plover (eastern), Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat may occur within area
Fish		
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat likely to occur within area
Frogs		
Litoria olongburensis Wallum Sedge Frog [1821]	Vulnerable	Species or species habitat may occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Endangered	Species or species habitat known to occur within area
Insects		
Argynnis hyperbius_inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
Phyllodes imperialis_smithersi Pink Underwing Moth [86084]	Endangered	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat likely to occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Acronychia littoralis Scented Acronychia [8582]	Endangered	Species or species habitat likely to occur within area
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
Haloragis exalata subsp. velutina Tall Velvet Sea-berry [16839]	Vulnerable	Species or species habitat may occur within 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
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat likely to occur within area
Marsdenia longiloba Clear Milkvine [2794]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Parsonsia dorrigoensis Milky Silkpod [64684]	Endangered	Species or species habitat likely to occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area
Plectranthus nitidus Nightcap Plectranthus, Silver Plectranthus [55742]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat known to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat known to occur within area
Samadera sp. Moonee Creek (J.King s.n. Nov. 1949) [86885]	Endangered	Species or species habitat known to occur within area
Sarcochilus fitzgeraldii Ravine Orchid [19131]	Vulnerable	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat known to occur within area
Tylophora woollsii [20503]	Endangered	Species or species habitat likely to occur within area
Zieria prostrata Headland Zieria [56782]	Endangered	Species or species habitat likely to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area
Sharks		
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species

Name	Status	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Rhincodon typus		habitat known to occur within area
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus		
Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes		
Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Ardenna grisea		
Sooty Shearwater [82651]		Species or species habitat likely to occur within area
Ardenna pacifica		
Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Calonectris leucomelas		
Streaked Shearwater [1077]		Species or species habitat may occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora		
Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans		
Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi		
Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Fregata ariel		
Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Fregata minor		
Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Macronectes giganteus		
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Phoebastria fusca		
Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Sternula albifrons		
Little Tern [82849]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat known to occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Australian Telecommunications Commission

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat may occur within area
Catharacta skua Great Skua [59472]		Species or species habitat may occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea gibsoni Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Name	Threatened	Type of Presence
Limosa lapponica Bar-tailed Godwit [844]	APPENDIX 3 - BIODIVERSITY ASSESSMENT	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]		Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]	Vulnerable	Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]	Critically Endangered	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]		Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area
Pachyptila turtur Fairy Prion [1066]	Vulnerable	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phoebastria fusca Sooty Albatross [1075]		Species or species habitat may occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]	Endangered*	Foraging, feeding or related behaviour likely to occur within area
Puffinus griseus Sooty Shearwater [1024]		Species or species habitat likely to occur within area
Puffinus pacificus Wedge-tailed Shearwater [1027]		Breeding known to occur within area
Rhipidura rufifrons Rufous Fantail [592]	Endangered*	Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]		Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within

Name	Threatened	Type of Presence area
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche sp. nov. Pacific Albatross [66511]	Vulnerable*	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Campichthys tryoni Tryon's Pipefish [66193]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus kelloggi Kellogg's Seahorse, Great Seahorse [66723]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat- faced Seahorse [66720]		Species or species habitat may occur within area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat likely to occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Microphis manadensis Manado Pipefish, Manado River Pipefish [66258]		Species or species habitat may occur within area
Solegnathus dunckeri Duncker's Pipehorse [66271]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area
Whales and other Cetaceans		
		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area

Name	Status	Type of Presence
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Bruxner Park	NSW
Coffs Coast	NSW
Kororo	NSW
Moonee Beach	NSW
Split Solitary Island	NSW
UNE Special Management Zone No1	NSW

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
North East NSW RFA	New South Wales

Invasive Species [Resource Information]

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

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

Name	Status	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Lonchura punctulata		within area
Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus		
House Sparrow [405]		Species or species habitat likely to occur within area
Pycnonotus jocosus		
Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis		
Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris		
Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula		
Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina		
Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus		
Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris		
Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus		
Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer		
Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis		
Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus		
House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus		
Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus		
Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus		
Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa		
Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes		
Red Fox, Fox [18]		Species or species

Name	Status	Type of Presence
APPENDIX 3 - BIODIVERSITY ASSESSMENT		
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Reptiles		

Name	Status	Type of Presence
Hemidactylus frenatus		
Asian House Gecko [1708]		Species or species habitat likely to occur within area

APPENDIX 3 - BIODIVERSITY ASSESSMENT

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

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

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

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

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

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-30.22691 153.14159

Acknowledgements APPENDIX 3 - BIODIVERSITY ASSESSMENT

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.

APPENDIX 3 - BIODIVERSITY ASSESSMENT

















Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Threatened (listed on BC Act 2016) or Commonwealth listed Communities in selected area [North: -30.18 West: 153.09 East: 153.19 South: -30.28] returned 0 records for 12 entities.

Report generated on 19/02/2021 1:41 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Community				<i>Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	V	K	
Community				<i>Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				<i>Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	CE	K	
Community				<i>Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions</i>		Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E3	CE	K	
Community				<i>Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion</i>		Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	E3	CE	K	
Community				<i>Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions</i>		Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	E3	E	K	
Community				<i>Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion</i>		Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	E3		K	
Community				<i>Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	E	K	
Community				<i>Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				<i>Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions</i>		Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				<i>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and</i>		White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and	E4B	CE	P	
Community				<i>White Gum Moist Forest in the NSW North Coast Bioregion</i>		White Gum Moist Forest in the NSW North Coast Bioregion	E3		K	

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Threatened (listed on BC Act 2016) or Commonwealth listed Plants in selected area [North: -30.18 West: 153.09 East: 153.19 South: -30.28] returned a total of 980 records of 16 species.
Report generated on 19/02/2021 1:39 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Plantae	Flora	Apocynaceae	1233	<i>Marsdenia longiloba</i>		Slender Marsdenia	E1	V	68	
Plantae	Flora	Apocynaceae	9505	<i>Parsonsia dorrigoensis</i>		Milky Silkpod	V	E	1	
Plantae	Flora	Araceae	10749	^^ <i>Typhonium sp. aff. brownii</i>		Stinky Lily	E1,3		1	
Plantae	Flora	Fabaceae (Faboideae)	2897	<i>Kennedia retrorsa</i>			V	V	2	
Plantae	Flora	Fabaceae (Faboideae)	11644	<i>Pultenaea maritima</i>		Coast Headland Pea	V		9	
Plantae	Flora	Fabaceae (Faboideae)	3032	<i>Sophora tomentosa</i>		Silverbush	E1		5	
Plantae	Flora	Lindsaeaceae	8128	^^ <i>Lindsaea incisa</i>		Slender Screw Fern	E1,3		20	
Plantae	Flora	Myrtaceae	4283	<i>Rhodamnia rubescens</i>		Scrub Turpentine	E4A		31	
Plantae	Flora	Myrtaceae	4284	<i>Rhodomyrtus psidioides</i>		Native Guava	E4A		15	
Plantae	Flora	Orchidaceae	9027	^ <i>Diuris praecox</i>		Rough Doubletail	V,P,2	V	1	
Plantae	Flora	Poaceae	8979	<i>Alexfloydia repens</i>		Floyd's Grass	E1		8	
Plantae	Flora	Rutaceae	9496	<i>Zieria prostrata</i>		Headland Zieria	E1	E	3	
Plantae	Flora	Rutaceae	5847	<i>Zieria smithii</i>		Low growing form of Z. smithii, Diggers Head	E2		2	
Plantae	Flora	Santalaceae	5871	<i>Thesium australe</i>		Austral Toadflax	V	V	8	
Plantae	Flora	Sapotaceae	11957	<i>Niemeyera whitei</i>		Rusty Plum, Plum Boxwood	V		221	
Plantae	Flora	Simaroubaceae	9497	<i>Quassia sp. Moonee Creek</i>		Moonee Quassia	E1	E	585	

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Threatened (listed on BC Act 2016) or Commonwealth listed Animals in selected area [North: -30.18 West: 153.09 East: 153.19 South: -30.28] returned a total of 713 records of 54 species.
Report generated on 19/02/2021 1:37 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Amphibia	Myobatrachidae	3075	<i>Mixophyes iteratus</i>		Giant Barred Frog	E1,P,2	E	31	
Animalia	Amphibia	Hylidae	3169	<i>Litoria brevipalmata</i>		Green-thighed Frog	V,P		3	
Animalia	Reptilia	Cheloniidae	2004	<i>Caretta caretta</i>		Loggerhead Turtle	E1,P	E	2	
Animalia	Reptilia	Cheloniidae	2007	<i>Chelonia mydas</i>		Green Turtle	V,P	V	3	
Animalia	Reptilia	Cheloniidae	2008	<i>Eretmochelys imbricata</i>		Hawksbill Turtle	P	V	3	
Animalia	Reptilia	Elapidae	2677	<i>Hoplocephalus stephensii</i>		Stephens' Banded Snake	V,P		9	
Animalia	Aves	Casuariidae	0001	<i>Dromaius novaehollandiae</i>		Emu population in the New South Wales North Coast Bioregion and Port Stephens local government area	E2,P		1	
Animalia	Aves	Columbidae	0025	<i>Ptilinopus magnificus</i>		Wompoo Fruit-Dove	V,P		64	
Animalia	Aves	Columbidae	0021	<i>Ptilinopus regina</i>		Rose-crowned Fruit-Dove	V,P		18	
Animalia	Aves	Apodidae	0334	<i>Hirundapus caudacutus</i>		White-throated Needletail	P	V,C,J,K	55	
Animalia	Aves	Procellariidae	0971	<i>Pterodroma solandri</i>		Providence Petrel	V,P		1	
Animalia	Aves	Ciconiidae	0183	<i>Ephippiorhynchus asiaticus</i>		Black-necked Stork	E1,P		6	
Animalia	Aves	Ardeidae	0196	<i>Ixobrychus flavicollis</i>		Black Bittern	V,P		6	
Animalia	Aves	Accipitridae	0226	<i>Haliaeetus leucogaster</i>		White-bellied Sea-Eagle	V,P		43	
Animalia	Aves	Accipitridae	0225	<i>Hieraetus morphnoides</i>		Little Eagle	V,P		6	
Animalia	Aves	Accipitridae	0230	<i>Lophoictinia isura</i>		Square-tailed Kite	V,P,3		3	
Animalia	Aves	Accipitridae	8739	<i>Pandion cristatus</i>		Eastern Osprey	V,P,3		23	
Animalia	Aves	Gruidae	0177	<i>Grus rubicunda</i>		Brolga	V,P		1	
Animalia	Aves	Burhinidae	0175	<i>Esacus magnirostris</i>		Beach Stone-curlew	E4A,P		3	
Animalia	Aves	Haematopodidae	0131	<i>Haematopus fuliginosus</i>		Sooty Oystercatcher	V,P		21	
Animalia	Aves	Haematopodidae	0130	<i>Haematopus longirostris</i>		Pied Oystercatcher	E1,P		10	
Animalia	Aves	Lariidae	0117	<i>Sternula albifrons</i>		Little Tern	E1,P	C,J,K	2	
Animalia	Aves	Cacatuidae	0268	<i>Callocephalon fimbriatum</i>		Gang-gang Cockatoo	V,P,3		1	
Animalia	Aves	Cacatuidae	0265	<i>Calyptorhynchus lathamii</i>		Glossy Black-Cockatoo	V,P,2		63	
Animalia	Aves	Psittacidae	0260	<i>Glossopsitta pusilla</i>		Little Lorikeet	V,P		29	
Animalia	Aves	Psittacidae	0309	<i>Lathamus discolor</i>		Swift Parrot	E1,P,3	CE	19	
Animalia	Aves	Strigidae	0246	<i>Ninox connivens</i>		Barking Owl	V,P,3		1	
Animalia	Aves	Strigidae	0248	<i>Ninox strenua</i>		Powerful Owl	V,P,3		4	
Animalia	Aves	Tytonidae	0252	<i>Tyto longimembris</i>		Eastern Grass Owl	V,P,3		1	
Animalia	Aves	Tytonidae	0250	<i>Tyto novaehollandiae</i>		Masked Owl	V,P,3		1	
Animalia	Aves	Tytonidae	9924	<i>Tyto tenebrosa</i>		Sooty Owl	V,P,3		10	
Animalia	Aves	Climacteridae	8127	<i>Climacteris picumnus victoriae</i>		Brown Treecreeper (eastern subspecies)	V,P		1	
Animalia	Aves	Meliphagidae	0603	<i>Anthochaera phrygia</i>		Regent Honeyeater	E4A,P	CE	3	
Animalia	Aves	Neosittidae	0549	<i>Daphoenositta chrysoptera</i>		Varied Sittella	V,P		11	
Animalia	Aves	Campephagidae	0428	<i>Coracina lineata</i>		Barred Cuckoo-shrike	V,P		4	
Animalia	Aves	Artamidae	8519	<i>Artamus cyanopterus cyanopterus</i>		Dusky Woodswallow	V,P		4	
Animalia	Aves	Petroicidae	0380	<i>Petroica boodang</i>		Scarlet Robin	V,P		2	
Animalia	Mammalia	Dasyuridae	1008	<i>Dasyurus maculatus</i>		Spotted-tailed Quoll	V,P	E	1	
Animalia	Mammalia	Dasyuridae	1017	<i>Phascogale tapoatafa</i>		Brush-tailed Phascogale	V,P		1	
Animalia	Mammalia	Dasyuridae	1045	<i>Planigale maculata</i>		Common Planigale	V,P		2	
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>		Koala	V,P	V	104	
Animalia	Mammalia	Petauridae	1136	<i>Petaurus australis</i>		Yellow-bellied Glider	V,P		11	
Animalia	Mammalia	Petauridae	1137	<i>Petaurus norfolcensis</i>		Squirrel Glider	V,P		8	
Animalia	Mammalia	Pseudocheiridae	1133	<i>Petauroides volans</i>		Greater Glider	P	V	1	
Animalia	Mammalia	Pteropodidae	1280	<i>Pteropus poliocephalus</i>		Grey-headed Flying-fox	V,P	V	33	
Animalia	Mammalia	Pteropodidae	1294	<i>Syconycteris australis</i>		Common Blossom-bat	V,P		9	
Animalia	Mammalia	Emballonuridae	1321	<i>Saccolaimus flaviventris</i>		Yellow-bellied Sheath-tail-bat	V,P		2	
Animalia	Mammalia	Molossidae	1329	<i>Micronomus norfolkensis</i>		Eastern Coastal Free-tailed Bat	V,P		3	
Animalia	Mammalia	Vespertilionidae	1357	<i>Myotis macropus</i>		Southern Myotis	V,P		7	
Animalia	Mammalia	Vespertilionidae	1369	<i>Phoniscus papuensis</i>		Golden-tipped Bat	V,P		4	

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Animalia	Mammalia	Miniopteridae	1346	<i>Miniopterus australis</i>	Little Bent-winged Bat	V,P	24	
Animalia	Mammalia	Miniopteridae	3330	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V,P	4	
Animalia	Mammalia	Balaenopteridae	1575	<i>Megaptera novaeangliae</i>	Humpback Whale	V,P V	2	
Animalia	Insecta	Hesperiidae	1023	<i>Ocybadistes knightorum</i>	Black Grass-dart Butterfly	E1	29	

Appendix C

Potential for Threatened Fauna Occurrence

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Table C.1 Threatened Fauna Potential Occurrence Assessment*

*Migratory/pelagic marine species identified in the search results are not assessed as no habitat occurs at the site

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
Amphibians							
<i>Litoria brevipalmata</i>	Green-thighed Frog	V	-	Rainforest, moist to dry eucalypt forest and heath, typically where surface water gathers after rain.	Marginal habitat associated with forested parts of the sites.	Low – scarce local records	No
<i>Mixophyes iteratus</i>	Giant Barred Frog	E	E	Deep, damp leaf litter in rainforests, moist eucalypt forest and near dry eucalypt forest.	No appropriate riparian habitat at the site.	Low	No
Aves							
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE	Dry open forest and woodland with an abundance of nectar-producing eucalypts, particularly box-ironbark woodland, swamp mahogany forests, and riverine sheoak woodlands.	Marginal foraging habitat associated with the site.	Low	No
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	Woodlands and dry open sclerophyll forests, usually dominated by eucalypts; also recorded in shrublands, heathlands and various modified habitats.	Marginal foraging habitat associated with the site.	Low	No
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	-	Wetter forests and woodlands, timbered watercourses, coastal scrub.	Low quality habitat at the site.	Low – no local records	No
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	Sheoaks in coastal forests and woodlands, timbered watercourses, and moist and dry eucalypt forests of the coast and the Great Divide up to 1,000 m.	Foraging habitat associated with occasional Forest Oaks on the site.	Moderate	No – negligible impacts likely
<i>Climacteris picumnus</i>	Brown Treecreeper	V	-	Eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range, and less commonly on coastal plains and ranges.	Marginal foraging habitat associated with forested parts of the site.	Low – only one local record not proximate to the site	No
<i>Coracina lineata</i>	Barred Cuckoo-shrike	V	-	Rainforest, eucalypt woodlands, swamp woodlands and timber along watercourses.	Suitable foraging habitat associated with forested areas.	Moderate	No – negligible impacts likely

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	Inhabits eucalypt forests and woodlands, especially rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland.	Suitable foraging habitat associated with the site.	Low – no recent local records proximate to the site	No – negligible impacts likely
<i>Dromaius novaehollandiae</i>	Emu population in the NSW North Coast Bioregion and Port Stephens LGA	E	-	Open forest, woodland, coastal heath, coastal dunes, wetland areas, tea tree plantations and open farmland, and occasionally in littoral rainforest.	No suitable habitat at the site	Low – no local records	No
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-	Swamps, mangroves, mudflats, dry floodplains.	No suitable habitat at the site	Low	No
<i>Esacus magnirostris</i>	Beach Stone-curlew	CE	-	Tidal flats at the mouth of estuaries or on open beaches.	No suitable habitat at the site	Low	No
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	Forages in open Eucalyptus forest and woodland; also feeds on Angophora, Melaleuca and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity.	Suitable foraging habitat at the site	Moderate	No – negligible impacts likely
<i>Grus rubicunda</i>	Brolga	V	-	Shallow swamps, floodplains, grasslands and pastoral lands, usually in pairs or parties.	No suitable habitat at the site	Low	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V	-	Intertidal rocky and coral reefs, mostly ocean shores.	No suitable habitat at the site	Low	No
<i>Haematopus longirostris</i>	Pied Oystercatcher	E	-	Open beaches, intertidal flats, sandbanks and occasionally rocky headlands.	No suitable habitat at the site	Low	No

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle	V	-	Coastal habitats and around terrestrial wetlands characterised by the presence of large areas of open water (larger rivers, swamps, lakes, ocean). Habitats may include freshwater swamps, lakes, reservoirs, billabongs, saltmarsh and sewage ponds in addition to bays and inlets, beaches, reefs, lagoons, estuaries and mangroves.	Potential to occur foraging over the site	Moderate	No – unlikely to be impacted as a highly mobile species
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	Open eucalypt forest, woodland or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW are also used.	Potential to occur foraging over the site	Moderate	No – unlikely to be impacted as a highly mobile species
<i>Hirundapus caudacutus</i>	White-throated Needletail	-	V	Most often recorded aerial foraging above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy. Breeding does not occur in Australia.	Potential to occur foraging over the site	Moderate	No – unlikely to be impacted as a highly mobile species
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	Dense vegetation fringing and in streams, swamps, tidal creeks and mudflats, particularly amongst swamp sheoaks and mangroves.	Marginal habitat associated with Sugar Mill Creek.	Low	No
<i>Lathamus discolor</i>	Swift Parrot	E	CE	On mainland Australia foraging occurs where eucalypts are flowering profusely or where abundant lerp infestations occur. Favoured feed trees include winter flowering species such as Swamp Mahogany Eucalyptus robusta, Spotted Gum Corymbia maculata, Red Bloodwood C. gummifera, Forest Red Gum E. tereticornis, Mugga Ironbark E. sideroxylon, and White Box E. albens. Commonly used lerp infested trees include Inland Grey Box E. microcarpa, Grey Box E. moluccana, Blackbutt E. pilularis and Yellow Box E. melliodora.	Suitable foraging habitat at the site	Moderate	No – negligible impacts likely

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	Dry woodland and open forest, particularly along major rivers and belts of trees in urban or semi-urban areas. Home ranges can extend over at least 100 km ² .	Potential to occur foraging over the site	Moderate	No – unlikely to be impacted
<i>Ninox connivens</i>	Barking Owl	V	-	Eucalypt woodland, open forest, swamp woodlands and timber along watercourses.	No suitable nesting habitat on the site. Suitable foraging habitat present.	Moderate	No
<i>Ninox strenua</i>	Powerful Owl	V	-	Woodland and open forest to tall moist forest and rainforest. Requires large tracts of forest or woodland habitat but may also occur in fragmented landscapes.	No suitable nesting habitat on the site. Suitable foraging habitat present.	Moderate	No
<i>Pandion cristatus</i>	Eastern Osprey	V	-	Littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. Typically occur in coastal areas but occasionally travel inland along major rivers. Wetland habitats include inshore waters, reefs, bays, coastal cliffs, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes.	The site does not represent permanent habitat for this species.	Low	No
<i>Petroica boodang</i>	Scarlet Robin	V	-	Dry eucalypt forests and woodlands with an open and grassy understorey with few scattered shrubs. Both mature and regrowth vegetation are utilised; habitat usually contains abundant logs and fallen timber.	Very marginal habitat at the site	Low	No
<i>Ptilinopus magnificus</i>	Wompoo Fruit-dove	V	-	Rainforests, low-elevation moist eucalypt forest, and Brush Box forests.	Marginal foraging habitat associated with the site.	Moderate	No
<i>Ptilinopus regina</i>	Rose-crowned Fruit-dove	V	-	Subtropical and dry rainforest, moist eucalypt forest and swamp forest.	Suitable habitat associated with the site	Moderate	No

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
<i>Sternula albifrons</i>	Little Tern	E	-	Coastal waters, bays, shallow inlets, salt or brackish lakes.	No suitable habitat at the site	Low	No
<i>Tyto longimembris</i>	Eastern Grass Owl	V	-	Areas of tall grass, including tussocks in swampy areas, grassy plains, swampy heath, cane grass, sedges on flood plains.	No suitable habitat at the site	Low	No
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	Dry eucalypt forest and woodlands.	No suitable nesting habitat on the site. Suitable foraging habitat present.	Moderate	No
<i>Tyto tenebricosa</i>	Sooty Owl	V	-	Dry, subtropical and warm temperate rainforests and wet eucalypt forests. Nest in large tree hollows.	No suitable nesting habitat on the site. Suitable foraging habitat present.	Moderate	No
Mammals							
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Near cave entrances and crevices in cliffs.	No caves/ cliffs near the site	Low	No
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	Dry and moist eucalypt forests and rainforests, fallen hollow logs, large rocky outcrops.	Small areas of marginal foraging habitat associated with the site	Low	No
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V	-	Occurs in dry sclerophyll forest and woodland east of the Great Dividing Range. Roosts in tree hollows.	Potential aerial foraging habitat associated with the site	Moderate	No – negligible impact likely
<i>Miniopterus australis</i>	Little Bent-winged Bat	V	-	Moist eucalypt forest, rainforest and dense coastal scrub.	Suitable foraging habitat present	High	Yes
<i>Myotis macropus</i>	Southern Myotis	V	-	Bodies of water, rainforest streams, large lakes, reservoirs.	Suitable foraging habitat associated with Sugar Mill Creek	Moderate	No – habitat would not be impacted
<i>Petauroides volans</i>	Greater Glider	-	V	Ranges and coastal plains of eastern Australia, where it inhabits a variety of eucalypt forests and woodlands.	Marginal habitat - no suitable denning hollows present	Low	No

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
<i>Petaurus australis</i>	Yellow-bellied Glider	V	-	Tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Dens in tree hollows of large trees, often in family groups. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.	Marginal habitat - no suitable denning hollows present	Low	No
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	Blackbutt, bloodwood and ironbark eucalypt forest with heath understorey in coastal areas, and box-ironbark woodlands and River Red Gum forest inland.	Marginal habitat associated with the site. Scarce recent local records.	Low	No
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	V	-	Drier forests and woodlands with hollow-bearing trees and sparse ground cover.	Marginal habitat associated with the site and no proximal records.	Low	No
<i>Phascolarctos cinereus</i>	Koala	V	V	Appropriate food trees in forests and woodlands, and treed urban areas.	Suitable feed trees at the site but scarce recent local records.	Moderate	No – negligible impact likely
<i>Phoniscus papuensis</i>	Golden-tipped Bat	V	-	Rainforest and adjacent sclerophyll forest. Roosts in abandoned hanging Yellow-throated Scrubwren and Brown Gerygone nests.	Potential aerial foraging habitat associated with the site	Moderate	No – negligible impact likely
<i>Planigale maculata</i>	Common Planigale	V	-	Rainforest, eucalypt forest, heathland, marshland, grassland and rocky areas with surface cover close to water.	Suitable foraging habitat associated with Sugar Mill Creek	Moderate	No – habitat would not be impacted
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	Suitable foraging habitat present	High	Yes

APPENDIX 3 - BIODIVERSITY ASSESSMENT

Scientific name	Common name	BC Act	EPBC Act	Habitat requirement	Suitability of site habitat	Potential occurrence	Need for five-part test
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V	-	Forages in a variety of habitats, roosts in tree hollows and buildings.	Potential aerial foraging habitat associated with the site	Moderate	No – negligible impact likely
<i>Syconycteris australis</i>	Common Blossom-bat	V	-	Feeds in heathland and paperbark swamps; roosts in littoral rainforest. Also recorded in subtropical rainforest, wet sclerophyll forest and other coastal forests.	Suitable foraging habitat associated with Sugar Mill Creek	Moderate	No – habitat would not be impacted
Reptiles							
<i>Hoplocephalus stephensii</i>	Stephens' Banded Snake	V	-	Rainforest and eucalypt forests and rocky areas up to 950 m.	Poor quality habitat at the site and no local records.	Low	No
Insects							
<i>Ocybadistes knightorum</i>	Black Grass-dart Butterfly	E	-	Confined to coastal stands of Swamp Oak and Paperbark where Floyd's Grass grows edging the upper tidal areas of mangroves.	Floyds Grass was not detected at the site.	Low	No