

# Annual Compliance Report

## EPBC 2016/7724

4 December 2021 – 3 December 2022  
(Year 2)

Riverside Celestino  
Teviot Road, Jimboomba, Queensland  
Celestino Pty Ltd

28 February 2023

Ref: 8107

**CELESTINO** 

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# Document Control

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## Document Issue

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B	28.02.2023	AW	AW

Prepared by

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# Acronyms and References

ACR	Annual Compliance Report
DAM	Declared Area Map
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Cth)
DAWE	Department of Agriculture, Water and the Environment (Cth) (now DCCEEW)
DNRME	Department of Natural Resources, Mines and Energy (Qld) (now DOR)
DOR	Department of Resources (Qld)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
GHFF	Grey-headed Flying-fox
ha	hectares
kilometres	km
LCC	Logan City Council
m	metres
OMP	Offset Management Plan
PMAV	Property Map of Assessable Vegetation
QTFN	Queensland Trust for Nature
RE	Regional Ecosystem
SAT	Spot Assessment Technique
SHG	Saunders Havill Group
VMA	<i>Vegetation Management Act 1999</i> (Qld)
OMP	Offset Management Plan for EPBC 2016/7724, prepared by Queensland Trust for Nature (April 2019)
Year 1 OAMR	Aroona Station Offset Area Management Report – Baseline Year 1 2016/7724, prepared by Queensland Trust for Nature (January 2022)
Year 2 OAMR	Aroona Station Offset Area Management Report – Baseline Year 2 2016/7724, prepared by Queensland Trust for Nature (January 2023)

# 1. Introduction

This Annual Compliance Report (ACR) Year 2 (4 December 2021 – 3 December 2022) has been prepared on behalf of Celestino Pty Ltd (the Proponent) for the Riverside Celestino Development (EPBC 2016/7724) located on Teviot Road, Jimboomba.

In accordance with the approval granted on the 28 September 2020 under the *Environment Protection and Biodiversity Act 1999* (EPBC Act), this ACR has been prepared in response to Condition 25 which states:

*"The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must*

- a. *Publish each compliance report on the website within 60 business days following the relevant 12 month period;*
- b. *Notify the Department by email that a compliance report has been published on the website and provide the weblink for the compliance report within 5 business days of the date of the publication;*
- c. *Keep all compliance reports publicly available on the website until this approval expires;*
- d. *Exclude or redact sensitive ecological data from compliance reports published on the website; and*
- e. *Where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication."*

## 1.2. Reporting Period

This ACR details the status and compliance of the Project for the 12 month reporting period between the 4 December 2021 to 3 December 2022.

The ACR must be published on the Proponent's website and notification provided to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) (the Department) within 60 business days of the 12 month anniversary of the commencement of the action.

## 1.3. EPBC Approval

Celestino Pty Ltd, as the Proponent of the Project (reference EPBC 2016/7724) was issued with an approval by the Department on the 28 September 2020, subject to conditions. A variation to the approval was made and approved by the delegate of the Minister on 23 December 2021. The variation included the removal of condition 5 and replacement with a new condition, addition of condition 5A and removal of notes 1, 2 and 3. Refer to **Appendix A** for the EPBC Act approval and variation.

Key details related to EPBC 2016/7724 approval are provided in **Table 1**.

**Table 1: Approval Details**

<b>Commonwealth Reference</b>	EPBC 2016/7724
<b>Approval Holder</b>	Celestino Pty Ltd
<b>ABN</b>	74 165 629 783
<b>Project Name on the Approval</b>	Residential Development, Teviot Road, Jimboomba, 17 km north of Beaudesert, Queensland (EPBC 2016/7724)

<b>Approved Action</b>	To construct a residential development on Lot 800 on SP247625, Lots 101, 102, 104, 105 and 106 on SP254145 on Teviot Road, Jimboomba, 17 km north of Beaudesert, Queensland.
<b>Controlling Provision(s)</b>	Listed threatened species and communities (sections 18 & 18A) Commonwealth actions (section 28)
<b>Approval Date</b>	28 September 2020
<b>Expiry Date of the Approval</b>	31 August 2050
<b>Date of Commencement of the Action</b>	4 December 2020
<b>Address</b>	Teviot Road, Jimboomba
<b>Local Government Area</b>	Logan City Council (LCC)

## 1.4. Site Context

Contextually, the Project is located on Teviot Road, Jimboomba, in Queensland, approximately 40 kilometres (km) southwest of Brisbane City, and 17 km north of Beaudesert within the Logan City region. The application site is approximately 553 hectares (ha) in area. The action will result in the removal of 330.8 hectares (ha) of habitat deemed critical for the Koala and Grey-headed flying-fox (GHFF). A further 3.5 ha is considered to be functionally lost as a result of the development. Notably, the development site will include over 150 ha of mixed open and greenspace precinct, including approximately 98 ha of conservation corridor for the preservation of the Koala and Grey-headed Flying-fox. Refer to **Figure 1** for site context.

## 1.5. Declaration of Accuracy

This declaration has been signed by the approval holder.

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.



Signed

Full name (please print)

Sam Maynard

Position (please print)

Principal Environmental Scientist / Associate Partner

Organisation (please print including ABN/ACN if applicable) Saunders Havill Group ABN 24 144 972 949

Date

28 / 02 / 2023

## 1.6. Overview of Key Activities and Achievements

The action commenced on 4 December 2020 when the Aroona Station offset site was legally secured through Voluntary Declaration (VDEC) under the *Vegetation Management Act 1999* (VMA). Key activities completed and findings recorded during the December 2021 to December 2022 compliance period include:

### Impact Site:

- Clearing of Koala and Grey-headed Flying-fox critical habitat on the impact site commenced in January 2022. Clearing was carried out intermittently to December 2022. Clearing works are set to be completed in 2023.

### Offset Site:

- Annual weed, non-native predator and non-native herbivore, Grey-headed Flying-fox habitat condition and Koala species stock rate monitoring assessments with the following findings:
  - Weed abundance and cover generally declined over the offset site and high priority areas for weed management, particularly of *Lantana camara* (Lantana) were identified within gully lines;
  - Non-native predator abundance and occupancy generally demonstrated a declining trend over the monitoring period;
  - Increase in the density of Koalas and evidence of breeding as determined through Spot Assessment Technique (SAT) surveys and direct observations;
  - *Corymbia intermedia* and *Eucalyptus tereticornis* were the dominant flowering forage trees with year round flowering recorded within the offset site.
- Monitoring of non-native predators and herbivores using camera trapping to determine relative abundance index (RAI) and occupancy across the site.
- Opportunistic scat analysis of non-native predators. Scat analysis indicates Koala does not form part of non-native predator diet.
- Use of cattle grazing in OMU-1 and OMU-2 to reduce fuel loads.
- No Koala injuries or mortalities caused by non-native predators or cattle were recorded on the offset site.
- One ecological burn was conducted on the offset site as part of revegetation works.
- Ecological firebreaks were inspected and maintained at regular intervals.

### Indirect Offsets:

- A range of studies as outlined by the indirect offsets strategy were commenced. Studies are on track to be completed over the next 12 month period.



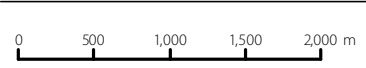
**Legend**

 Referral Area

**Figure 1**  
Site Context



**File ref.** 8107 E Figure 1 ACR2 Site Context A  
**Date** 22/02/2023  
**Project** Riverside



Scale (A4): 1:50,000 [GDA 2020 MGA Z56]

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## 2. Current Status of the Project

### 2.1. Conditions 1 to 4 - Development Actions

Tree clearing commenced within the impact site on 19 January 2022 in accordance with Attachment A of the EPBC approval. The Department was notified via email correspondence on 19 January 2022 that clearing had commenced on the site within 5 business days of clearing commencing, in accordance with **condition 21b**. Separate to this action, Seqwater have commenced roadworks along Bushland Road. Construction activities have not commenced on-site.

Refer to **Plan 1** for a plan of the impact on Koala and GHFF critical habitat. Approximately 120.9 ha out of 121.6 ha of remnant habitat has been impacted and 199.2 ha of out of 209.2 ha of regrowth habitat has been impacted. A total of 320.1 ha of Koala and GHFF critical habitat has been impacted. A site inspection was completed by an Ecologist from SHG on 16 February 2023 confirming all vegetation clearing was carried out within the approved clearing limits (refer **Photo set 1**).



**Photo set 1: Year 2 site survey photos.**

Queensland Fauna Consultancy (QFC) was engaged by the civil site contractor CCA Winslow to provide fauna spotter catcher services during the clearing phase of the action. A Wildlife and Habitat Impact Mitigation Plan (WHIMP) and a Wildlife Protection and Management Plan (WPMP) were issued for Separable Portions 1, 2 and 3 in January 2022 (refer **Appendix B**) and then again for Separable Portions 4 to 7 in October 2022 (refer **Appendix C**). Fauna Management and Spotter/Catcher Service Reports including pre-clearing and post-clearing details were issued for each month of clearing.

Observed fauna were mostly limited to common reptiles, arboreal mammals and birds which were relocated (or self-relocated) to adjacent localities comprising suitable refugia and feeding resources consistent with individual species requirements. Young were taken to a certified wildlife carer or veterinary clinic. Several Koalas were recorded throughout the clearing period, with observation dates listed below. For each instance, an exclusion zone was established and the Koala was left to self-relocate. No injuries to Koala occurred as a result of the clearing.

- One Koala sighting on 20 June 2022
- One Koala sighting on 29 June 2022
- One adult female Koala with a joey on 27 September 2022
- One adult female Koala with a joey on 5 October 2022 (same individuals as 27 September)
- One adult female Koala with a joey on 6 October 2022 (same individuals as 5 October)

- One adult male on 10 October 2022
- One adult male on 11 October 2022 (same individual as 10 October)

The Fauna Management Reports containing the details of the above Koala sightings are dated June, September and October and are provided in **Appendix D**.

### 2.1.1 Unauthorised clearing incident

It is noted in this reporting period that a small amount of unauthorised clearing occurred within the impact site by a third-party contractor as part of adjacent road works which resulted in the unauthorised removal of two (2) mature eucalypt trees. The clearing works occurred on 6 February 2023 and were not completed as part of the approval clearing works, and without the permission or knowledge of the approval holder. While it is acknowledged that the clearing undertaken was not in accordance with the approval, the works were not completed by the approval holder and therefore is not considered a non-compliance for the purposes of this approval. The approval holder is working with the third-party contractor to rectify the incident. The impacted area will be rehabilitated with species to be reinstated in line with the local vegetation community.

A letter from the third-party contractor addressing the incident, including an Arborist report which identified the two (2) trees as hazardous to their works is provided in **Appendix E**.

## 2.2. Condition 5A

The *EPBC Indirect Offset Strategy: Jimboomba Residential Development Project* was accepted by the Department on 22 December 2021, within the first 12 months of the approval. The Department considered the strategy to meet the requirements of the conditions as varied in the approval. This was detailed in the Year 1 ACR. Refer to the **Year 1 ACR – Appendix E** for the notification letter from DAWE approving the Indirect Offset Strategy and **Year 1 ACR – Appendix F** for a copy of the Indirect Offset Strategy. **Conditions 5A (a) to (c)** are addressed in the Indirect Offset Strategy.

In response to **condition 5A (d)** and as required by the Indirect Offset Strategy, a 12 month progress report has been completed providing a status update on actions completed, preliminary outcomes and identification of any issues that may delay completion of the project. This is provided as **Appendix F**. Tasks 2 and 3 are at various stages of completion, with faecal sampling of the Jimboomba Koala population approximately 70% complete and genetic sampling tasks in progress.

## 2.3. Condition 6 – Annual Surveys

The status of the Aroona Station offset site was assessed by QTFN as part of annual monitoring surveys with results documented within the Year 2 Offset Area Management Report (Year 2 OAMR) located at **Appendix G**. The results of the surveys, pertaining to **conditions 6c to 6g** are summarised in the following subsections.

### 2.3.1 Condition 6c – Grey-headed Flying-fox habitat condition

In accordance with **condition 6c**, the number and condition of Grey-headed Flying-fox winter or spring flowering foraging species was assessed across each assessment plot.

A range of eucalypt species are present across the offset site which ensures that year-round flowering can occur. *Corymbia intermedia* and *Eucalyptus tereticornis* were the most dominant flowering forage trees with *E. tereticornis* flowering recorded later and longer in 2022. One GHFF individual was observed foraging on-site during the surveys. Assessment results of flowering trees and monitoring are provided in Section 2.2 of the Year 2 OAMR located at **Appendix G**.

### 2.3.2 Condition 6d – Koala Species Stocking Rate

In accordance with **condition 6d**, Koala species stocking rate data was collected in Year 2 to supplement Year 1 baseline data and is to be an ongoing component of annual surveys. This was achieved through the completion of Spot Assessment Technique (SAT) survey monitoring throughout the offset site and opportunistic searches for scats and Koalas.

SAT survey results demonstrate an increase in Koala density and abundance, indicated by an average increase in the recorded number of scats for SAT surveys. It was also confirmed that the site is used for breeding.

Two (2) Koalas were observed during the period with one directly observed and the other recorded via motion sensor camera trap.

### 2.3.3 Condition 6e – Weed Assessment

Weed assessments were completed at permanently marked transect locations for the purpose of monitoring the annual changes in weed coverage across the site in the lead up to milestone surveys every 5 years. At the property scale, woody weed coverage in the form of *Lantana camara* (Lantana) and *Schinus terebinthifolius* (Broad-leaved Pepper) remains stable attributed to above average rainfall. Within the offset site specifically, a decline in Lantana extent and coverage was recorded, attributed to the ecological burn completed across a portion of the site, however, it was recorded to be prevalent within gully lines. A contractor has been engaged to manage weeds in identified high priority areas, particularly within the Endangered blue gum alluvial flats (RE 12.3.3).

### 2.3.4 Condition 6f – Non-native Predators and Herbivores

In accordance with **condition 6f**, the number and abundance of non-native predators and non-native herbivores was determined across the offset site. Monitoring of non-native predators and non-native herbivores was completed in Year 2 and will remain a component of annual monitoring surveys in the lead up to the Year 5 milestone surveys. Surveys used a combination of scat searches and analysis and camera trapping. Camera trapping was performed biannually to account for seasonal variations with Year 2 surveys completed in Summer 2021 and Winter 2022. Activity and abundance of non-native predators was determined through the use of two metrics:

- Relative abundance index (RAI); and
- Occupancy – proportion of camera trapping stations at which a predator was detected.

Key results indicate a peak in abundance and occupancy of wild dogs in Summer 2021, declining to baseline thresholds in Winter 2022. Fox abundance and occupancy remained at the baseline threshold, with a small decline in Winter 2022. Wild pigs are confirmed to occupy the offset site with variable abundance and occupancy; however, it was demonstrated that disturbance of revegetation areas as a result of pigs did not occur. No cats were recorded.

### 2.3.5 Condition 6g - Koala Mortalities

In accordance with **condition 6g**, Koala mortalities were determined across the site as caused by non-native predators. No Koala mortalities caused by non-native predators were recorded in the 2021-2022 reporting period.

## 2.4. Condition 13 – Stock Management

Cattle were permitted into a portion of the site for the purpose of fuel hazard management in accordance with the OMP and **condition 13** where grass biomass reached levels of high to very high. Cattle were excluded from revegetation areas. Fuel hazard assessments were conducted biannually (January and August) with higher fuel hazard ratings recorded in 2022 attributed to above average rainfall. No evidence of Koala injury or mortality caused by cattle grazing was recorded.

## 2.5. Condition 14 – Stock grazing impacts

**Condition 14** requires an analysis of how cattle grazing at the Aroona Offset Site has facilitated or impacted the achievement of outcomes prescribed under conditions 15-18. An analysis was completed under conditions 14a to 14e to review how cattle grazing has facilitated or impacted the offset outcomes sought. Table 8 of the QTFN site report provided in **Appendix G** provides the duration, frequency, locations and nature of grazing land use across the offset site. Biannual monitoring of the fuel load was completed and recorded higher fuel load ratings following recent rainfall and generating the need to use stock for load reduction where conditions may not have provided safe burn conditions.

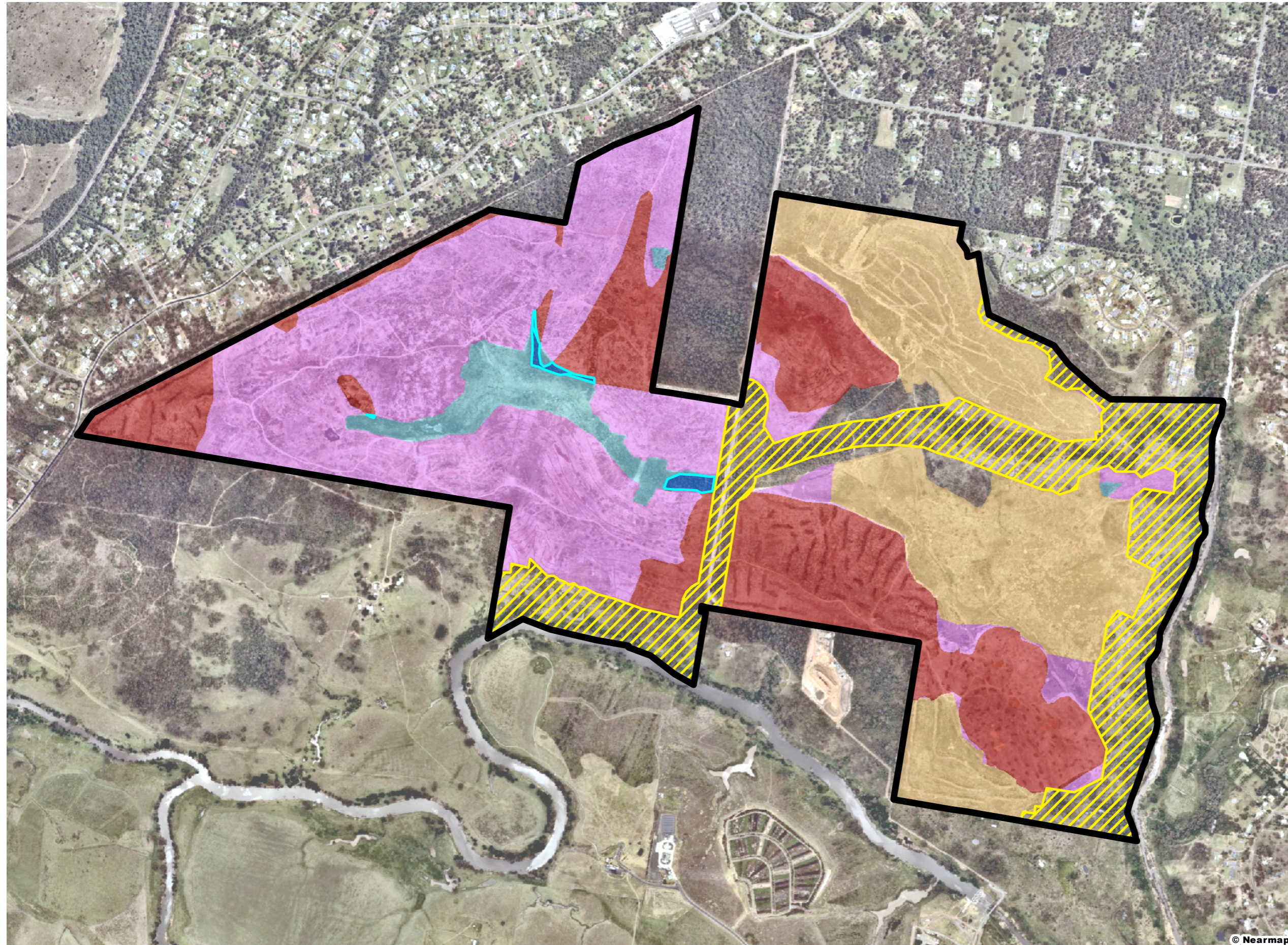
No evidence of Koala injury or mortality as a result of cattle grazing was recorded and no corrective action is necessary.

## 2.6. Conditions 15 to 18 - Ecological Management

Under **conditions 15 to 18** and the additional objective of reaching the year 5 targets of the Offset improvement conditions (**conditions 8 to 11**), a number of works and management activities were completed in Year 2. These have been summarised as follows:

- One cattle grazing period was completed between fuel hazard assessments to reduce the fuel load with cattle excluded at all times from revegetation zones.
- A weed contractor was engaged to commence removal of Lantana and Broad-Leaved Pepper in high priority areas, including blue gum alluvial flats (RE 12.3.3) (**condition 10**).
- Long term non-native predator management has been underway on the property since 2018, with the most recent contractor engaged in summer 2020. Non-native predator management is informed by ongoing monitoring via cameras and scats. One cat was removed in May 2022 and over twenty pigs were removed from the site.
- Ceres tags (GPS location devices attached to cattle) were used monitor and manage cattle grazing practices.
- In accordance with **Conditions 18a and 18b**, revegetation works were completed in Operation Management Unit 3 which included tree planting of 25.5 ha and 40 ha of aerial seeding of upland cleared pasture.
- One ecological burn was completed within the offset area covering 64 ha for the purpose of direct seeding revegetation.

# 1. Koala and Grey-Headed Flying-Fox Habitat Clearing Impact



**Notes:**  
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

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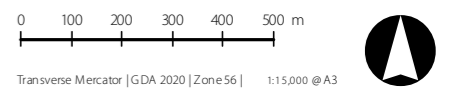
**Legend**

- Qld DCDB
- Referral Area
- Retention Area

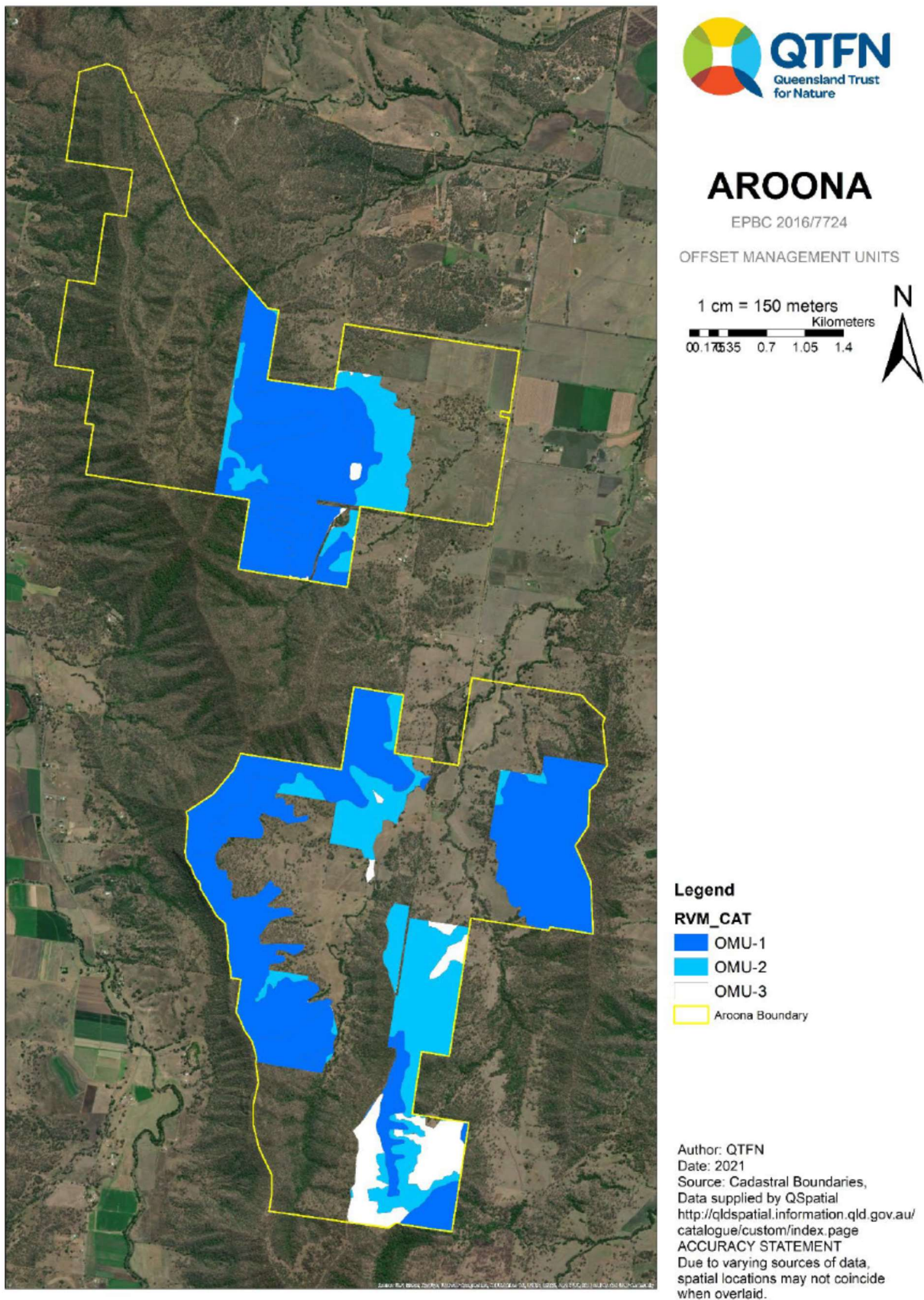
**Impact summary**

- Remnant impacted (118.9 ha)
- Regrowth impacted (179.4 ha)
- Non-remnant impacted (125.1 ha)
- Retained remnant – functionally lost (2.0 ha)
- Retained regrowth – functionally lost (19.76 ha)

Issue	Date	Description	Drawn	Checked
B	28/02/2023	Area calc updates	TC	AW



**Figure 2: Aroona Station Offset site context – extract from QTFN OAMR Year 1**



### 3. EPBC Conditions and Compliance

**Table 2** documents the compliance with EPBC Act conditions for the Project for the Year 2 reporting period, being 4 December 2021 to 3 December 2022. The compliance assessment relates to the approval conditions in force at the time of the one-year anniversary.

**Table 2: Compliance Audit of EPBC 2016/7724 Conditions for Riverside Celestino**

Condition	Condition	Is the Project compliant with this condition?	Evidence/ Comments
<b>Part A – Conditions Specific to the action</b>			
<b>Development Area</b>			
1	a. The approval holder must not clear more than 330.8 ha of Koala habitat and Grey-headed Flying-fox foraging habitat within the development area; and must confine any clearing to the areas designated as ‘Remnant’, ‘Regrowth’ and ‘Non-remnant’ shaded in solid blue, green and cream as shown in Attachment A.	Compliant	<p>Tree clearing commenced within the impact site on 19 January 2022 in accordance with Attachment A of the EPBC approval and has been almost fully completed. Refer to <b>Plan 1</b> for a plan of the clearing extent of Koala and GHFF critical habitat. Approximately 120.9 ha out of 121.6 ha of remnant habitat has been impacted and 199.2 ha of out of 209.2 ha of regrowth habitat has been impacted for a total of 320.1 ha. A site inspection was completed by an Ecologist from SHG on 16 February 2023 confirming all vegetation clearing was carried out within the approved clearing limits.</p> <p>It is noted in this reporting period that a small amount of unauthorised clearing occurred within the impact site by a third-party contractor as part of adjacent road works which resulted in the unauthorised removal of two (2) mature eucalypt trees. The clearing works occurred on 6 February 2023 and were not completed as part of the approval clearing works, and without the permission or knowledge of the approval holder. While it is acknowledged that the clearing undertaken was not in accordance with the approval, the works were not completed by the approval holder and therefore is not considered a non-compliance for the purposes of this approval. The approval holder is working with the third-party contractor to rectify the incident. The impacted area will be rehabilitated with species to be reinstated in line with the local vegetation community.</p> <p>A letter from the third-party contractor addressing the incident, including an Arborist report which identified the two (2) trees as hazardous to their works is provided in <b>Appendix E</b>.</p>

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
	b.	Ensure that only minor clearing and nature trails are permitted within the on-site conservation corridor, provided that they do not impact Koalas or Grey-headed Flying-foxes, or clear any Koala food trees or Grey-headed Flying-fox winter or spring flowering foraging species.	Compliant	Tree clearing commenced within the impact site on 19 January 2022 in accordance with Attachment A of the EPBC approval and has been almost fully completed. Refer to <b>Plan 1</b> for a plan of the clearing extent of Koala and GHFF critical habitat. Approximately 120.9 ha out of 121.6 ha of remnant habitat has been impacted and 199.2 ha of out of 209.2 ha of regrowth habitat has been impacted.
<b>2</b>		For the protection of the Koala and the Grey-headed Flying-fox, the approval holder must not clear more than a total of 300 ha of Koala habitat and Grey-headed Flying-fox foraging habitat within the development area until the Offset Strategy required under condition 5A has been approved in writing by the Minister.	Compliant	The project is compliant with condition 5A, therefore, clearing over 300 ha is permitted.  Approximately 120.9 ha out of 121.6 ha of remnant habitat has been impacted and 199.2 ha of out of 209.2 ha of regrowth habitat has been impacted. A total of 320.1 ha of Koala and Grey-headed Flying-fox habitat has been impacted.
<b>3</b>		For the protection of the Koala and the Grey-headed Flying-fox at the development area, the approval holder must: <ul style="list-style-type: none"> <li>a. Ensure that a fauna spotter/catcher is present during all clearing and construction activities and given sufficient authority to ensure that such activities do not cause injury or death of Koalas;</li> </ul>	Compliant	Queensland Fauna Consultancy (QFC) was engaged by the civil site contractor CCA Winslow to provide fauna spotter catcher services during the clearing phase of the action. A Wildlife and Habitat Impact Mitigation Plan (WHIMP) and a Wildlife Protection and Management Plan (WPMP) were issued for Separable Portions 1, 2 and 3 in January 2022 (refer <b>Appendix B</b> ) and then again for Separable Portions 4 to 7 (refer <b>Appendix C</b> ). Fauna Management and Spotter/Catcher Service Reports were issued for each month of clearing. The Fauna Management Reports for June, September and October are provided in <b>Appendix D</b> .  Several Koalas were recorded throughout the clearing period, with observation dates listed below. For each instance, an exclusion zone was established and the Koala was left to self-relocate. No injuries to Koala occurred as a result of the clearing.



Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
b. Clear in accordance with the Nature Conservation (Koala) Conservation Plan 2017 approved under the Nature Conservation Act 1992 (Qld) so as to allow Koalas to safely move out of clearing area and into connected areas of Koala habitat, and implement all provisions for sequential clearing;	Compliant	The site is located within a PDA and would not ordinarily be required to adhere to the Nature Conservation (Koala) Conservation Plan 2017, however, as it is conditioned as a part of the approval, works were performed in accordance with the plan.
c. Install temporary Koala exclusion fencing around any area of construction work, immediately after clearing and prior to the commencement of construction in that area, so as to prevent Koalas entering any area where construction is taking place. The Koala exclusion fencing around any construction area must remain in place until construction activities within that fenced construction area are completed;	Compliant	Construction has not commenced within the impact site. Koala exclusion fencing will be installed prior to the commencement of construction.
d. Implement measures to prevent domestic and feral dogs from entering the development area and adjacent Koala habitat during clearing and construction to minimise the risk to Koalas of predation by domestic and feral dogs at the development area and within the on-site conservation corridor. Such measures must include (but are not limited to) prohibition	Compliant	Dogs are not permitted to be taken onto the impact site or within the ecological corridor.

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
of workers bringing domestic dogs into the development area and adjacent Koala habitat;		
e. Implement traffic calming measures and ensure that the speed of all vehicles on construction roads in the development area is no greater than 40 km/h at any time (except an emergency) so as to minimise the risk to Koala of vehicle strike;	Compliant	Construction has not commenced within the impact site. Vehicle calming measures will be implemented once construction has commenced.
f. Construct roads consistent with Queensland's fauna sensitive road design guidelines to minimise the risks to Koalas of vehicle strike. In particular, on roads flanking the on-site conservation corridor or adjacent Koala habitat or waterways, or which cross waterways, safe fauna movement solutions, fauna exclusion/koala proof fencing and local traffic management measures must be implemented in accordance with Queensland's Koala sensitive Design Guideline; and	Compliant	Construction has not commenced within the impact site.
g. Install prominent Koala awareness signage consistent with Queensland's wildlife signing guidelines prior to opening to public motorists, any road where the presence of listed threatened species is	Compliant	Construction has not commenced within the impact site. Appropriate signage will be installed during the construction of fauna movement solutions and with the completion of roads adjoining the dedicated conservation corridors.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
		known or expected, such as on roads flanking the on-site conservation corridor or adjacent to fauna movement solutions.		
4	For the on-going protection and rehabilitation of Koala habitat and Grey-headed Flying-fox foraging habitat throughout the on-site conservation corridor, the approval holder must:		Compliant	An environmental corridor meeting the required specifications of the approval is included in the development design.
	a. Ensure the width of the on-site conservation corridor is at least 100 metres wide to function effectively and minimise edge effects; and			
	b. Manage and restore the on-site conservation corridor for the period of effect of the approval, or until such time that the Department agrees in writing that it is satisfied with written evidence that the Council has accepted ownership of and responsibilities to manage the on-site conservation corridor. If by 31 January 2045, Council has not accepted the ownership of and responsibilities to manage the on-site conservation corridor, the approval holder must submit in writing an alternative on-going management arrangement for the on-site conservation corridor to the Minister for approval.		Compliant	An environmental corridor meeting the required specifications of the approval is included in the development design. Restoration works within the conservation corridor have not commenced yet.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
<b>Environmental offset requirements</b>				
5	To compensate for the clearing of 330.8 ha of Koala habitat and Grey-headed Flying-fox foraging habitat, and the functional loss of 3.5 ha of Koala habitat, the approval holder must:	<ul style="list-style-type: none"> <li>a. Legally secure at least 847.98 ha of land at the Aroona Offset Site and commence management activities prior to undertaking any clearing at the development area.</li> </ul>	Compliant	<p>The Aroona Station offset site located at Alpers Road, Mount Mort, Queensland, was legally secured via a Voluntary Declaration under the <i>Vegetation Management Act 1999</i> (VMA) by the Proponent on 4 December 2020. The site is located over several lots including 233/CH311908, 31/CH312311, 218/CH311734, 64/CC552, 2/RP31144, 222/CH311798, 30/CH312310, 28/CH312274, 24/CH312032, 44/CC32, 45/CC32, 111/CC553, and 13/CH311894, totalling 847.98 ha.</p> <p>The Chief Executive of the then Queensland Department of Natural Resources, Mines and Energy (now Department of Resources, DOR) declared the Aroona Station Offset area in a Declared Area Map (DAM 2010/013666) as an area of high nature conservation value in accordance with section 19F(1) of the VMA. The Offset is shown as Category A on a Property Map of Assessable Vegetation (PMAV) (PMAV 2020/013752) and is subject to management provisions of the Offset Management Plan EPBC 2016/7724, prepared by QTFN, April 2019 (Offset Area Management Plan).</p> <p>A deed was signed by both the Proponent and third party offset provider, Queensland Trust for Nature (QTFN) who wholly own the Offset land. Under this deed, QTFN are to carry out management of the Offset in accordance with the Offset Management Plan.</p>
	<ul style="list-style-type: none"> <li>b. Within 20 business days of legally securing at least 847.98 ha of land at the Aroona Offset Site, provide the Department with:</li> </ul>	<ul style="list-style-type: none"> <li>i. written evidence demonstrating that the Aroona Offset Site has been legally secured;</li> <li>ii. legal security documentation;</li> <li>iii. offset attributes; and</li> <li>iv. shapefiles of the Aroona Offset Site.</li> </ul>	Compliant	<p>The Department was notified on 21 December 2020 through e-mail correspondence that the offset site had been legally secured through a voluntary declaration under the Queensland <i>Vegetation Management Act 1999</i>.</p>

Condition	Condition	Is the Project compliant with this condition?	Evidence/ Comments
5A	<p>To compensate for the remaining 8% of residual impacts to Koala not offset by securing and managing the Aroona Offset Site, the approval holder must, within 12 months of the date of this approval, submit a Conservation Strategy (the Strategy) for the Minister’s approval. The Strategy must:</p> <ul style="list-style-type: none"> <li>a. explain how the financial contribution to be made by the approval holder to implement the Strategy has been determined;</li> <li>b. describe the conservation project(s) that comprise the Strategy, including: <ul style="list-style-type: none"> <li>i. outcomes to be achieved by implementing the conservation projects(s);</li> <li>ii. a timetable of project activities, deliverables and financial contributions to be made by the approval holder; and</li> <li>iii. the institution or person(s) responsible for project implementation.</li> </ul> </li> <li>c. demonstrate that the Strategy: <ul style="list-style-type: none"> <li>i. where appropriate, is consistent with the EPBC Act Environmental Offsets Policy;</li> <li>ii. is consistent with relevant conservation advices, recovery plans and threat abatement plans for Koala; and</li> <li>iii. is likely to achieve a conservation gain for Koala.</li> </ul> </li> <li>d. specify arrangements to periodically report to the Department on the implementation</li> </ul>	Compliant	<p>The <i>EPBC Indirect Offset Strategy: Jimboomba Residential Development Project</i> was accepted by the Department on 22 December 2021, within the first 12 months of the approval. The Department considers the strategy to meet the requirements of the conditions as varied in the approval. This was detailed in the Year 1 ACR. Refer to the <b>Year 1 ACR – Appendix E</b> for the notification letter from DAWE approving the Indirect Offset Strategy and <b>Year 1 ACR – Appendix F</b> for a copy of the Indirect Offset Strategy. Conditions 5A (a) to (c) are addressed in the Indirect Offset Strategy.</p> <p>In response to 5A (d) and as required by the Indirect Offset Strategy, a 12 month progress report has been completed providing a status update on actions completed, preliminary outcomes and identification of any issues that may delay completion of the project. This is provided as <b>Appendix G</b>. Tasks 2 and 3 are at various stages of completion, with faecal sampling of the Jimboomba Koala population approximately 70% complete and genetic sampling tasks in progress.</p>

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
of the Strategy and achieving conservation gains for Koala.		

**Baseline survey information**

6	<p>By the end of year 1, the approval holder must complete baseline surveys of the entire Aroona Offset Site. The baseline surveys must be conducted by a suitably qualified field ecologist in accordance with a scientifically valid, robust, and repeatable methodology, and include the following:</p> <ul style="list-style-type: none"> <li>a. The detailed baseline habitat quality assessment data for each operational management unit as provided in the preliminary documentation;</li> <li>b. The vegetation condition attributes for each Regional Ecosystem;</li> <li>c. The number and condition of Grey-headed Flying-fox winter or spring flowering foraging species across each assessment plot at the Aroona Offset Site.;</li> <li>d. The Species Stocking Rate;</li> <li>e. The extent of weed cover;</li> <li>f. The number or abundance of non-native predators and non-native herbivores across, and where possible surrounding, the Aroona Offset Site;</li> <li>g. The number of Koala mortalities attributable to non-native predators; and</li> </ul>	Compliant	<p>QTFN conducted baseline habitat quality surveys across the Aroona Station offset site during the 2020-2021 reporting period (Year 1). The methodology and results are summarised in Chapter 2 (page 11) of the Aroona Station Offset Area Management Report – Baseline Year 1 2016/7724, prepared by Queensland Trust for Nature (January 2022) (refer <b>ACR 1 – Appendix D</b>).</p>
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Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
	h.	The baseline conditions in respect of each of the outcomes specified in conditions 8-18.		
<b>7</b>	Within three (3) months of the end of year 1, the approval holder must publish all survey data (including survey methodology and dates) from the baseline surveys required under condition 6 including a program to monitor and report on progress against the ecological outcomes specified in conditions 8-18 on the website and provide a copy of this information to the Department.		Compliant	The Year 1 ACR and accompanying reports including the Aroona Station Offset Area Management Report – Baseline Year 1 (QTFN, 2022) was published on the approval holder’s website on 1 March 2022 as part of the Year 1 ACR submission at the below link:  < <a href="https://www.celestino.net.au/developments/riverbend/">https://www.celestino.net.au/developments/riverbend/</a> >
<b>Pest and weed management</b>				
<b>8</b>	The approval holder must demonstrate a 90% reduction in the number or abundance of non-native predators and non-native herbivores by the end of year 5, relative to the number or abundance identified during the baseline surveys, and ensure that the number or abundance of non-native predators and non-native herbivores are then maintained at, or reduced below, the year 5 number or abundance for the rest of the period of effect of the approval.		Not Applicable	The Year 5 milestone has not occurred.
<b>9</b>	Within 6 months of the end of year 5 and thereafter within 6 months of each fifth anniversary of the date when the Aroona Offset Site is legally secured, the approval holder must publish the outcomes of condition 8 and provide a copy of the outcomes to		Not Applicable	The Year 5 milestone has not occurred.

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	the Department within 5 business days of being published.		
10	<p>The approval holder must demonstrate the extent of weed cover across the whole Aroona Offset Site is:</p> <ul style="list-style-type: none"> <li>a. Less than 25% by the end of year 5; and</li> <li>b. Less than 5% by the end of year 10, and then maintained for the remaining period of effect of this approval.</li> </ul>	Not Applicable	The Year 5 milestone has not occurred.
11	<p>Within 6 months of the end of year 5 and thereafter within 6 months of each fifth anniversary of the date when the Aroona Offset Site is legally secured, the approval holder must publish the outcomes of condition 10 and provide a copy of the outcomes to the Department within 5 business days of being published.</p>	Not Applicable	The Year 5 milestone has not occurred.
<b>Stock Management</b>			
12	<p>The approval holder must install fauna friendly stock exclusion fencing around Operational management unit 3 by the end of year 1.</p>	Compliant	<p>Fauna friendly stock exclusion fencing was installed around OMU-3 where existing fences did not sufficiently exclude cattle during the 2020-2021 reporting period (Year 1). A local contractor was engaged to complete the works, who demonstrated professionalism and high quality services. Refer to Section 2.7.2 of the Aroona Station Offset Area Management Report – Baseline Year 1 2016/7724 (refer <b>ACR 1 – Appendix D</b>).</p>
13	<p>To facilitate the outcomes prescribed under conditions 15 -18, the approval holder must:</p>	Compliant	<p>Fuel hazard assessments were conducted biannually (January and August) and demonstrated that near surface (grasses) fuel layer contributed the greatest to the high, very high and extreme overall ratings. High fuel hazard ratings were recorded in 2022, attributed to above average rainfall. Cattle are utilised on the offset site to manage fuel loads.</p>



Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<ul style="list-style-type: none"> <li>a. Only permit grazing at the Aroona Offset Site for the purposes of bushfire hazard reduction.</li> <li>b. Ensure that all livestock are excluded from Operational management unit 3 for a minimum of 5 years, or until a suitably qualified independent expert has determined that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.</li> <li>c. The approval holder must provide the Department with a report from the suitably qualified independent expert verifying that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.</li> <li>d. Ensure that any grazing is managed so as to prevent the risk of injury or mortality of Koalas.</li> </ul>		<p>Cattle were permitted into areas where fuel hazards scored high and very high until reduced, for one grazing period in between fuel hazard surveys. Cattle were specifically excluded from revegetation areas (OMU-3).</p> <p>No evidence of koala injury or mortality caused by cattle grazing was recorded.</p> <p>In the event that it occurs in the future, cattle will be removed from the offset area and the cause of interaction will be investigated. Revegetation zones will be monitored for cattle encroachment. However, to date no impact has been recorded due to cattle exclusion fencing.</p> <p>If target vegetation composition is negatively affected by cattle grazing, implement adaptive management actions which may include: additional cattle exclusion areas, additional re-vegetation / rehabilitation in areas negatively affected by cattle grazing, reduce intensity of grazing for fuel reduction purposes, and exclude cattle from the offset area.</p>
14	<p>Before each annual anniversary of the date when the Aroona Offset Site is legally secured, until the end of year 5, and thereafter before each fifth anniversary of the date when the Aroona Offset Site is legally secured, the approval holder must submit to the Department a monitoring report in respect of the period since the period covered by the previous</p>	Compliant	<p>A Year 2 Offset Area Management Report (Year 2 OAMR) was completed by QTFN which includes details of cattle grazing activity across the site and Koala mortality (refer <b>Appendix G</b>). No Koala injuries or mortalities were recorded during the Year 2 reporting period.</p> <p>Table 8 of the Year 2 OAMR provides the duration, frequency, locations and nature of grazing land use across the offset site. Biannual monitoring (January and August 2022) of the fuel load was completed and recorded high fuel load ratings following recent rainfall and generating the need to use stock for load reduction where conditions may not have provided safe burn conditions.</p>

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
<p>report or since the date when the Aroona Offset Site was legally secured, which includes:</p> <ol style="list-style-type: none"> <li>An analysis of how cattle grazing at the Aroona Offset Site has facilitated and/or impacted the achievement of outcomes prescribed under conditions 15 -18;</li> <li>Frequency, duration and location of grazing, and stock density for each grazing period;</li> <li>Details of any injury or mortality of individual Koalas;</li> <li>The timing and frequency of monitoring undertaken; and</li> <li>Details of corrective actions already undertaken and/or proposed to be undertaken in the event of injury or mortality of individual Koalas as a result of grazing, and/or if monitoring demonstrates the outcomes under 15-18 are not achievable.</li> </ol>		<p>No evidence of Koala injury or mortality as a result of cattle grazing was recorded and no corrective action is necessary.</p>

**Habitat Quality Improvement**

15	<p>The approval holder must undertake ecological work which contributes to improvement of the condition of the Regional Ecosystems and facilitates natural regeneration at the Aroona Offset Site.</p>	Compliant	<p>Ecological monitoring and management activities have been completed within the offset site as part of the Year 2 surveys which included the following works:</p> <ul style="list-style-type: none"> <li>A contractor was engaged to complete weed management targeting Lantana, Broad-leaved Pepper and Cats' Claw Creeper in high priority areas, particularly including blue gum alluvial flats (RE 12.3.3).</li> <li>Long term non-native predator management has been underway on the property since 2018, with the most recent contractor engaged in summer 2020. Non-native predator management is informed</li> </ul>
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Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
				<p>by ongoing monitoring via cameras and scats. One cat was removed in May 2022 and over twenty pigs were removed from the site.</p> <ul style="list-style-type: none"> <li>▪ Cattle were used in OMU-1 and OMU-2 to reduce fuel hazard loads across the site. Cattle were excluded from revegetation areas.</li> <li>▪ Revegetation works were completed in Operation Management Unit 3 including tree planting of 25.5 ha and 40 ha of aerial seeding of upland cleared pasture.</li> <li>▪ One ecological burn was completed within the offset area covering 64 ha for the purpose of direct seeding revegetation.</li> </ul>
<b>16</b>	The approval holder must encourage natural regeneration and achieve the following outcomes in Operational management unit 1:		Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	<ul style="list-style-type: none"> <li>a. Average recruitment of woody perennial species in the ecologically dominant layer greater than 75% of the benchmark for relevant Regional Ecosystems present by the end of year 5, and subsequently maintain or exceed that rate of recruitment for the remainder of the period of effect of the approval.</li> </ul>		Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	<ul style="list-style-type: none"> <li>b. The Diameter at Breast Height of trees increases as follows:                             <ul style="list-style-type: none"> <li>i. Average Diameter at Breast Height of trees has increased by at least 2.5 cm by the end of year 5 relative to the baseline habitat quality assessment data.</li> </ul> </li> </ul>		Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
<p>ii. Average Diameter at Breast Height of trees has increased by at least 5 cm by the end of year 10 relative to the baseline habitat quality assessment data.</p> <p>iii. Average Diameter at Breast Height of trees has increased by at least 7.5 cm by the end of year 15 relative to the baseline habitat quality assessment data.</p> <p>iv. The number of large trees must be &gt;100% of the benchmark for relevant Regional Ecosystems present by the end of year 20 and this proportion must be subsequently maintained or exceeded for the remainder of the period of effect of the approval.</p>		
<p>c. Tree canopy height must be maintained at &gt;70% of the benchmark for relevant Regional Ecosystems present for the period of effect of the approval.</p>	Compliant	Management activities to improve habitat quality within OMU-1 have occurred during Year 2.
<p>d. Average tree canopy cover must be maintained at &gt;50% - &lt;200% of the benchmark for relevant Regional Ecosystems present for the period of effect of the approval.</p>	Compliant	Management activities to improve habitat quality within OMU-1 have occurred during Year 2.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
e.	A 50% increase, relative to the baseline habitat quality assessment data, in Koala density by the end of year 10.		Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.  Koala usage data collected in Year 2 indicates an increase in Koala density within the offset site (refer <b>Appendix G</b> ).
f.	A 100% increase, relative to the baseline habitat quality assessment data, in Koala density by the end of year 20, and subsequently maintain or exceed that average Koala density for the remainder of the period of effect of the approval		Not Applicable	The Year 20 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
g.	An average of at least 6 (or maximum number allowed in the Regional Ecosystem present) different Grey-Headed Flying-fox winter or spring flowering foraging species present in each assessment plot by the end of year 5, and subsequently maintain or exceed this outcome for the remainder of the period of effect of the approval.		Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
<b>17</b>	The approval holder must encourage natural regeneration and achieve the following outcomes in Operational management unit 2:		Compliant	Management activities to improve habitat quality within OMU-2 have occurred during Year 2.
a.	Average recruitment of woody perennial species in the ecologically dominant layer must be maintained or exceeded at greater than 75% of the benchmark for relevant			

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
Regional Ecosystems present for the remainder of the period of effect of the approval.	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
<p>b. The Diameter at Breast Height of trees increases as follows:</p> <ul style="list-style-type: none"> <li>i. Average Diameter at Breast Height of trees has increased by at least 2.5 cm by the end of year 5 relative to the baseline habitat quality assessment data.</li> <li>ii. Average Diameter at Breast Height of trees has increased by at least 5 cm by the end of year 10 relative to the baseline habitat quality assessment data.</li> <li>iii. Average Diameter at Breast Height of trees has increased by at least 7.5 cm by the end of year 15 relative to the baseline habitat quality assessment data.</li> <li>iv. The number of large trees must be 50-100% of the benchmark for relevant Regional Ecosystems present by the end of year 20 and this proportion must be subsequently maintained or exceeded for the remainder of the period of effect of the approval.</li> </ul>	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
c. Average tree canopy height at > 70% of the benchmark for Regional Ecosystems present by the end of year 5, and	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
subsequently maintain the average tree canopy height in that range for the remainder of the period of effect of the approval.		
d. Average tree canopy cover must be maintained at >50% - <200% of the benchmark for relevant Regional Ecosystems present for the period of effect of the approval.	Compliant	Management activities to improve habitat quality within OMU-2 have occurred during Year 2.
e. A 50% increase, relative to the baseline habitat quality assessment data, in Koala density by the end of year 10.	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
f. A 100% increase, relative to the baseline habitat quality assessment data, in Koala density by the end of year 20, and subsequently maintain or exceed that average Koala density for the remainder of the period of effect of the approval.	Not Applicable	The Year 20 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
g. An average of at least 6 (or maximum number allowed in the Regional Ecosystem present) different Grey-headed Flying-fox winter or spring flowering foraging species present in each assessment plot by the end of year 5, and subsequently maintain or	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
				exceed this outcome for the remainder of the period of effect of the approval.
<b>Habitat Creation</b>				
<b>18</b>	The approval holder must achieve the following outcomes in Operational management unit 3:		Compliant	Revegetation works were completed in Operation Management Unit 3 including tree planting of 25.5 ha and 40 ha of aerial seeding of upland cleared pasture.
	a. Recreate the relevant pre-clearing Regional Ecosystem as identified in the baseline survey by planting 69.16 hectares of new Koala habitat and Grey-headed Flying-fox foraging habitat.			One ecological burn was completed within the offset area covering 64 ha for the purpose of direct seeding revegetation.
	b. Complete all planting and direct seeding of new Koala Habitat and Grey-headed Flying-fox foraging habitat by the end of year 2.		Compliant	Revegetation works were completed in Operation Management Unit 3 including tree planting of 25.5 ha and 40 ha of aerial seeding of upland cleared pasture.  One ecological burn was completed within the offset area covering 64 ha for the purpose of direct seeding revegetation.
	c. Average recruitment of woody perennial species in the ecologically dominant layer greater than 20% of the benchmark for relevant Regional Ecosystems present by the end of year 5.		Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	d. Average recruitment of woody perennial species in the ecologically dominant layer at greater than 75% of the benchmark for relevant Regional Ecosystems present by the end of year 10, and subsequently		Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.



Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
maintain or exceed that rate of recruitment for the remainder of the period of effect of the approval.	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
<p>e. The Diameter at Breast Height of trees increases as follows:</p> <ul style="list-style-type: none"> <li>i. Average Diameter at Breast Height of trees has increased by at least 2.5 cm by the end of year 5 relative to the baseline habitat quality assessment data.</li> <li>ii. Average Diameter at Breast Height of trees has increased by at least 5 cm by the end of year 10 relative to the baseline habitat quality assessment data.</li> <li>iii. Average Diameter at Breast Height of trees has increased by at least 7.5 cm by the end of year 15 relative to the baseline habitat quality assessment data.</li> <li>iv. The average Diameter at Breast Height trees must be at least 50% of the benchmark for large trees for relevant Regional Ecosystems present by the end of year 20 and this proportion must be subsequently maintained or exceeded for the remainder of the period of effect of the approval.</li> </ul>	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
f. Average tree canopy cover at >10% of the benchmark for relevant Regional	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
		Ecosystems present by the end of year 10, and subsequently maintain or exceed 10% of the benchmark for relevant Regional Ecosystems for the remainder of the period of effect of the approval.		
	g.	Average tree canopy height at >25% of the benchmark for relevant Regional Ecosystems present at the site by the end of year 10, and subsequently maintain or exceed that tree canopy height for the remainder of the period of effect of the approval.	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	h.	An increase in Koala density, relative to the baseline habitat quality assessment data, by the end of year 10.	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	i.	Koala density by the end of year 20, must at a minimum achieve the baseline Koala density for Operational Management Unit 1, as identified in the baseline habitat quality assessment data.	Not Applicable	The Year 20 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	j.	An average of at least 6 different Grey-headed Flying-fox winter or spring flowering foraging species present in each assessment plot by the end of year 10, and	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
<p>subsequently maintain or exceed this diversity of foraging species for the remainder of the period of effect of the approval.</p>	19	<p>The approval holder must engage a suitably qualified field ecologist to undertake an assessment at the end of each of year 5, year 10, year 15, and year 20 as to whether each outcome required under conditions 8-18 has been, or is likely to be achieved in accordance with the condition requirements, and provide advice of any circumstance/s which they consider is/are affecting the achievement of each outcome. The findings of each assessment must be documented and published on the website within 3 months of the end of the particular period at the end of which the assessment is undertaken and be provided to the Department within 5 business days of being published.</p>	Compliant	<p>QTFN are contracted to complete annual monitoring assessments of the Aroona Station offset site and will carry out detailed assessments at each milestone year.</p>
<p>If, at any time during the period of effect of the approval, the Minister is not satisfied that any of the requirements and/or outcomes under the conditions of approval, including (but not limited to) conditions 8--18, have been or are likely to be achieved or maintained, the Minister may require the approval holder to submit a corrective action plan for the Aroona Offset Site for the Minister's approval, or to monitor, manage, avoid, mitigate, offset, record</p>	20		Not Applicable	<p>Corrective action was not requested during the reporting period. The project is considered to have satisfied the Year 2 requirements of the EPBC Act Approval.</p>

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
<p>and/or report on, impacts to the Koala and/or the Grey-headed Flying-fox.</p> <p>a. The Minister may set a timeframe in which the corrective action plan must be submitted and suitable for approval, may require that the corrective action plan be prepared and/or reviewed by an suitably qualified independent expert and may specify consequences for the approval holder if the corrective action plan is not suitable for approval within the specified timeframe.</p> <p>b. The approval holder must implement the corrective action plan approved by the Minister in writing.</p>		

**Part B – Standard administrative conditions**

**Notification of the commencement of the action**

21	<p>The approval holder must notify the Department in writing of:</p> <p>a. the date of commencement of the action within 5 business days after the date of commencement of the action;</p> <p>b. the date of commencement of clearing within 5 business days after the date of commencement of clearing; and</p> <p>c. the date of commencement of construction within 5 business days after</p>	Compliant	<p>In response to 21a, the action was considered to have commenced with the commencement of offset activities for the development. The Aroona Station offset site was legally secured on 4 December 2020 and the Department was notified within 20 business days via e-mail correspondence on 21 December 2020 (see response to condition 5b). While no specific correspondence was provided to the Department for the commencement of the action, the date the offset site was legally secured was taken as the commencement date by the Proponent. This date has been used for the annual compliance reporting which for Year 1 spanned 4 December 2020 to 3 December 2021. Correspondence with the Department has confirmed not providing a specific commencement of the action may be considered an administrative issue and is unlikely to result in further actions (refer <b>ACR 1 – Appendix G</b> for letter).</p>
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Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
		the date of commencement of construction.		In response to 21b, commencement of clearing activities occurred on the impact site on 19 January 2022. The Department was notified on 19 January 2022 through e-mail correspondence.  In response to 21c, construction has not commenced on-site.
<b>22</b>	If the commencement of the action does not occur within 5 years from the date of this approval, then the approval holder must not commence the action without the prior written agreement of the Minister.		Not Applicable	The action commenced on 4 December 2020; therefore, this condition is no longer relevant.
<b>Compliance records</b>				
<b>23</b>	The approval holder must maintain accurate and complete compliance records.		Compliant	All records substantiating all activities associated with or relevant to the conditions of approval are maintained by the Proponent. If required by the Minister, these records can be made available to allow a third-party audit of the Project.
<b>24</b>	If the Department makes a request in writing, the approval holder must provide electronic copies of compliance records to the Department within the timeframe specified in the request.		Not Applicable	Compliance records were not requested by the Department during the reporting period.
	<i>Note: Compliance records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the Department's website or through the general media.</i>			
<b>Annual compliance reporting</b>				
<b>25</b>	The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in		Compliant	The Year 2 ACR will be published on the approval holder's website by 3 March 2023 at the below link:  < <a href="https://www.celestino.net.au/developments/riverbend/">https://www.celestino.net.au/developments/riverbend/</a> >

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<p>accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:</p> <ol style="list-style-type: none"> <li>a. Publish each compliance report on the website within 60 business days following the relevant 12 month period;</li> <li>b. Notify the Department by email that a compliance report has been published on the website and provide the weblink for the compliance report within 5 business days of the date of publication;</li> <li>c. Keep all compliance reports publicly available on the website until this approval expires;</li> <li>d. Exclude or redact sensitive ecological data from compliance reports published on the website; and</li> <li>e. Where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication.</li> </ol>		
<b>Reporting non-compliance</b>			
26	<p>The approval holder must notify the Department in writing of any: incident; or non-compliance with the conditions. The notification must be given as soon as practicable, and no later than 2 business days after</p>	Not Applicable	<p>No non-compliances occurred during the reporting period.</p> <p>It is noted in this reporting period that a small amount of unauthorised clearing occurred within the impact site by a third-party contractor as part of adjacent road works which resulted in the unauthorised removal of two (2) mature eucalypt trees. The clearing works occurred on 6 February 2023 and were not completed as part of the</p>

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<p>becoming aware of the incident or non-compliance. The notification must specify:</p> <ul style="list-style-type: none"> <li>a. Any condition which is or may be in breach;</li> <li>b. A short description of the incident and/or non-compliance; and</li> <li>c. The location (including co-ordinates), date, and time of the incident and/or non-compliance. In the event the exact information cannot be provided, provide the best information available</li> </ul>		<p>approval clearing works, and without the permission or knowledge of the approval holder. While it is acknowledged that the clearing undertaken was not in accordance with the approval, the works were not completed by the approval holder and therefore is not considered a non-compliance for the purposes of this approval. The approval holder is working with the third-party contractor to rectify the incident. The impacted area will be rehabilitated with species to be reinstated in line with the local vegetation community.</p> <p>A letter from the third-party contractor addressing the incident, including an Arborist report which identified the two (2) trees as hazardous to their works is provided in <b>Appendix E</b>.</p>
<b>27</b>	<p>The approval holder must provide to the Department the details of any incident or non-compliance with the conditions as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:</p> <ul style="list-style-type: none"> <li>a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;</li> <li>b. The potential impacts of the incident or non-compliance; and</li> <li>c. The method and timing of any remedial action that will be undertaken by the approval holder.</li> </ul>	Not Applicable	No non-compliances occurred during the reporting period.

**Independent audit**

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
28	The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister.		Not Applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
29	<p>For each independent audit, the approval holder must:</p> <ul style="list-style-type: none"> <li>a. Provide the name and qualifications of the independent auditor and the draft audit criteria to the Department;</li> <li>b. Only commence the independent audit once the audit criteria have been approved in writing by the Department; and</li> <li>c. Submit an audit report to the Department within the timeframe specified in the approved audit criteria.</li> </ul>		Not Applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
30	The approval holder must publish the audit report on the website within 10 business days of receiving the Department's approval of the audit report and keep the audit report published on the website until the end date of this approval.		Not Applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
<b>Completion of the action</b>				
31	Within 30 days after the completion of the action, the approval holder must notify the Department in writing and provide completion data.		Not Applicable	The action has not been completed.



## 4. Appendices

### Appendix A

EPBC 2016/7724 Approval and Variation Notice

### Appendix B

Separable Portions 1, 2 and 3 WHIMP and WPMP

### Appendix C

Separable Portions 4-7 WHIMP and WPMP

### Appendix D

Fauna Management and Spotter/Catcher Services Reports

### Appendix E

Unauthorised clearing incident – Letter

### Appendix F

“The Power of Koala Poo” – 12 Month Milestone Report

### Appendix G

Offset Area Management Report – Year 2

# Appendix A

## EPBC 2016/7724 Approval and Variation Notice



**APPROVAL**

**Residential Development, Teviot Road, Jimboomba, 17 km north of Beaudesert, Queensland (EPBC 2016/7724)**

This decision is made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*. Note that section 134(1A) of the **EPBC Act** applies to this approval, which provides in general terms that if the approval holder authorises another person to undertake any part of the action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such condition.

**Details**

<b>Person to whom the approval is granted (approval holder)</b>	Celestino Pty Limited
<b>ACN or ABN of approval holder</b>	165 629 783
<b>Action</b>	To construct a residential development on Lot 800 on SP247625, Lots 101, 102, 104, 105, and 106 on SP254145 on Teviot Road, Jimboomba, 17 km north of Beaudesert, Queensland.  [See EPBC Act referral 2016/7724]

**Approval decision**

My decision on whether or not to approve the taking of the action for the purposes of the controlling provision for the action is as follows.

**Controlling Provisions**

Listed Threatened Species and Communities	
Section 18	Approve
Section 18A	Approve

**Period for which the approval has effect**

This approval has effect until 31 August 2050.

**Decision-maker**

**Name and position** Anu Datta  
 Acting Assistant Secretary of the Environment Assessments Queensland and Sea Dumping Branch  
 Department of Agriculture, Water and the Environment

**Signature** 

**Date of decision** 28 September 2020

**Conditions of approval**

This approval is subject to the conditions under the EPBC Act as set out in ANNEXURE A.



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## ANNEXURE A – CONDITIONS OF APPROVAL

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### Part A – Conditions specific to the action

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#### Development area

1. The approval holder must:
  - a. Not **clear** more than 330.8 ha of **Koala habitat** and **Grey-headed Flying-fox foraging habitat** within the **development area**; and must confine any **clearing** to the areas designated as 'Remnant', 'Regrowth' and 'Non-remnant' shaded in solid blue, green and cream or identified as a road crossing as shown in Attachment A.
  - b. Ensure that only **minor clearing** and **nature trails** are permitted within the **on-site conservation corridor**, provided that they do not impact **Koalas** or **Grey-headed Flying-foxes**, or **clear** any **Koala food trees** or **Grey-headed Flying-fox winter or spring flowering foraging species**.
2. For the protection of the **Koala** and the **Grey-headed Flying-fox**, the approval holder must not **clear** more than a total of 300 ha of **Koala habitat** and **Grey-headed Flying-fox foraging habitat** within the **development area** until the Offset Strategy required under condition 5(c) has been approved in writing by the **Minister**.
3. For the protection of the **Koala** and the **Grey-headed Flying-fox** at the **development area**, the approval holder must:
  - a. Ensure that a **fauna spotter/catcher** is present during all **clearing** and **construction** activities and given sufficient authority to ensure that such activities do not cause injury or death of **Koalas**;
  - b. **Clear** in accordance with the *Nature Conservation (Koala) Conservation Plan 2017* approved under the *Nature Conservation Act 1992 (Qld)* so as to allow **Koalas** to safely move out of **clearing** area and into connected areas of **Koala habitat**, and implement all provisions for **sequential clearing**;
  - c. Install temporary **Koala exclusion fencing** around any area of **construction** work, immediately after **clearing** and prior to the commencement of **construction** in that area, so as to prevent **Koalas** entering any area where **construction** is taking place. The **Koala exclusion fencing** around any **construction** area must remain in place until **construction** activities within that fenced **construction** area are completed;
  - d. Implement measures to prevent domestic and feral dogs from entering the **development area** and adjacent **Koala habitat** during **clearing** and **construction** to minimise the risk to **Koalas** of predation by domestic and feral dogs at the **development area** and within the **on-site conservation corridor**. Such measures must include (but are not limited to) prohibition of workers bringing domestic dogs into the **development area** and adjacent **Koala habitat**;
  - e. Implement traffic calming measures and ensure that the speed of all vehicles on construction roads in the **development area** is no greater than 40 km/h at any time (except an emergency) so as to minimise the risk to **Koala** of vehicle strike;
  - f. Construct roads consistent with **Queensland's fauna sensitive road design guidelines** to minimise the risks to **Koalas** of vehicle strike. In particular, on roads flanking the **on-site**



**conservation corridor** or adjacent **Koala habitat** or waterways, or which cross waterways, **safe fauna movement solutions**, **fauna exclusion/koala proof fencing** and **local traffic management measures** must be implemented in accordance with **Queensland's Koala-sensitive Design Guideline**; and

- g. Install prominent **Koala** awareness signage consistent with **Queensland's wildlife signing guidelines** prior to opening to public motorists, any road where the presence of listed threatened species is known or expected, such as on roads flanking the **on-site conservation corridor** or adjacent to **safe fauna movement solutions**.
4. For the on-going protection and rehabilitation of **Koala habitat** and **Grey-headed Flying-fox foraging habitat** throughout the **on-site conservation corridor**, the approval holder must:
- a. ensure the width of the **on-site conservation corridor** is at least 100 metres wide to function effectively and minimise edge effects; and
  - b. manage and restore the **on-site conservation corridor** for the period of effect of the approval, or until such time that the **Department** agrees in writing that it is satisfied with written evidence that the **Council** has accepted ownership of and responsibilities to manage the **on-site conservation corridor**. If by 31 January 2045, **Council** has not accepted the ownership of and responsibilities to manage the **on-site conservation corridor**, the approval holder must submit in writing an alternative on-going management arrangement for the **on-site conservation corridor** to the **Minister** for approval.

#### **Environmental Offset Requirements**

5. To compensate for the **clearing** of 330.8 ha of **Koala habitat** and **Grey-headed Flying-fox foraging habitat**, and the functional loss of 3.5 ha of **Koala habitat**, the approval holder must:
- a. **Legally secure** at least 847.98 ha of land at the **Aroona Offset Site** and commence **management activities** prior to undertaking any **clearing** at the **development area**.
  - b. Within 20 **business days** of **legally securing** at least 847.98 ha land at the **Aroona Offset Site**, provide the **Department** with written evidence demonstrating that the **Aroona Offset Site** has been **legally secured** (e.g. **legal security documentation**), and **shapefiles** of the **offset attributes**.

*Note: Uses or activities at the **Aroona Offset Site** are not permitted if they are not compatible with the primary purpose of conservation.*

- c. Within 6 months of this approval, submit an Offset Strategy for the **Minister's** approval, to compensate for residual impacts to **Koala** not addressed by securing and managing the **Aroona Offset Site**. The approved Offset Strategy must be implemented for the period of effect of this approval. The Offset Strategy must:
  - i. Be prepared by a **suitably qualified field ecologist**;
  - ii. Be prepared in accordance with relevant Commonwealth Government approved conservation advices, recovery plans, and threat abatement plans;
  - iii. Demonstrate that the proposed offset area(s) meets the principles of the **EPBC Act Environmental Offsets Policy** and **Environmental Management Plan Guidelines**;
  - iv. Include timelines and mechanisms for **legal security** for residual proposed direct offsets (if applicable);



- v. Include time bound commitments to ecological outcomes and offset performance and completion criteria (including milestones) for achieving ecological outcomes; and
- vi. Detail the management and monitoring actions to be undertaken, or a plan to conduct or fund research to inform the long-term conservation of the **Koala**.

*Note 1: The residual/outstanding offset quantum requirement to compensate for residual impacts to **Koala** not addressed by securing and managing the **Aroona Offset Site** has been assessed by the Department to be 8%.*

*Note 2: Additional offsets can be provided through either direct or other compensatory measures (or a combination of the two).*

*Note 3: If a research program is proposed, the research program should at a minimum investigate the compatibility of grazing and regeneration/restoration activities within **Koala habitat** and **Grey-headed Flying-fox foraging habitat** (e.g. remnant, regrowth, and restoration areas). An alternative research program may be proposed in accordance with the **EPBC Act Environmental Offsets Policy**, subject to the **Minister's** approval.*

- d. If a direct offset is proposed under condition 5(c), the approval holder must provide the **Department** with written evidence demonstrating the additional offset has been **legally secured** (e.g. **legal security documentation**), and **shapefiles** of the **offset attributes**, within **20 business days** of **legally securing** the site.

#### *Baseline survey information*

6. By the end of **year 1**, the approval holder must complete baseline surveys of the entire **Aroona Offset Site**. The baseline surveys must be conducted by a **suitably qualified field ecologist** in accordance with a scientifically valid, robust, and repeatable methodology, and include the following:
  - a. The detailed **baseline habitat quality assessment data** for each **operational management unit** as provided in the **preliminary documentation**;
  - b. The **vegetation condition attributes** for each **Regional Ecosystem**;
  - c. The number and condition of **Grey-headed Flying-fox winter or spring flowering foraging species** across each **assessment plot** at the **Aroona Offset Site**.;
  - d. The **Species Stocking Rate**;
  - e. The **extent of weed cover**;
  - f. The **number** or **abundance** of **non-native predators** and **non-native herbivores** across, and where possible surrounding, the **Aroona Offset Site**;
  - g. The number of **Koala** mortalities attributable to **non-native predators**; and
  - h. The baseline conditions in respect of each of the outcomes specified in conditions 8 – 18.
7. Within three (3) months of the end of **year 1**, the approval holder must **publish** all survey data (including survey methodology and dates) from the baseline surveys required under condition 6 including a program to monitor and report on progress against the ecological outcomes specified in conditions 8–18 on the **website** and provide a copy of this information to the **Department**.

#### *Pest and weed management*

8. The approval holder must demonstrate a 90% reduction in the **number** or **abundance** of **non-native predators** and **non-native herbivores** by the end of **year 5**, relative to the **number** or **abundance** identified during the baseline surveys, and ensure that the **number** or **abundance** of



**non-native predators** and **non-native herbivores** are then maintained at, or reduced below, the **year 5 number** or **abundance** for the rest of the period of effect of the approval.

9. Within 6 months of the end of **year 5** and thereafter within 6 months of each fifth anniversary of the date when the **Aroona Offset Site** is **legally secured**, the approval holder must **publish** the outcomes of condition 8 and provide a copy of the outcomes to the **Department** within **5 business days** of being **published**.
10. The approval holder must demonstrate the **extent of weed cover** across the whole **Aroona Offset Site** is:
  - a. Less than 25% by the end of **year 5**; and
  - b. Less than 5% by the end of **year 10**, and then maintained for the remaining period of effect of this approval.
11. Within 6 months of the end of **year 5** and thereafter within 6 months of each fifth anniversary of the date when the **Aroona Offset Site** is **legally secured**, the approval holder must **publish** the outcomes of condition 10 and provide a copy of the outcomes to the **Department** within **5 business days** of being **published**.

#### *Stock Management*

12. The approval holder must install **fauna friendly stock exclusion fencing** around **Operational management unit 3** by the end of **year 1**.
13. To facilitate the outcomes prescribed under conditions 15 – 18, the approval holder must:
  - a. Only permit grazing at the **Aroona Offset Site** for the purposes of bushfire hazard reduction.
  - b. Ensure that all livestock are excluded from **Operational management unit 3** for a minimum of 5 years, or until a **suitably qualified independent expert** has determined that planted **Koala** and **Grey-headed Flying-fox** feed trees are of sufficient size to withstand impact from cattle.
  - c. The approval holder must provide the **Department** with a report from the **suitably qualified independent expert** verifying that planted **Koala** and **Grey-headed Flying-fox** feed trees are of sufficient size to withstand impact from cattle.
  - d. Ensure that any grazing is managed so as to prevent the risk of injury or mortality of **Koalas**.
14. Before each annual anniversary of the date when the **Aroona Offset Site** is **legally secured**, until the end of **year 5**, and thereafter before each fifth anniversary of the date when the **Aroona Offset Site** is **legally secured**, the approval holder must submit to the **Department** a monitoring report in respect of the period since the period covered by the previous report or since the date when the **Aroona Offset Site** was **legally secured**, which includes:
  - a. An analysis of how cattle grazing at the **Aroona Offset Site** has facilitated and/or impacted the achievement of outcomes prescribed under conditions 15 – 18;
  - b. Frequency, duration and location of grazing, and stock density for each grazing period;
  - c. Details of any injury or mortality of individual **Koalas**;
  - d. The timing and frequency of monitoring undertaken; and



- e. Details of corrective actions already undertaken and/or proposed to be undertaken in the event of injury or mortality of individual **Koalas** as a result of grazing, and/or if monitoring demonstrates the outcomes under 15 - 18 are not achievable.

#### *Habitat Quality Improvement*

15. The approval holder must undertake ecological work which contributes to improvement of the condition of the **Regional Ecosystems** and facilitates natural regeneration at the **Aroona Offset Site**.
16. The approval holder must encourage natural regeneration and achieve the following outcomes in **Operational management unit 1**:
  - a. Average **recruitment of woody perennial species** in the **ecologically dominant layer** greater than 75% of the **benchmark** for relevant **Regional Ecosystems** present by the end of **year 5**, and subsequently maintain or exceed that rate of recruitment for the remainder of the period of effect of the approval.
  - b. The **Diameter at Breast Height** of trees increases as follows:
    - i. Average **Diameter at Breast Height** of trees has increased by at least 2.5 cm by the end of **year 5** relative to the **baseline habitat quality assessment data**.
    - ii. Average **Diameter at Breast Height** of trees has increased by at least 5 cm by the end of **year 10** relative to the **baseline habitat quality assessment data**.
    - iii. Average **Diameter at Breast Height** of trees has increased by at least 7.5 cm by the end of **year 15** relative to the **baseline habitat quality assessment data**.
    - iv. The number of **large trees** must be >100% of the **benchmark** for relevant **Regional Ecosystems** present by the end of **year 20** and this proportion must be subsequently maintained or exceeded for the remainder of the period of effect of the approval.
  - c. **Tree canopy height** must be maintained at >70% of the **benchmark** for relevant **Regional Ecosystems** present for the period of effect of the approval.
  - d. Average **tree canopy cover** must be maintained at >50% - <200% of the **benchmark** for relevant **Regional Ecosystems** present for the period of effect of the approval.
  - e. A 50% increase, relative to the **baseline habitat quality assessment data**, in **Koala density** by the end of **year 10**.
  - f. A 100% increase, relative to the **baseline habitat quality assessment data**, in **Koala density** by the end of **year 20**, and subsequently maintain or exceed that average **Koala density** for the remainder of the period of effect of the approval.
  - g. An average of at least 6 (or maximum number allowed in the Regional Ecosystem present) different **Grey-Headed Flying-fox winter or spring flowering foraging species** present in each **assessment plot** by the end of **year 5**, and subsequently maintain or exceed this outcome for the remainder of the period of effect of the approval.





17. The approval holder must encourage natural regeneration and achieve the following outcomes in **Operational management unit 2**:
- a. Average **recruitment of woody perennial species** in the **ecologically dominant layer** must be maintained or exceeded at greater than 75% of the **benchmark** for relevant **Regional Ecosystems** present for the remainder of the period of effect of the approval.
  - b. The **Diameter at Breast Height** of trees increases as follows:
    - i. Average **Diameter at Breast Height** of trees has increased by at least 2.5 cm by the end of **year 5** relative to the **baseline habitat quality assessment data**.
    - ii. Average **Diameter at Breast Height** of trees has increased by at least 5 cm by the end of **year 10** relative to the **baseline habitat quality assessment data**.
    - iii. Average **Diameter at Breast Height** of trees has increased by at least 7.5 cm by the end of **year 15** relative to the **baseline habitat quality assessment data**.
    - iv. The number of **large trees** must be 50-100% of the **benchmark** for relevant **Regional Ecosystems** present by the end of **year 20** and this proportion must be subsequently maintained or exceeded for the remainder of the period of effect of the approval.
  - c. Average **tree canopy height** at >70% of the **benchmark** for **Regional Ecosystems** present by the end of **year 5**, and subsequently maintain the average tree canopy height in that range for the remainder of the period of effect of the approval.
  - d. Average **tree canopy cover** must be maintained at >50% - <200% of the **benchmark** for relevant **Regional Ecosystems** present for the period of effect of the approval.
  - e. A 50% increase, relative to the **baseline habitat quality assessment data**, in **Koala density** by the end of **year 10**.
  - f. A 100% increase, relative to the **baseline habitat quality assessment data**, in **Koala density** by the end of **year 20**, and subsequently maintain or exceed that average **Koala density** for the remainder of the period of effect of the approval.
  - g. An average of at least 6 (or maximum number allowed in the **Regional Ecosystem** present) different **Grey-headed Flying-fox winter or spring flowering foraging species** present in each **assessment plot** by the end of **year 5**, and subsequently maintain or exceed this outcome for the remainder of the period of effect of the approval.

#### *Habitat Creation*

18. The approval holder must achieve the following outcomes in **Operational management unit 3**:
- a. Recreate the relevant **pre-clearing Regional Ecosystem** as identified in the baseline survey by planting 69.16 hectares of new **Koala habitat** and **Grey-headed Flying-fox foraging habitat**.
  - b. Complete all planting and direct seeding of new **Koala Habitat** and **Grey-headed Flying-fox foraging habitat** by the end of **year 2**.
  - c. Average **recruitment of woody perennial species** in the **ecologically dominant layer** greater than 20% of the **benchmark** for relevant **Regional Ecosystems** present by the end of **year 5**.
  - d. Average **recruitment of woody perennial species** in the **ecologically dominant layer** at greater than 75% of the **benchmark** for relevant **Regional Ecosystems** present by the end of **year 10**,



and subsequently maintain or exceed that rate of recruitment for the remainder of the period of effect of the approval.

- e. The **Diameter at Breast Height** of trees increases as follows:
    - i. Average **Diameter at Breast Height** of trees has increased by at least 2.5 cm by the end of **year 5** relative to the **baseline habitat quality assessment data**.
    - ii. Average **Diameter at Breast Height** of trees has increased by at least 5 cm by the end of **year 10** relative to the **baseline habitat quality assessment data**.
    - iii. Average **Diameter at Breast Height** of trees has increased by at least 7.5 cm by the end of **year 15** relative to the **baseline habitat quality assessment data**.
    - iv. The average **Diameter at Breast Height** trees must be at least 50% of the **benchmark** for **large trees** for relevant **Regional Ecosystems** present by the end of **year 20** and this proportion must be subsequently maintained or exceeded for the remainder of the period of effect of the approval.
  - f. Average **tree canopy cover** at >10% of the **benchmark** for relevant **Regional Ecosystems** present by the end of **year 10**, and subsequently maintain or exceed 10% of the **benchmark** for relevant **Regional Ecosystems** for the remainder of the period of effect of the approval.
  - g. Average **tree canopy height** at >25% of the **benchmark** for relevant **Regional Ecosystems** present at the site by the end of **year 10**, and subsequently maintain or exceed that **tree canopy height** for the remainder of the period of effect of the approval.
  - h. An increase in **Koala density**, relative to the **baseline habitat quality assessment data**, by the end of **year 10**.
  - i. **Koala density** by the end of **year 20**, must at a minimum achieve the baseline **Koala density** for **Operational Management Unit 1**, as identified in the **baseline habitat quality assessment data**.
  - j. An average of at least 6 different **Grey-headed Flying-fox winter or spring flowering foraging species** present in each **assessment plot** by the end of **year 10**, and subsequently maintain or exceed this diversity of foraging species for the remainder of the period of effect of the approval.
19. The approval holder must engage a **suitably qualified field ecologist** to undertake an assessment at the end of each of **year 5, year 10, year 15, and year 20** as to whether each outcome required under conditions 8 – 18 has been, or is likely to be achieved in accordance with the condition requirements, and provide advice of any circumstance/s which they consider is/are affecting the achievement of each outcome. The findings of each assessment must be documented and **published** on the **website** within 3 months of the end of the particular period at the end of which the assessment is undertaken and be provided to the **Department** within 5 **business days** of being **published**.
20. If, at any time during the period of effect of the approval, the **Minister** is not satisfied that any of the requirements and/or outcomes under the conditions of approval, including (but not limited to) conditions 8 – 18, have been or are likely to be achieved or maintained, the **Minister** may require the approval holder to submit a corrective action plan for the **Aroona Offset Site** for the **Minister's**



approval, or to monitor, manage, avoid, mitigate, offset, record and/or report on, impacts to the **Koala** and/or the **Grey-headed Flying-fox**.

- a. The **Minister** may set a timeframe in which the corrective action plan must be submitted and suitable for approval, may require that the corrective action plan be prepared and/or reviewed by an **suitably qualified independent expert** and may specify consequences for the approval holder if the corrective action plan is not suitable for approval within the specified timeframe.
- b. The approval holder must implement the corrective action plan approved by the **Minister** in writing.

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## Part B – Standard administrative conditions

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### Notification of date of commencement of the action

21. The approval holder must notify the **Department** in writing of:
  - a. the date of **commencement of the action** within 5 **business days** after the date of **commencement of the action**;
  - b. the date of commencement of **clearing** within 5 **business days** after the date of commencement of **clearing**; and
  - c. the date of commencement of **construction** within 5 **business days** after the date of commencement of **construction**.
22. If the **commencement of the action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the action** without the prior written agreement of the **Minister**.

### Compliance records

23. The approval holder must maintain accurate and complete **compliance records**.
24. If the **Department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **Department** within the timeframe specified in the request.

*Note: Compliance records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **Department's** website or through the general media.*

### Annual compliance reporting

25. The approval holder must prepare a **compliance report** for each 12 month period following the date of **commencement of the action**, or otherwise in accordance with an annual date that has been agreed to in writing by the **Minister**. The approval holder must:
  - a. **Publish** each **compliance report** on the **website** within 60 **business days** following the relevant 12 month period;
  - b. Notify the **Department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within 5 **business days** of the date of publication;
  - c. Keep all **compliance reports** publicly available on the **website** until this approval expires;



- d. Exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**; and
- e. Where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **Department** within 5 **business days** of publication.

*Note: Compliance reports may be published on the Department's website.*

### Reporting non-compliance

26. The approval holder must notify the **Department** in writing of any: **incident**; or non-compliance with the conditions. The notification must be given as soon as practicable, and no later than 2 **business days** after becoming aware of the **incident** or non-compliance. The notification must specify:
  - a. Any condition which is or may be in breach;
  - b. A short description of the **incident** and/or non-compliance; and
  - c. The location (including co-ordinates), date, and time of the **incident** and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.
27. The approval holder must provide to the **Department** the details of any **incident** or non-compliance with the conditions as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying:
  - a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;
  - b. The potential impacts of the **incident** or non-compliance; and
  - c. The method and timing of any remedial action that will be undertaken by the approval holder.

### Independent audit

28. The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister.
29. For each **independent audit**, the approval holder must:
  - a. Provide the name and qualifications of the independent auditor and the draft audit criteria to the **Department**;
  - b. Only commence the **independent audit** once the audit criteria have been approved in writing by the **Department**; and
  - c. Submit an audit report to the **Department** within the timeframe specified in the approved audit criteria.
30. The approval holder must **publish** the audit report on the **website** within 10 **business days** of receiving the **Department's** approval of the audit report and keep the audit report published on the **website** until the end date of this approval.

### Completion of the action

31. Within 30 days after the **completion of the action**, the approval holder must notify the **Department** in writing and provide **completion data**.



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## Part C - Definitions

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In these conditions, except where contrary intention is expressed, the following definitions are used:

**Abundance** is an index of the **number** detected relative to survey effort. The method used to determine **abundance** must be supported by peer reviewed literature and reliably repeatable so as to provide reliable comparison between baseline and subsequent results.

**Aroona Offset Site** means the area to be managed as an offset for the impacts on the **Koala habitat** and **Grey-headed Flying-fox foraging habitat**, shown as all the areas marked with bright green boundary lines designated as '20200327\_Celestino\_BDY' in the map at [Attachment B](#).

**Assessment plot** means the area within a survey area measuring 100 metre by X 50 metre plot following positioned such that the long edges are parallel to the contour of the land at the location of the plot.

**Baseline habitat quality assessment data** means the habitat quality scoring which provide the baseline and future scoring for the **Aroona Offset Site** as specified in the Table 9, Table 10, Table 14, Table 15, Table 16, Table 17, Table 18 and Table 19 in the **preliminary documentation**; Offset Site Modified Koala Habitat Assessment Tables in Appendix J of the **preliminary documentation**; and Offset Site Grey-headed Flying-fox Habitat Assessment in Appendix L of the **preliminary documentation**.

**Benchmark** means the BioCondition attribute benchmark for the **Regional Ecosystem** as defined in the most recent officially released version of *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual* (version 2.2, 2015), Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts.

**Business day** means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.

**Clear/Clearing** means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the *Australian weeds strategy 2017 to 2027* for further guidance). **Clearing** does not include any relevant prescribed burns or actions undertaken for bushfire management, where required.

**Commencement of the action** means the first instance of any specified activity associated with the action including **clearing, construction and/or management activities** at the **Aroona Offset Site**.

**Commence the action/Commencement of the action** does not include minor physical disturbance necessary to:

- i. Undertake pre-clearance surveys or monitoring programs;
- ii. Install signage and /or temporary fencing to prevent unapproved use of the project area so long as these are located where it will have no impact on the **protected matters**;
- iii. Protect environmental and property assets from fire, weeds and feral animals, including use of existing surface access tracks;
- iv. Install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**; and
- v. Undertake soil sampling or geotechnical investigations provided these cause only minor physical disturbance and are required in advance of formal commencement of site works.



**Completion data** means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **Department's** preferred spatial data format is **shapefile**.

**Completion of the action** means the time at which all approval conditions (except condition 28) have been fully met.

**Compliance records** means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.

**Compliance report/s** means written reports:

- i. Providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions;
- ii. Consistent with the **Department's Annual Compliance Report Guidelines (2014)**; and
- iii. Include a **shapefile** of any clearance of any **protected matters**, or their habitat, undertaken within the relevant 12 month period.

**Construction** means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of temporary fences and signage.

**Council** means the local government authority responsible for the local government area encompassing Jimboomba, currently Logan City Council, Queensland.

**Department** means the Australian Government agency responsible for administering the **EPBC Act**.

**Development area** means the area designated as 'Referral Area' on the map at **Attachment A** and enclosed by a thick black border.

**Diameter at Breast Height** is the diameter of a tree's trunk measured at 1.3 metres from the ground.

**Ecologically dominant layer** means the tree layer making the greatest contribution to the overall biomass of the vegetation community.

**Environmental Management Plan Guidelines** means the **Department's Environmental Management Plan Guidelines (2014)** or subsequent published revised version.

**EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

**EPBC Act Environmental Offsets Policy** means the **Department's EPBC Act 1999 Environmental Offsets Policy**, Commonwealth of Australia, 2012.

**Extent of weed cover** means the proportion (expressed as a percentage) of the total land area in which any square metre contains a non-native plant species known to restrict the movement of **Koala** and/or degrade the quality of **Koala habitat** and/or **Grey-headed Flying-fox foraging habitat**, or its ability to regenerate. Such non-native plant species include *Lantana camera* and *Ligustrum lucidum*.

**Fauna exclusion/Koala proof fencing** means fencing to guide **Koalas** away from roads and/or guide them towards safe fauna movement structures (such as underpasses) as described in *Fauna Sensitive Road Design: Volume 2 – Preferred Practices* (Queensland Department of Main Roads 2010).



**Fauna friendly stock exclusion fencing** means fencing designed to prevent access by cattle while providing for the free movement of **Koalas**.

**Fauna spotter/catcher** means a person licenced under the Queensland *Nature Conservation Act 1992* to detect, capture, care for, assess, and release wildlife disturbed by vegetation clearance activities.

**Grey-Headed Flying-fox** means the Grey-Headed Flying-fox (*Pteropus poliocephalus*) listed as a threatened species under the **EPBC Act**.

**Grey-Headed Flying-fox foraging habitat** means areas of vegetation that contain **Grey-headed Flying-fox** foraging trees, including **Grey-headed Flying-fox winter and spring flowering foraging species**.

**Grey-headed Flying-fox winter or spring flowering foraging species** means tree species which provide flowering resources in winter and spring for the **Grey-headed Flying-fox**.

**Incident** means any event which has the potential to, or does, impact on one or more **protected matter(s)**.

**Independent** means does not have any individual, or by employment or family affiliation, conflicting or competing interests with the approval holder; the approval holder's staff, representatives or associated persons; or the project, including any personal, financial, business or employment relationship, other than receiving payment for undertaking the role for which the condition requires and independent person.

**Independent audit** means an audit conducted by an **independent** and suitably qualified person as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines* (2019).

**Koala** means the Koala *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) listed as a threatened species under the **EPBC Act**.

**Koala density** means the number and/or utilisation of **Koala** per unit area as determined in field surveys over the entire **Aroona Offset Site** undertaken by a **suitable qualified field ecologist** using a scientifically robust and repeatable methodology over a timeframe that serves as a sound basis for comparison.

**Koala exclusion fencing** means fencing which prevents the movement of koalas from one area to another. Suitable examples are found in *Koala Sensitive Design Guideline: A guide to koala sensitive designed measures for planning and development activities*, (Queensland Department of Environment and Heritage Protection, 2012) and in the **Koala referral guidelines**.

**Koala food trees** means a tree of genera *Angophora*, *Corymbia*, *Eucalyptus*, *Lophostemon* or *Melaleuca*, with a height of more than 4 metres and/or with a trunk circumference more than 31.5 centimetres at 1.3 metres above the ground, the leaves of which are known to be consumed by the **Koala**.

**Koala habitat** means any forest or woodland containing species that are known **Koala food trees**, or shrubland with emergent **Koala food trees** (as defined in the **Koala referral guidelines**).

**Koala referral guidelines** means the Department's *EPBC Act referral guidelines for the vulnerable Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)*, Commonwealth of Australia, 2014.



**Large trees** means living trees with a **Diameter at Breast Height** greater than the **Diameter at Breast Height** threshold specified in the **benchmark** for the relevant **Regional Ecosystem** and measured in accordance with the *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (Version 1.2)* (Queensland Department of Environment and Heritage Protection, 2017), or any subsequent version. This may include both eucalypt and non-eucalypt trees depending on the relevant **Regional Ecosystem**.

**Legal security/Legally secure/secured/securing** means to provide ongoing conservation protection on the title of the land, under an enduring protection mechanism, such as a voluntary declaration under the *Vegetation Management Act 1999* (Qld) or another enduring protection mechanism agreed to in writing by the **Department**.

**Legal security documentation** means any documentation associated with **legally securing** offset site(s), including (but not limited to) management plans. **Legal security documentation** must include (at a minimum) the following:

- a) Details of the **management activities** to be undertaken to achieve the outcomes prescribed under conditions 8 – 18;
- b) A commitment that **legal security** of the **Aroona Offset Site** and **management activities** to achieve and maintain the outcomes prescribed under conditions 8 – 18 will be in place for the duration of the impact.

**Local traffic management measures** means devices that reduce the speed and/or volume of traffic, for example, road closures, chicanes, crosswalks, lighting, signage and rumble strips, as described in **Queensland's fauna sensitive road design guidelines**.

**Management activities** means activities to be undertaken at the **Aroona Offset Site**, including (but not limited to):

- i. Baseline surveys to inform development and implementation of management measures to achieve outcomes;
- ii. Perimeter fencing repairs and maintenance;
- iii. Planting activities;
- iv. Weed management;
- v. Stock management/exclusion; or
- vi. **Non-native predator** and **non-native herbivore** management.

**Minister** means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.

**Minor clearing** means clearing required for the purpose of rehabilitation activities including removal of undergrowth for planting areas, weed management, or erosion and waterway stability works where approved by the Queensland Government in accordance with the **Natural Environment Overarching Site Strategy**.

**Natural Environment Overarching Site Strategy** means the Riverside Celestino Natural Environment Site Strategy prepared by Saunders Havill Group, approved by Queensland Government on 16 February 2018 (approval no. DEV2016/811), or a subsequent version approved by the Queensland Government.





**Nature trails** means paths for pedestrian movement made from impermeable surfaces such as crushed sandstone or spaced timber boardwalks.

**Non-native predators** means any non-native animals known to predate on the **Koala**.

**Non-native herbivores** means any non-native animals, excluding livestock authorised to be used as a hazard reduction tool within the **Aroona Offset Site**, known to degrade the quality of **Koala habitat** and/or **Grey-headed Flying-fox foraging habitat** and/or prevent its ability to regenerate.

**Number** means the number of individuals of a species known or estimated to be present in a specified area based on scientifically valid survey and sampling methods.

**Offset attributes** means an '.xls' file capturing relevant attributes of the **Aroona Offset Site**, including:

- i. **EPBC Act** reference number
- ii. Physical address of the **Aroona Offset Site**;
- iii. Coordinates of the boundary points in decimal degrees;
- iv. **Protected matters** that the offset compensates for;
- v. Any additional **EPBC Act** listed threatened species and communities that are benefiting from the offset; and
- vi. Size of the **Aroona Offset Site** in hectares.

**On-site conservation corridor** means the on-site conservation corridor within the **development area**, which have been designated to be retained for conservation purposes shown as the yellow hatched area at [Attachment A](#).

**Operational management unit** includes **Operational management unit 1**, **Operational management unit 2** and **Operational management unit 3** within the **Aroona Offset Site** as shown at [Attachment B](#).

**Operational management unit 1** means the area designated as 'Cat B (572.88)' within the **Aroona Offset Site** shown as dark blue at [Attachment B](#).

**Operational management unit 2** means the area designated as 'Cat C (205.94)' within the **Aroona Offset Site** shown as light blue at [Attachment B](#).

**Operational management unit 3** means the area designated as 'Cat X (69.16)' within the **Aroona Offset Site** shown as white at [Attachment B](#).

**Pre-clearing Regional Ecosystem** means the vegetation identified in the **preliminary documentation** as being present in a **Regional Ecosystem** prior to **clearing**.

**Preliminary documentation** means the Riverside Celestino EPBC Act Preliminary Documentation Final Report, 3 July 2020 including all appendices.

**Protected matter** means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

**Publish** means make publicly available on the **website** for the duration of this approval.

**Queensland's fauna sensitive road design guidelines** means Queensland Department of Main Roads 2010, *Fauna Sensitive Road Design. Volume 2 – Preferred Practices*, or subsequent published revised version.



**Queensland's Koala-sensitive Design Guideline** means Department of Environment and Science 2019, *Koala-sensitive Design Guideline A guide to koala-sensitive design measures for planning and development activities*, or subsequent published revised version.

**Queensland's wildlife signing guidelines** means Queensland Department of Transport and Main Roads 2019, *Traffic and Road Use Management, Transport and Main Roads Volume 3 – Signing and Pavement Marking, Part 8: Wildlife Signing Guidelines*, or subsequent published revised version.

**Recruitment of woody perennial species** means the proportion of the dominant canopy (**ecologically dominant layer**) species with evidence of recruitment and is measured in accordance with the *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (Version 1.2)* (Queensland Department of Environment and Heritage Protection, 2017), or any subsequent official version.

**Regional Ecosystem/s** means a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil as classified by the Queensland Government under the *Vegetation Management Act 1999* (Qld).

**Safe fauna movement solutions** means measures to minimise the risk of injury or deaths of **Koalas** during **construction** and subsequently, such as **fauna exclusion/koala proof fencing**, fauna underpasses or overpasses, and/or bridges as described in **Queensland's fauna sensitive road design guidelines**.

**Sensitive ecological data** means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0*.

**Sequential clearing** means the provisions specified in *Sequential clearing in Koala district A or B* under the *Nature Conservation (Koala) Conservation Plan 2017* under the *Nature Conservation Act 1992* (Qld). These include provisions for the area which may be **cleared** in any one stage, periods of non-clearing between stages, maintaining habitat links and restrictions on **clearing** trees containing **Koalas**.

**Shapefile** means location and attribute information of the action provided in an ESRI shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

**Species Stocking Rate** means the species stocking rate provided in Table 9, Table 10, Table 14, Table 15, Table 16, Table 17, Table 18 and Table 19 in the **preliminary documentation**; species stocking rate provided in Offset Site Modified Koala Habitat Assessment Tables in Appendix J of the **preliminary documentation**; and Offset Site Grey-headed Flying-fox Habitat Assessment in Appendix L of the **preliminary documentation**, which provide the baseline and future species stocking rate scoring for the **Aroona Offset Site**.

**Suitably qualified field ecologist** means a person who has professional qualifications and at least 3 years' work experience designing and implementing flora and fauna surveys and management plans for the **Koala** and/or the **Grey-headed Flying-fox** using relevant protocols, standards, methods and/or literature.

**Suitably qualified independent expert** means an **independent** person who has professional qualifications, training, skills and at least 5 years' experience in the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.



**Tree canopy cover** as defined in the most recent officially released version of *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual* (version 2.2, 2015), Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts.

**Tree canopy height** as defined in the most recent officially released version of *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual* (version 2.2, 2015), Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts.

**Vegetation condition attributes** means attributes that indicate vegetation functions for biodiversity, as defined in the most recent officially released version of *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual* (version 2.2, 2015), Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts.

**Website** means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

**Year 1** means the period within one year from the date when the **Aroona Offset Site** is legally secured.

**Year 2** means the period within two years from the date when the **Aroona Offset Site** is legally secured.

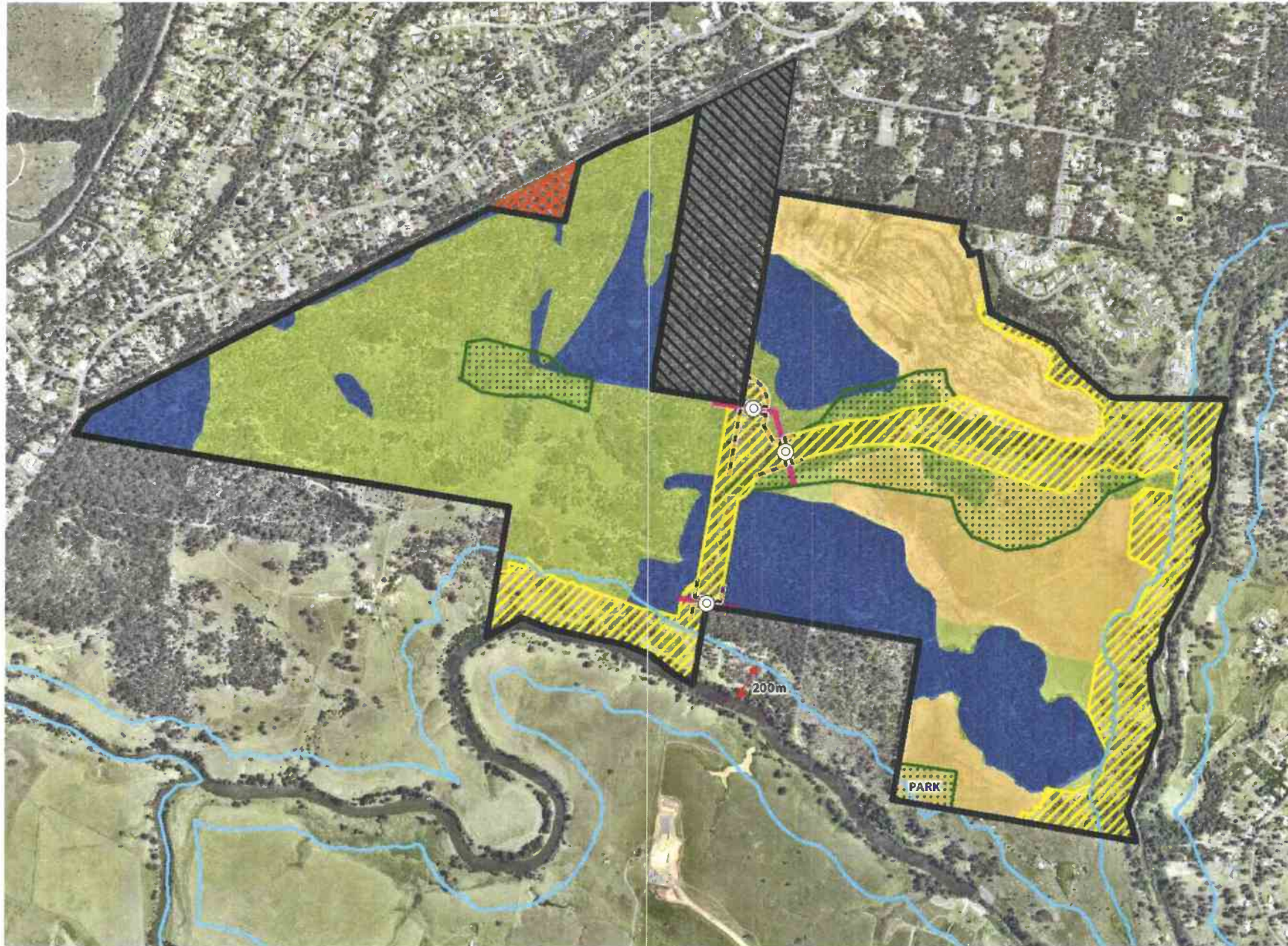
**Year 5** means the period within five years from the date when the **Aroona Offset Site** is legally secured.

**Year 10** means the period within ten years from the date when the **Aroona Offset Site** is legally secured.

**Year 15** means the period within fifteen years from the date when the **Aroona Offset Site** is legally secured.

**Year 20** means the period within twenty years from the date when the **Aroona Offset Site** is legally secured.

Attachment A – Development area (including on-site conservation corridor and habitat critical to the survival of the Koala and Grey-headed Flying-fox)



**NOTES**  
 This plan was prepared as a desktop assessment tool.  
 The information on this plan is not suitable for any other purpose.  
 Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Hall Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to all action beyond the control of the Saunders Hall Group, unless a development approval states otherwise, this is not an approved plan.

**Layer Sources**  
 Qld State Cadastre and Mapping layers © State of Queensland  
 Department of Natural Resources and Mines 2018. Updated data available at <http://qdsportal.information.qld.gov.au/catalogue/>  
 Resko Imagery © Neo/roop, 2018

\* This note is an integral part of this plan. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

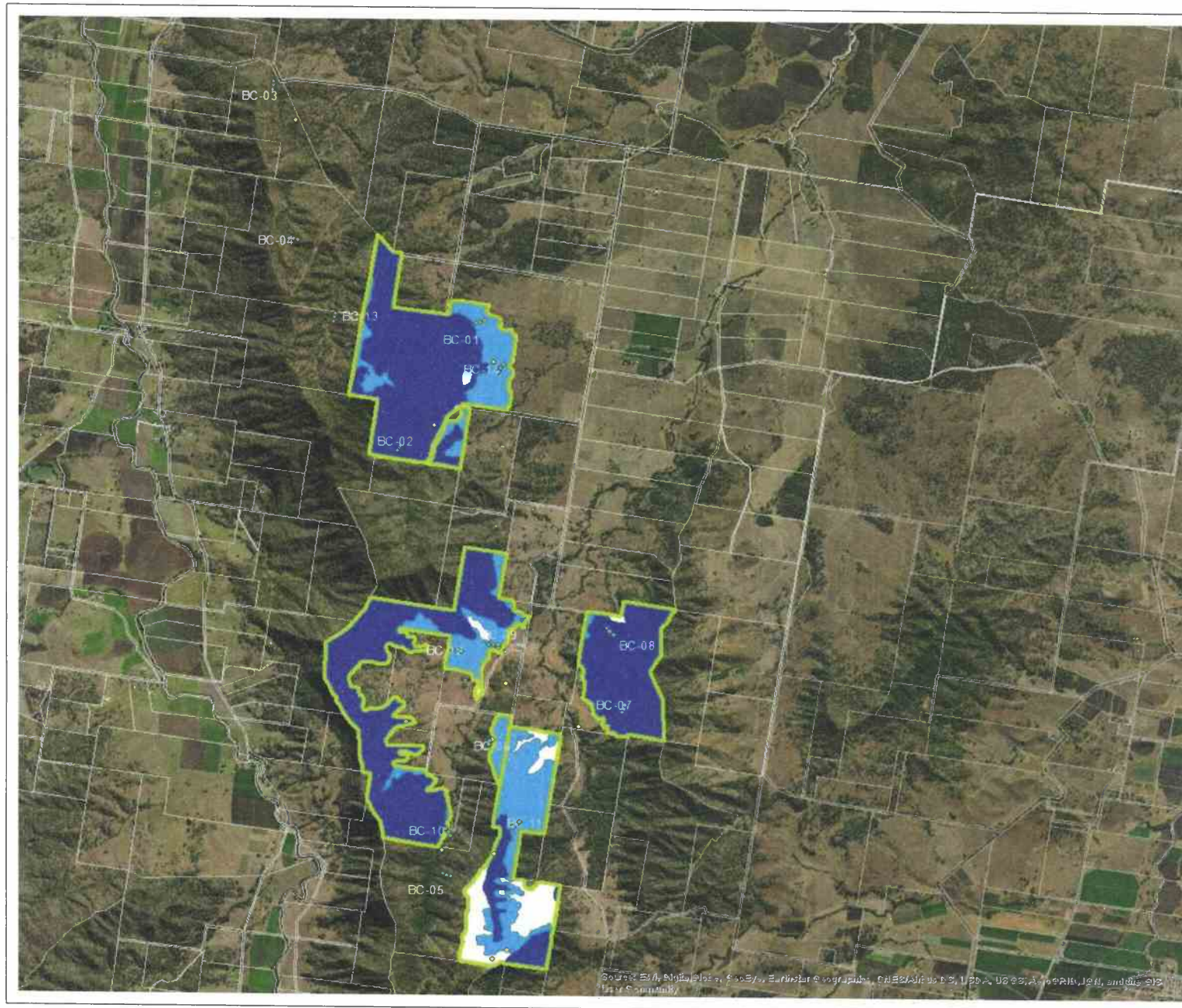
**Legend**

- Referral area
- Regional Corridor (Logan City Council Biodiversity Corridor and Environmental Protection under PDA Development)
- Area to be retained (On site Conservation Corridor)
- Remnant (1216 ha impacted) (Habitat critical to Koala and GHFF)
- Regrowth (209.2 ha impacted) (Habitat critical to Koala and GHFF)
- Non-remnant (125.1 ha Impacted)
- Open Space / park
- Habitat functionally lost (3.5 ha) (Habitat critical to Koala and GHFF)
- State land
- Road crossing (indicative)
- Fauna exclusion fence (to facilitate safe fauna movement through retained vegetation corridor)
- Fauna crossing

REV#	Date	Description	Drawn	Checked
0	24/10/2019	Initial update	IC	SA
1	16/04/2020	Fauna movement	IC	SA

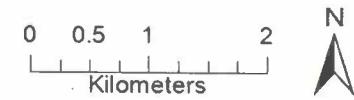


Attachment B – Aroona Offset Site at 338 Alpers Road, Mount Mort, Queensland



OMUs

1 cm = 400 meters



Legend

- ◊ AU SE\_BioCondition\_pt\_Rev0
- ◊ SAT\_survey\_201907
- 20200327\_Celestino\_BDY
- RVM\_CAT**
- Cat B (572.88ha)
- Cat C (205.94ha)
- Cat X (69.16ha)
- Cadastral\_data\_OLD\_CADASTRE\_DCDB

Author: QTFN  
 Date: 27/3/2020  
 Source: Cadastral Boundaries,  
 Data supplied by QSpatial  
<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>  
**ACCURACY STATEMENT**  
 Due to varying sources of data,  
 spatial locations may not coincide  
 when overlaid.



**Australian Government**  
**Department of Agriculture,  
Water and the Environment**

**VARIATION OF CONDITIONS ATTACHED TO APPROVAL**  
**Residential Development, Teviot Road, Jimboomba, 17 km north of**  
**Beaudesert, Queensland (EPBC 2016/7724)**

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

**Approved action**

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<b>Person to whom the approval is granted</b>	Celestino Pty Limited ACN or ABN: 165 629 783
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<b>Approved action</b>	To construct a residential development on Lot 800 on SP247625, Lots 101, 102, 104, 105, and 106 on SP254145 on Teviot Road, Jimboomba 17 km north of Beaudesert, Queensland [See EPBC Act referral 2016/7724]
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<b>Expiry date of approval</b>	This approval has effect until 31 August 2050
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**Variation**

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<b>Variation of conditions attached to approval</b>	The variation is:  Delete condition 5 and replace it with the condition specified below.  Add condition 5A as specified below.  Delete notes 1, 2 and 3.
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<b>Date of effect</b>	This variation has effect on the date the instrument is signed
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**Person authorised to make decision**

---

<b>Name and position</b>	Kim Farrant Assistant Secretary Environment Assessments (Vic, Tas) and Post Approvals Branch
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**Signature**

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<b>Date of decision</b>	23 December 2021
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5. To compensate for the **clearing** of 330.8 ha of **Koala habitat** and **Grey-headed Flying-fox foraging habitat**, and the functional loss of 3.5 ha of **Koala habitat**, the approval holder must:
  - a. **Legally secure** at least 847.98 ha of land at the **Aroona Offset Site** and commence **management activities** prior to undertaking any **clearing** at the **development area**.
  - b. Within 20 **business days** of **legally securing** at least 847.98 ha of land at the **Aroona Offset Site**, provide the **Department** with:
    - i. written evidence demonstrating that the **Aroona Offset Site** has been **legally secured**;
    - ii. **legal security documentation**;
    - iii. **offset attributes**; and
    - iv. **shapefiles** of the **Aroona Offset Site**.
  
- 5A. To compensate for the remaining 8% of residual impacts to **Koala** not offset by securing and managing the **Aroona Offset Site**, the approval holder must, within 12 months of the date of this approval, submit a Conservation Strategy (the Strategy) for the **Minister's** approval. The Strategy must:
  - a. explain how the financial contribution to be made by the approval holder to implement the Strategy has been determined;
  - b. describe the conservation project(s) that comprise the Strategy, including:
    - i. outcomes to be achieved by implementing the conservation projects(s);
    - ii. a timetable of project activities, deliverables and financial contributions to be made by the approval holder; and
    - iii. the institution or person(s) responsible for project implementation.
  - c. demonstrate that the Strategy:
    - i. where appropriate, is consistent with the **EPBC Act Environmental Offsets Policy**;
    - ii. is consistent with relevant conservation advices, recovery plans and threat abatement plans for **Koala**; and
    - iii. is likely to achieve a conservation gain for **Koala**.
  - d. specify arrangements to periodically report to the **Department** on the implementation of the Strategy and achieving conservation gains for **Koala**.

# Appendix B

Separable Portions 1, 2 and 3 WHIMP and  
WPMP





January 2022

# Fauna Spotter Catcher Wildlife and Habitat Impact Mitigation Plan

Separable Portions 1, 2 & 3 – Riverbend, Teviot Road  
Jimboomba, Queensland  
Report prepared for CCA Winslow Pty Ltd



Report prepared by  
QLD Fauna Consultancy Pty Ltd  
Phone: (07) 3376 9780  
Email: [fauna@qfc.com.au](mailto:fauna@qfc.com.au)

Date:	16/05/22
Title:	Fauna Spotter Catcher Pre-clearance and Habitat Values Survey Separable Portions 1, 2 & 3 – Riverbend, Teviot Road, Jimboomba
Author/s:	Bryan Robinson, Jasmine Zeleny, Rebecca Everett
Reviewed by:	Jasmine Zeleny
Status:	Final Report
Filed as:	QFC WHIMP CCA Winslow Jimboomba Jan 2022.doc

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## 1. Introduction

### 1.1 Project Background

Queensland Fauna Consultancy Pty Ltd has been engaged by CCA Winslow Pty Ltd to prepare a Fauna Spotter Catcher Wildlife and Habitat Impact Mitigation Plan for Separable Portions 1, 2 & 3 of the Riverbend development located at Jimboomba, Queensland. The site location is presented in Map 1.

The objective of this report is to summarise the existing fauna values presented in the Fauna Spotter Catcher Pre-Clearance Survey and Wildlife Protection and Management Plan (WPMP) and assign mitigatory strategies applicable to probable species likely to be encountered during the clearing of identified habitats throughout or within specific localities of the site. Fauna species both common and of elevated conservation value have been considered within the parameters of onsite investigations and, where provided to QFC, include review of current fauna and floristic reports that may influence the assemblages expected to utilise the microhabitats evident within the site.

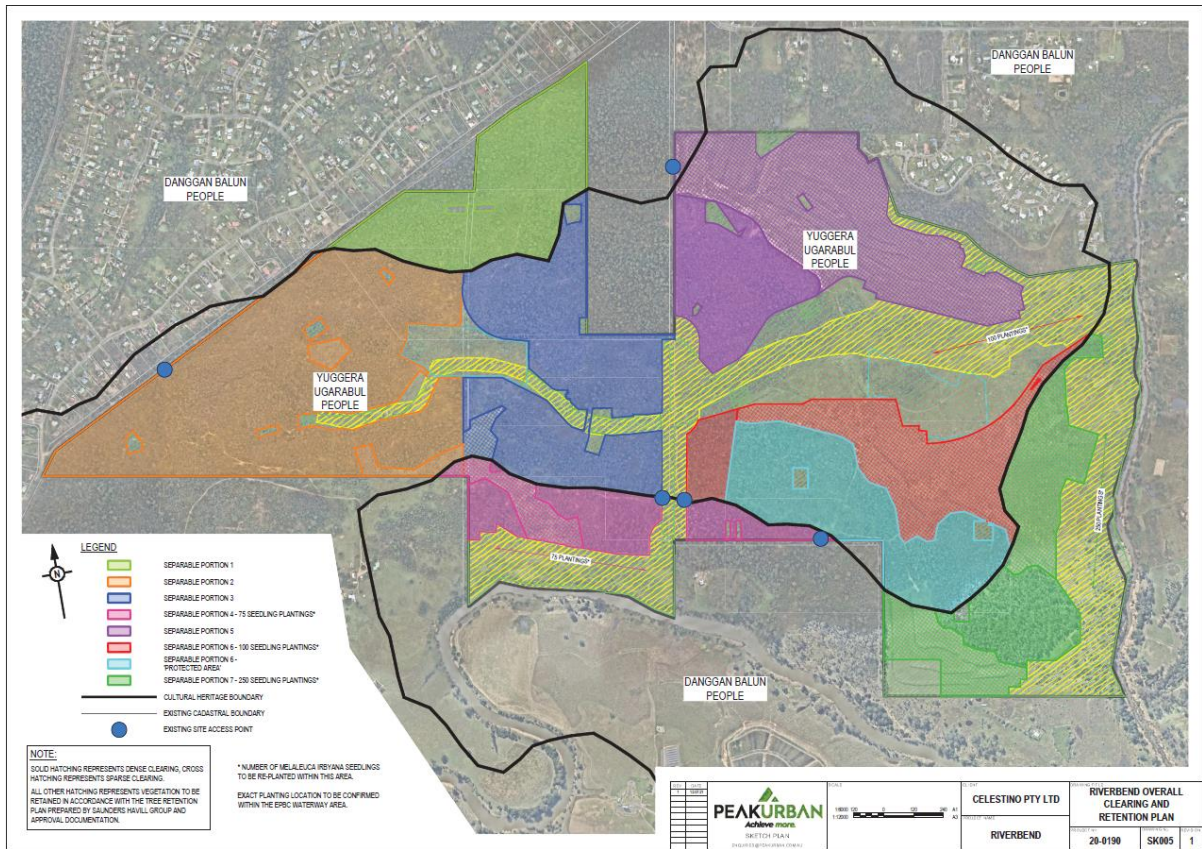
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance identified under commonwealth, state or local planning instruments aimed at the persistence of biodiversity values within the area.

### 1.2 Project Location and Site Description

Riverbend is located at the end of Teviot Road, Jimboomba, north of the Cedar Grove Environmental Centre and south of Flagstone State School.

Existing features exhibit a remnant woodland vegetative complex on undulating topography with drainage features and rock outcrops. Dominant trees species include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, and *C. intermedia*. Understorey vegetation consists of grass, scattered shrubs and weeds and dense leaf litter.

**Map 1: Project Location**



Source: Extracted from Riverbend Site Staging (CCA Winslow, 2022)

### 1.3 Current Permits and Authorities

All activities conducted during the site investigations were implemented under the provisions of a number of permits issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), formerly the Department of Environment and Heritage Protection (DEHP), and the Department of Employment, Economic Development and Innovation (DEEDI). These permits and additional authorities are listed in *Table 1*.

**Table 1: Current Permits and authorities issued to QFC**

Permit/Authorisation	Permit Number	Expiry Date
Damage Mitigation Permit	WA0018804	10 <sup>th</sup> November 2022
Rehabilitation Permit	WA0026789	16 <sup>th</sup> September 2023
Scientific Purposes Permit	WA0032325	3 <sup>rd</sup> March 2026
Scientific User Registration	Registration Number 589	27 <sup>th</sup> February 2025
Animal Ethics	CA 2019/02/1259	27 <sup>th</sup> February 2022
General Fisheries Permit	207015	16 <sup>th</sup> April 2023

These permits and approvals enable QFC to conduct the investigation, observation and relocation of protected animals exposed to disturbance due to infrastructure expansion resulting in the destruction of natural and artificial habitats.

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## 2. Mitigation Strategies

### 2.1 Fauna Spotter

It is advised that all identified fauna habitats onsite be inspected by a licensed Fauna Spotter prior to vegetation clearing, and all vegetation removal activities be supervised during the clearing process.

### 2.2 Clearing Methodologies

In accordance to the *Nature Conservation (Koala) Conservation Plan 2017* the following sequential clearing conditions are required to be adhered to:

- Clearing of trees is carried out in a way that ensures koalas living in or near the area being cleared (the clearing site) have enough time to move out of the clearing site without human intervention, including in particular, for a clearing site with an area of more than 6ha, by:
  - Carrying out the clearing in stages; and
  - Ensuring not more than the following is cleared in any one stage:
    - for a clearing site with an area of 6 ha or less—50 percent of the site's area;
    - for a clearing site with an area of more than 6ha—3ha or 3 percent of the site's area, whichever is the greater; and
  - Ensuring that between each stage there is at least one period of 12 hours that starts at 6 p.m. on a day and ends at 6 a.m. on the following day, during which no trees are cleared on the site;

In addition to these measures it is recommended that clearing activities be undertaken in a directional manner specified by the fauna spotter/catcher. This is done to reduce the likelihood of negative interactions between fauna and potential hazards e.g. roads and traffic, prevent isolation of fauna through habitat fragmentation, and to ensure that natural dispersal of wildlife away from clearing activities is not impeded.

A plan detailing the recommended clearing direction can be viewed in Appendix A.

### 2.3 Fauna Fencing

Due to the location of the clearing footprint, the installation of temporary fencing in conjunction with existing residential fencing may aid in minimizing the movement of large fauna, including highly mobile macropods into adjacent estates and nearby roadways.

The addition of further fauna fencing may be required if site conditions change and fauna considerations are presented by the fauna spotter catcher.

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## 2.4 Felling Procedures

Trees identified as having potential fauna values (such as hollows, arboreal termitaria and exfoliating bark) will be clearly identified and subsequently marked for supervision during felling and inspected once felled. Efforts will be made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks) on the day(s) of clearing. Where no signs are found or potentially occupant species are undeterminable, machinery operators will be instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

All identified microhabitats will be inspected via ground-based observation and the direction of felling will be determined considering the safety of personnel, machinery and potentially occupant fauna. Felling procedures will see implementation of a soft felling technique specifically constructed by QFC to achieve minimal deceleration and impact upon felling. This will be achieved under direction of the Fauna Spotter present directly communicating with the plant operator(s).

## 2.5 Macropods

Macropod movement throughout the site was identified by the presence of scats and footprints during the fauna survey.

The area of proposed clearing activities exhibits direct connectivity to notable habitat values to the west and north-west. Therefore, if clearing commences in a directional and incremental fashion any macropods potentially encountered on site may move on of their own volition. In this event, it is recommended that clearing proceed as already recommended with continual reassessment by the onsite fauna spotters.

## 2.6 Aquatic Fauna

In the event aquatic dewatering activities will be required within the proposed clearing area; pooled water and drainage features will be inspected during terrestrial load reduction activities ahead of the clearing front. The following recommendations are made to mitigate impacts to potentially occupant fauna:

- Inspection of banks, peripheral vegetation and other immediate terrestrial microhabitats;
- Identification of potential fauna values including: logs, rocks, artificial structures, discarded rubbish and burrows;
- Targeted searched for frog egg deposition sites on debris, bank edges, water surface and vegetation.



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## 2.7 General Terrestrial and Arboreal Fauna

Overall the site contains high value refugial opportunities for arboreal and terrestrial fauna species. The species expected within the site are likely to primarily reflect common fauna assemblages for the region however provisions are proposed directly for common fauna and species of conservation significance.

It is advised that all identified fauna habitats onsite be inspected by a DES approved Fauna Spotter prior to vegetation clearing and all vegetation removal activities be supervised during the clearing process. Terrestrial load reduction activities will be conducted ahead of the clearing front where possible. Fauna captured will be relocated to adjacent habitat consistent with the life history requirements of the species requiring translocation.

## 2.8 EVNT & SLC Fauna

It is not envisaged that any species, listed under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* or the *Nature Conservation Act 1992*, other than those listed in the WPMP, will require specific management during vegetation clearing activities.

However, specific management for those identified EVNT & SLC species will include targeted investigations immediately prior to vegetation removal activities on each day of clearing and subsequently whilst clearing takes place. Preliminary investigations will be supported by additional monitoring applied during clearing activities with a designated fauna spotter operating with each machine actively involved in vegetation or identified habitat disturbance. These should include the following:

### Short-beaked Echidna

Although no individuals were observed during the survey, evidence of echidna use throughout the site was observed during the inspection by QFC and would see probability for the Short-beaked Echidna to be encountered during clearing activities.

The following recommendations are made for management of potentially occurring Short-beaked Echidna:

- Daily inspection of areas to be cleared for transient individuals;
- Inspection daily for potential burrow sites;
- Monitored dismantling of identified microhabitats by fauna spotters with machinery assistance

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**Koala:**

As favoured Koala food trees on site exceed a diameter of 100mm at 1.3 metres from the ground, requirements under the Koala Plan's 'Koala Habitat Area' provisions trigger the need for inspection and monitoring during vegetation clearing by a qualified Fauna Spotter.

Historically known to occur within the area the Koala will feature highly in daily search efforts with a dedicated and detailed methodology employed as follows:

- Pre-clearing (preliminary) investigations to be conducted specifically for Koala detection by one experienced fauna spotter a minimum half hour prior to works each day. The investigation will embrace all designated clearing zones identified for that day inclusive of a 25-metre buffer around that zone;
- Once clearing commences a fauna spotter will accompany each machine providing continuous verification of habitat values and potential identification of undetected koalas ahead of operating plant. This will also account for potentially transient Koalas that may enter the site after preliminary investigations are complete.

Direct observational methodology will include the following components

- Use of binoculars to inspect the crown, forks and trunk of trees for individuals currently occupying the site;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas;
- Repeat observations made of single trees from numerous angles at repeated times throughout the clearing activities by the assigned fauna spotter.

In the event a Koala is detected, the Fauna Spotter will determine the appropriate course of action with exclusion zones implemented and alterations to the clearing plan discussed with the Site Supervisor. Once defined, these directions will be communicated to the plant operators and clearing will proceed in accordance with the recommendations made.

Changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees. These provisions entail an increased responsibility by developers and land clearance operators alike to ensure the welfare of potentially present Koalas in areas identified as having significance for the persistence of this species.

Where significance under planning instruments is assigned provisions may include the restriction of all clearance that directly interferes with any tree a Koala is residing in or surrounding trees that, when felled, may impact on the crown of the host tree. Koalas are to leave via their own volition through a corridor designated by the Fauna Spotter to the closest remaining suitable habitat.

Throughout this time the Koala may not be interfered with by any means unless special dispensation has been sought through the appropriate government body or where the Koala is evidently in a state of compromised health. Only when Koalas have vacated a tree can clearance operations include the identified host tree and surrounding vegetation which composes the

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established exclusion zone. Recommendations made by the Fauna Spotter on site will embrace these provisions.

## Response to Diseased/Injured Koalas

In the event the Fauna Spotter Catcher detects a koala showing signs of disease or injury the following procedure is to be implemented immediately after establishing the machinery exclusion zone:

- Photograph the animal and where possible the specific issue observed (i.e. dirty rump, emaciation);
- Contact Bryan Robinson, Principal Ecologist at QFC, to provide further assessment of the Koala via the images taken;
- Bryan to contact the Ipswich Koala Protection Society (IKPS) President Ruth Lewis for further opinion and collaboratively decide on the relevant response and timing;
- Where deemed to require veterinary assistance a Koala trap will be acquired from IKPS and installed by QFC;
- Bryan to ensure DES are immediately notified of the intended take of the animal;
- All Koalas will be taken to Moggill Koala Hospital for veterinary examination upon capture.

## Employed Koala Trapping Technique

A dedicated Koala trap will be utilised in the event a Koala is deemed to require veterinary assistance. The trap used (Figure 1 and Figure 2) will be supplied by IKPS and consists of the following components:

- 1200mm high Core flute wall;
- Steel bracing pins/star pickets;
- Zip ties;
- Purpose built Koala trapping box with guillotine/footpad style closing mechanism.

The core flute wall is placed around the tree the koala is in to form a solid barrier, subsequently channelling the animal to the trapping box when it descends from the tree. Checks are conducted on the trap periodically between 6pm and 6am to check if the Koala has entered the trap. Once captured the Koala is transported within the trapping box to minimise handling and undue stress or interference. Notification is given immediately to Bryan Robinson who will provide transportation and inform IKPS of the pending arrival of the Koala to Moggill Koala Hospital.



Figure 1: Koala trap exterior



Figure 2: Koala trap interior

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Grey-headed Flying Fox:

Although no Flying Fox camps or roosts were noted during the site survey, the transient nature of this species and the abundance of available feeding resources would see probability for the species to intermittently utilise the site.

The following recommendations are made for management of potentially occurring Grey-headed Flying Fox:

- Daily Inspection of trees assigned for removal be conducted to detect potential roosting Flying Foxes;
- Trees found to contain roosting Flying Foxes to be left standing and re assessed at the end of each days clearing. Being a transient species, the disturbance associated by the surrounding clearing is likely to see individuals fly off via its own volition come nightfall and not return the following morning, thus negating the need for direct disturbance.

Greater Glider:

The site contains hollow-bearing trees with the potential to support den localities for the Greater Glider. Suitable feeding resources are highly available given the availability of *Eucalyptus* leaves; on which the Greater Glider almost exclusively feeds on. The following recommendations are made for management of potentially occurring Greater Glider;

- Basal and drip zone searches for scats indicative of the presence of Greater Glider;
- Inspection daily of trees assigned for removal in areas of likely occurrence to detect Great Glider;
- Implementation of a soft felling technique where trees are determined to have potential for occupancy.

Tusked Frog:

Habitats conducive to the presence of these amphibians are noted at several localities throughout the site. Subsequently, it is recommended that Inspection of these microhabitats be conducted prior to the disturbance of microhabitat to detect potentially occupant frogs.

Rufous Fantail:

The site contains preferred habitat types with the potential to support nesting localities for the Rufous Fantail.

The following recommendations are made for management of potentially occurring Rufous Fantail:

- Inspection daily of trees assigned for removal in areas of likely occurrence to detect potentially roosting birds;
- Observation of mature birds to ensure individuals are out of immediate felling zones;
- Implementation of a soft felling technique where trees are determined to have potential nests.

*Powerful Owl:*

The site contains preferred habitat types with the potential to support nesting localities for the Powerful Owl.

The following recommendations are made for management of potentially occurring Powerful Owl:

- Inspection daily of trees assigned for removal in areas of likely occurrence to detect potentially roosting birds;
- Observation of mature birds to ensure individuals are out of immediate felling zones;
- Implementation of a soft felling technique where trees are determined to have potential nests where hollow cannot be accessed to inspect for birds prior to felling. Trees found to contain or considered probable for nesting Powerful Owls are to be felled in a manner directed at minimising potential risk of injury to fauna, and hollows to be 'plugged' to prevent animals from escaping during the soft felling procedure.

*Rainbow Bee-eater:*

The site contains preferred habitat types with the potential to support nesting localities for the Rainbow Bee-eater.

The following recommendations are made for management of potentially occurring Rainbow Bee-eater:

- Inspection daily of trees assigned for removal in areas of likely occurrence to detect potentially roosting birds;
- Observation of mature birds to ensure individuals are out of immediate felling zones;
- Inspection of potential burrows for nesting activity

A DES approved Fauna Spotter should be in attendance throughout all disturbance of vegetation associated with identified EVNT habitats. No clearing is to commence prior to the Fauna Spotter being satisfied all required investigations have been undertaken within the designated areas to be cleared.

### **3. Wildlife Capture & Removal Plan**

Relocation of native fauna is a strategy that may be required during the course of developmental works to adhere to the project's required nature conservation, animal welfare and human safety objectives.

In all circumstance where native fauna is required to be relocated it must be done so, or under the direct supervision of, a suitably licensed fauna spotter/catcher. A summary of the fauna capture, handling and relocations strategies to be implemented by the fauna spotter/catcher for fauna groups deemed likely, or possible, to occur on site are presented in *Table 2*.

**Table 2: Fauna capture, handling and relocation strategy table**

Animal Group	Capture and handling	Relocation
<b>Lizards Geckoes Dragons Monitors</b>	<ul style="list-style-type: none"> <li>• Place one hand behind the head at the base of the quadrates and the other at the base of the tail behind the hind limbs;</li> <li>• Be cautious when handling smaller skinks and legless lizards as they may discard their tail;</li> <li>• Lizards and geckoes can be placed inside suitably sized calico bags</li> <li>• In the case of large monitor lizards keep the animal's ventral surface directly away from the body with the tail between the upper arm and torso.</li> <li>• Dragons and small monitors can be placed in suitably sized calico bags. Larger monitors to be placed in suitably sized crate</li> </ul>	<ul style="list-style-type: none"> <li>• Place the lizard head first into a suitable holding crate for later release.                             <ul style="list-style-type: none"> <li>○ Dragons &amp; monitors– release up trees or into heavy vegetation;</li> <li>○ Water dragons – in the vicinity of riparian areas;</li> <li>○ Skinks, Geckoes, Legless lizards – around creek margins.</li> </ul> </li> </ul>
<b>Snakes</b>	<ul style="list-style-type: none"> <li>• Due to their mobile nature, large snakes generally do not require to be handled or relocated, with the exception of slow moving species (i.e. pythons) or smaller species;</li> <li>• Snakes should be identified and only moved if competent and safe to do so (see SOP006 Handling Venomous Snakes Procedure);</li> <li>• Do not attempt to catch a snake if you're not competent;</li> <li>• Injured snakes should be handled with suitable equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Release in suitable habitat e.g. along creek lines for python and tree snakes</li> <li>• If feasible take them well away from clearance site to a suitable release location</li> <li>• Release discreetly away from high density suburban areas</li> </ul>
<b>Small Mammals</b>	<ul style="list-style-type: none"> <li>• Place a gloved hand around the whole animal in the case of small mammals (melomys or rats),</li> <li>• Do not handle rodents by the tail as this will cause damage to the tail sheath</li> <li>• Place the animal in calico bag in a cool place for later relocation.</li> <li>• Minimise holding time to avoid animal gnawing through bags and escaping</li> </ul>	<ul style="list-style-type: none"> <li>• Release animal into area suitable to its habitat requirements. Ensure plenty of cover is available.</li> </ul>



Animal Group	Capture and handling	Relocation
<p><b>Glider Family</b></p>	<ul style="list-style-type: none"> <li>• Place gloved hands around the animal at initial capture;</li> <li>• Place the glider(s) into a calico bag or suitable animal crate ensuring family groups are kept together for all-inclusive release;</li> <li>• Place in a cool dry area during the day.</li> <li>• When using calico bags ensure the bag is hung and well ventilated</li> <li>• Where possible contain gliders within hollow by plugging openings with a towel or calico bag</li> </ul>	<ul style="list-style-type: none"> <li>• Release glider into habitat with natural hollows and canopy cover;</li> <li>• When releasing a family group with more than one furred young (being carried on the back) either:                             <ul style="list-style-type: none"> <li>○ Divide young between parents as a mother is unlikely to carry more than one young,</li> <li>○ Place young in elevated hollow with parents and allow them to move away in their own time.</li> </ul> </li> <li>• Place animal in bag at the base of the selected tree, opening the bag wide and allowing the animal to leave the bag when it is ready.</li> <li>• Relocate hollow (with gliders inside) to suitable habitat and cover lightly with foliage so that the gliders can move away of their own accord and are protected from predators.</li> </ul>
<p><b>Amphibians</b></p>	<ul style="list-style-type: none"> <li>• Amphibians should be handled only when necessary and handling times should be kept to a minimum to help prevent:                             <ul style="list-style-type: none"> <li>○ Removal of the protective mucous layer covering the skin of amphibians;</li> <li>○ To prevent handling stress induced by changes in their body temperature;</li> <li>○ Risk of spreading pathogens and parasites.</li> </ul> </li> <li>• Amphibians from different sites need to be kept isolated from each other, and need to be kept in different containers or bags;</li> <li>• Any dead or sick amphibians need to be quarantined from other amphibians.</li> </ul> <p>Amphibians can be handled utilising one of the following methodologies:</p> <ul style="list-style-type: none"> <li>• <b>Bare handed</b> – ensure hands are sterilized before handling and free from lotions, sunscreen etc.</li> <li>• <b>Gloves</b> – disposable gloves desirable or disinfect gloves between handling different animals;</li> <li>• <b>Plastic bags</b> – Single use lightweight plastic bags can be used to pick up and handle frogs; again, plastic bags should be disposed of before handling amphibians from a different site.</li> <li>• All staff should be knowledgeable and familiar with the <i>Interim Hygiene Protocol for Handling Amphibians – Technical Manual (DEHP)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Always ensure that amphibians are kept moist until release. This can include storing in a designated container with moist soil or toweling or in a wet calico bag;</li> <li>• Release into suitable adjacent vegetation that is typical of the species requirements;</li> <li>• Suitable release locations include riparian vegetation, low-lying wetlands, alongside creek lines, hollow logs, dams and ponds;</li> <li>• Amphibians from different sites need to be released in separate locations;</li> <li>• Disinfection procedures in relation to amphibians need to be followed.</li> </ul>

Animal Group	Capture and handling	Relocation
<b>Macropods</b>	<ul style="list-style-type: none"> <li>Capture and restraint of macropods carries a high risk of injury and fatal hyperthermia/myopathy syndrome, and must not be performed by inexperienced personnel, or without appropriate equipment and sedation.</li> <li>Capture and restraint of healthy macropods (other than pouch young) must be performed using sedation or anaesthesia due to the high risk of developmental myopathy, and other capture and restraint-associated conditions. Sedative and anaesthetic drugs may only be used under direct supervision of a registered veterinarian, or by appropriately licensed persons (Hanger &amp; Nottidge, 2009).</li> </ul>	<ul style="list-style-type: none"> <li>Release animal into suitable to its habitat requirements. Ensure plenty of cover is available.</li> <li>Macropods are to be released within the range of normal movement from their place of origin. E.g. a Kangaroo can be released within 100 km of its origin, based on its capacity to travel long distances.</li> <li>Monitor animals to ensure adequate recovery if sedated.</li> </ul>
<b>Microbats</b>	<ul style="list-style-type: none"> <li>Only vaccinated persons are to handle bats</li> <li>If possible, plug the hollow opening with a bag or towel and ask the operator to cut the hollow from the tree;</li> <li>Always wear gloves when handling bats.</li> <li>If not contained within a hollow, place bats inside a calico bag and hang upright in a cool place</li> </ul>	<ul style="list-style-type: none"> <li>Relocate hollow (with bats inside) to suitable habitat and cover lightly with foliage so that the bats can move away of their own accord and are protected from predators.</li> <li>Bats not contained within a hollow should be released as late as possible at the end of the day.</li> </ul>
<b>Possums</b>	<ul style="list-style-type: none"> <li>Use thick elbow length gloves when handling possums;</li> <li>Try to grip the animal behind the head near the shoulder blades and around the tail so that you have control of the animal;</li> <li>Keep fingers away from the mouth of the animal;</li> <li>Keep the animal's body facing away at all times;</li> <li>Transfer into a thick calico bag and then into a kitty crate. Place in a safe and shady place until you can relocate the animal.</li> </ul>	<ul style="list-style-type: none"> <li>Release the possum into habitat with adequate hollows and cover;</li> <li>Place animal in bag at the base of a select tree, opening the bag and allow the animal to leave the bag when it is ready;</li> <li>When releasing a Ringtail Possum mother with more than one furred young (being carried on her back) it is unlikely that she will carry both young if highly stressed;                         <ul style="list-style-type: none"> <li>Choose a smaller shrubby tree with vines or heavy foliage (so the adult can construct a drey easily)</li> <li>Watch the adult ascend the tree, it is possible she will only carry one young and so any additional young may be pushed from her back</li> <li>It may be necessary to take one or more of the young to a wildlife carer</li> <li>If possible place mother and young in a suspended hollow, cover lightly with foliage and allow the animals to move on their own accord. This way the mother can ferry young one at a time to a more suitable location.</li> </ul> </li> </ul>

Animal Group	Capture and handling	Relocation
<b>Birds</b>	<ul style="list-style-type: none"> <li>• Use gloves when handling larger birds</li> <li>• Use a towel to cover the bird and simultaneously restrain the bird and transfer into calico bag</li> <li>• With larger parrots and raptors, restrain head and legs and transfer into a kitty crate</li> <li>• Wrap chicks loosely in a towel and transfer to kitty crate, keep in a warm location.</li> </ul>	<ul style="list-style-type: none"> <li>• Relocate adult birds in suitable habitat</li> <li>• Chicks should be referred to wildlife carer</li> </ul>
<b>Koalas</b>	<p>Movement of Koalas is heavily legislated in South East Queensland. Koalas are not to be captured or relocated without the prior consent of Department of Environment and Science (DES). Koalas should be left to move away of their own volition and trees are not to be felled while a Koala remains in occupancy. See SOP003 Koala Management Procedure for further information.</p>	

## 4. Wildlife Contingency Plan

In the event sick, injured or orphaned protected animals are encountered during the course of the project they shall be administered to in accordance with the *Code of Practice Care of Sick, Injured or Orphaned Protected Animals in Queensland* under the *Nature Conservation Act 1992*.

The stages in which injuries or illness are described under the code are as follows:

**Critical:** Injuries or illnesses that are life-threatening; for example, an animal that has been struck by a car and has serious head injuries.

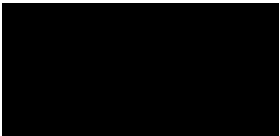
**Serious:** Injuries or illnesses that might reasonably be expected to cause moderate pain (but are not immediately life-threatening), and the animal is not showing obvious signs of distress or pain, or significantly reduced mental activity; for example, an animal with a closed fracture but no other apparent injuries and that is alert and responsive.

**Mild:** The injuries or illness of an animal appear to cause little discomfort, pain or function loss and are not life-threatening (even without immediate vet treatment); for example, superficial cuts, superficial bruising or orphaned animals suffering from mild dehydration.

### 4.1 Basic Wildlife Care

If wildlife requiring care are encountered by the fauna spotter/catcher, they will be attended to in the manner set out by the guidelines provided in *Table 4*. Supplementary advice will be sought from a wildlife carer and/or veterinarian where required. QFC have previously utilised experienced local carer groups and vets. These are listed in *Table 3*.

**Table 3: List of Local Vets & Wildlife Carer Groups**

<b>Vets</b>			
<b>Name</b>	<b>Location</b>	<b>Contact Number</b>	<b>Comments</b>
RSPCA Wildlife Hospital	139 Wacol Station Road, Wacol	07 3426 9999	24 Hours/7days
<b>Carers</b>			
<b>Name</b>	<b>Location</b>	<b>Contact Number</b>	<b>Comments</b>
RSPCA Wildlife Hospital	139 Wacol Station Road, Wacol	07 3426 9999	24 Hours/7days
Ipswich Koala Protection Society	Ipswich		Specialize in koalas however rescue all wildlife

**Table 4: Basic Wildlife Care**

<b>Birds</b>	<b>Reptiles &amp; Amphibians</b>	<b>Mammals</b>
<p><b>Egg</b></p> <p>Viable eggs must be kept warm until transferred to a suitable wildlife carer. It is necessary that the orientation of the eggs be maintained as fixed embryos may be lost. Keep wrapped in a pouch and on a heat source (where available). An ideal temperature is between 25-27° (DEHP 2013); where possible attempt to identify the species so the carer can be informed as the management of eggs can vary in accordance with species and stage of development.</p>	<p><b>Egg</b></p> <p>Viable eggs must be kept warm and stable until transferred to a wildlife carer. It is necessary that the orientation of the eggs be maintained as fixed embryos may be lost. Keep wrapped in pouch or towel and place into an animal crate in a safe location.</p>	<p><b>Neonate</b></p> <p>Unfurred animals need to be kept warm until transferred to a carer. Place into a pouch and onto a heat pad. Ideal temperature is between 31-34°. 25-27° is appropriate in most other cases (DEHP 2013). Regularly check the animal to ensure it is not overheating by observing for obvious signs of distress (i.e. panting, very warm to the touch, red blotched skin). Adjust the temperature where required. Seek further advice from the carer if you are unsure.</p>
<p><b>Chick</b></p> <p>Make sure the animal is correctly identified as different species often have very different requirements. Place chicks into a pouch/towel onto a heat source maintained around 31-34° (only if they have not fledged) and keep in an animal crate until transferred to a carer.</p>	<p><b>Juvenile</b></p> <p>Place animals in a suitable lined crate and keep covered in a dark quiet place. Refer to the wildlife contact list in your QFC Folder for a carer who specialises in reptiles.</p>	<p><b>Juvenile</b></p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p><b>Adult</b></p> <p>Keep adult birds in a lined animal crate or cage and covered in a quiet area.</p>	<p><b>Adult</b></p> <p>Place animals in a suitable lined crate and keep covered in a dark quiet place. Refer to the wildlife contact list in your QFC Folder for a carer who specialises in reptiles.</p>	<p><b>Adult</b></p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p><b>Feeding</b></p> <p>Providing food and water is generally not required during short periods (2-3 hrs) though this should be reconsidered if animals need to be held longer. Consult the vet and/or carer for further advice on how to proceed.</p>	<p><b>Feeding</b></p> <p>Newly hatched reptiles may require feeding if kept overnight. Consult with QFC for further advice. Snakes and turtles will not require feeding but water should be made available.</p>	<p><b>Feeding</b></p> <p>Providing food and water is generally not required during short periods (2-3 hrs) though this should be reconsidered if animals need to be held longer. Consult the carer for further advice on how to proceed.</p>

## 4.2 First Aid

Animals suffering from serious injuries or illness encountered on the project should be passed on to veterinary care as soon as possible. In the interim a licensed fauna spotter/catcher can provide first aid for the animal and organise suitable transportation.

If a seriously sick or injured animal is encountered the fauna spotter/catcher should:

1. Keep the animal calm by placing into an animal crate and keeping it covered in a dark and quiet location. Isolate any nearby threats such as domestic animals or predators.
2. Quickly and thoroughly inspect the animal for trauma. If the injuries are not serious enough to require euthanasia administer the basic first aid as a minimum (but only if capable to do so)

Representative first aid that may be administered by a fauna spotter/catcher is provided in *Table 5*.

**Table 5: Wildlife First Aid**

Ailment	First Aid
Bleeding	Using material that is clean and sanitary, apply direct pressure to the affected area. Bandages can be used to hold material in place until vet treatment can be sought. Veterinarian treatment should be sought for further assistance as soon as possible.
Broken limbs	House the animal in a suitably sized animal crate with towels under the animal for comfort. Keep the crate covered and in a quiet location. Proceed to a veterinarian for further assistance as soon as possible.
Injured tails	House the animal in a suitably sized animal crate with towels under the animal for comfort. Keep the crate covered and in a quiet location. Proceed to a veterinarian for further assistance as soon as possible.
Concussions	House the animal in a suitably sized animal crate with towels under the animal for comfort. Keep the crate covered and in a quiet location. Proceed to a veterinarian for further assistance as soon as possible.

---

### 4.3 Euthanasia

Section 12 of the code details how to determine when euthanasia is required and how to euthanise animals ethically. The following standards as listed under the code are to be followed when assessing whether euthanasia is required:

- The euthanasia of wildlife where required is to be provided for by all wildlife rehabilitators;
- Euthanasia without exception is to be carried out when:
  - Significant pain or suffering is to be alleviated where it is not able to be managed by a vet;
  - Further treatment is **not** practical, or recovery is **not** expected in a way in which the animal can be successfully rehabilitated back to the wild;
  - Resources are not available to provide appropriate care or an acceptable quality of life throughout the likely rehabilitation period.
- Animals that are suffering and have a poor prognosis for survival must be euthanised rather than left to die from the injury or illness. Failure to undertake appropriate action is a breach of the *Animal Care and Protection Act 2001*.
- Unless permission has been granted by the Department of Environment and Heritage Protection for the animal to enter the Queensland Species Management Plan (QSMP) or otherwise advised by the DEHP Wildlife Management Director, animals must be euthanised when:
  - An orphaned animal is not viable or likely to be rehabilitated;
  - No suitable release locations are available;
  - The ability for an animal to reproduce is lost due to an injury, disease or surgical procedure;
  - The ability to move freely or normally (i.e. run, climb, crawl, hop, fly or swim) is permanently impaired. Examples are: a missing or impaired limb, wing, foot or tail that would significantly impair the animal's ability to survive in the wild;
  - The ability to sense environment (i.e. see, smell, feel, taste or hear) is permanently impaired. For example: missing or injured organ such as an eye, ear or nose that would significantly impair the animal's ability to survive in the wild;
  - The ability to catch, find or handle food is permanently impaired;
  - Its advanced age renders it unlikely to survive in the wild.



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## 5. Wildlife Storage & Housing Plan

For wildlife requiring storage, temporary housing and transportation to release sites and/or to a wildlife carer or veterinarian, guidelines set out in the Code of Practice and QFC's Animal Ethics Permit will be followed.

Dependent on the species of animal and condition of the animal, temporary storage and housing of animals will be as follows:

**Calico bags:** Calico bags will be used to temporarily house fauna such as snakes, lizards and small mammals (including microbats), Bags will range in size from 200mm x 200mm to 600mm x 1800mm. Bag selection will vary according to the size of animals to be placed in them. In the case of snakes, a "hoop bag" may be used to facilitate capture. The hoop is approximately 500mm in diameter attached to a handle. The bag is placed around the hoop ensuring a greater area in which to pass the snake through into the bag.

**Plastic holding tubs/containers/animal crate:** Plastic holding tubs/containers/crates will be used to temporarily house fauna such as snakes, lizards, frogs, small mammals and birds (Plastic holding tubs/containers/crates will range in size from 150mm x 150mm x 120mm to 500mm x 400mm x

400mm. Plastic holding tubs/containers/crates selection will vary according to the size and number of animals to be placed in them.

In addition to this, material is used to line the tub/crate to ensure the animals won't lose its footing. This may include folded towels on the bottom of the crate or a fitted pad. These items are washed between each use to reduce the spread of disease/parasites.

Section 9 of the Code relates to how transportation of wildlife should be undertaken. The following will be adhered to when transporting wildlife to the vet and/or carer:

- Additional pain or distress of the animal is to be avoided;
- Wildlife should only be transported when necessary;
- Transport containers must be appropriate for the species (size, strength and behaviour of species being moved);
- Transport containers must be designed and maintained in a way as to:
  - Prevent injury;
  - Prevent escape;
  - Prevent rolling/tipping during transit;
  - Prevent damage to plumage (feathers);
  - Be hygienic;
  - Minimise stress and
  - Be suitably ventilated.

- Non-compatible species must not be transported in a manner which allows for visual or physical contact;
- Containers must be secured to prevent movement and provide protection from direct sunlight, wind and rain;

Venomous, dangerous or potentially disease transmitting animals must be clearly marked with warning labels (i.e. Caution – ‘venomous snake’ or ‘live bat’) and be locked and secured.

## 6. Wildlife Release & Disposal Plan

Retained bushland lies to the north of the proposed detention basin and contains similar habitat types suitable for species likely to be encountered when clearing.

With the exception of highly mobile species such as birds and macropods where natural relocation may occur, it will be necessary for the fauna spotter/catcher to translocate the majority of fauna found into suitable habitat within these areas. A map of the intended release site can be viewed in Appendix B.

In regard to all fauna capture and disposal activities conducted on the project the following records will be made:

- a. species;
- b. identification name or number;
- c. sex (M, F, or unknown);
- d. approximate age or age class (neonate, juvenile, sub-adult, adult);
- e. time and date of capture;
- f. method of capture;
- g. exact point of capture (GPS point);
- h. state of health;
- i. incidents associated with capture likely to affect the animal;
- j. veterinary intervention or treatments;
- k. time held in captivity;
- l. disposal (euthanasia, re-release, translocation etc);
- m. date and time of disposal;
- n. details of disposal (if released, exact point of release GPS);
- o. for released animals: distance in metres from point of capture to point of release.

## **7. Post Works Impact Minimisation**

As the project area will be cleared of all vegetation, post works impact monitoring and/or impact minimisation is deemed not necessary.

In the event that fauna is found on site post-works, it is recommended personnel contact QFC and a licensed and experienced wildlife consultant can be dispatched to remove and relocate the animal should it be necessary. QFC wildlife consultants are available 24/7 for fauna related call-outs in relation to this project.

It is recommended that if any fauna, such as Kangaroos and Wallabies, are noted in the wider area and appear distressed post-works that QFC be contacted to further assess the situation.

## **8. Assessment, Conclusion and Fauna Management Recommendations**

A number of conclusions and recommendations are presented, with the specific intention of providing a comprehensive management structure to facilitate minimal impact to fauna during the clearing of vegetation and subsequent disturbance of habitats. The directives given by Fauna Spotter Catchers should embrace a “best practice” approach which includes implementation of proven specific management techniques for identified habitat types and compliance with legislation relevant to the activity.

Fauna management is presented here specific to EVNT & SLC fauna, general terrestrial and arboreal fauna and aquatic fauna. Although each is treated separately, overlap does occur within target techniques providing a comprehensive approach for target species of all conservation significance.

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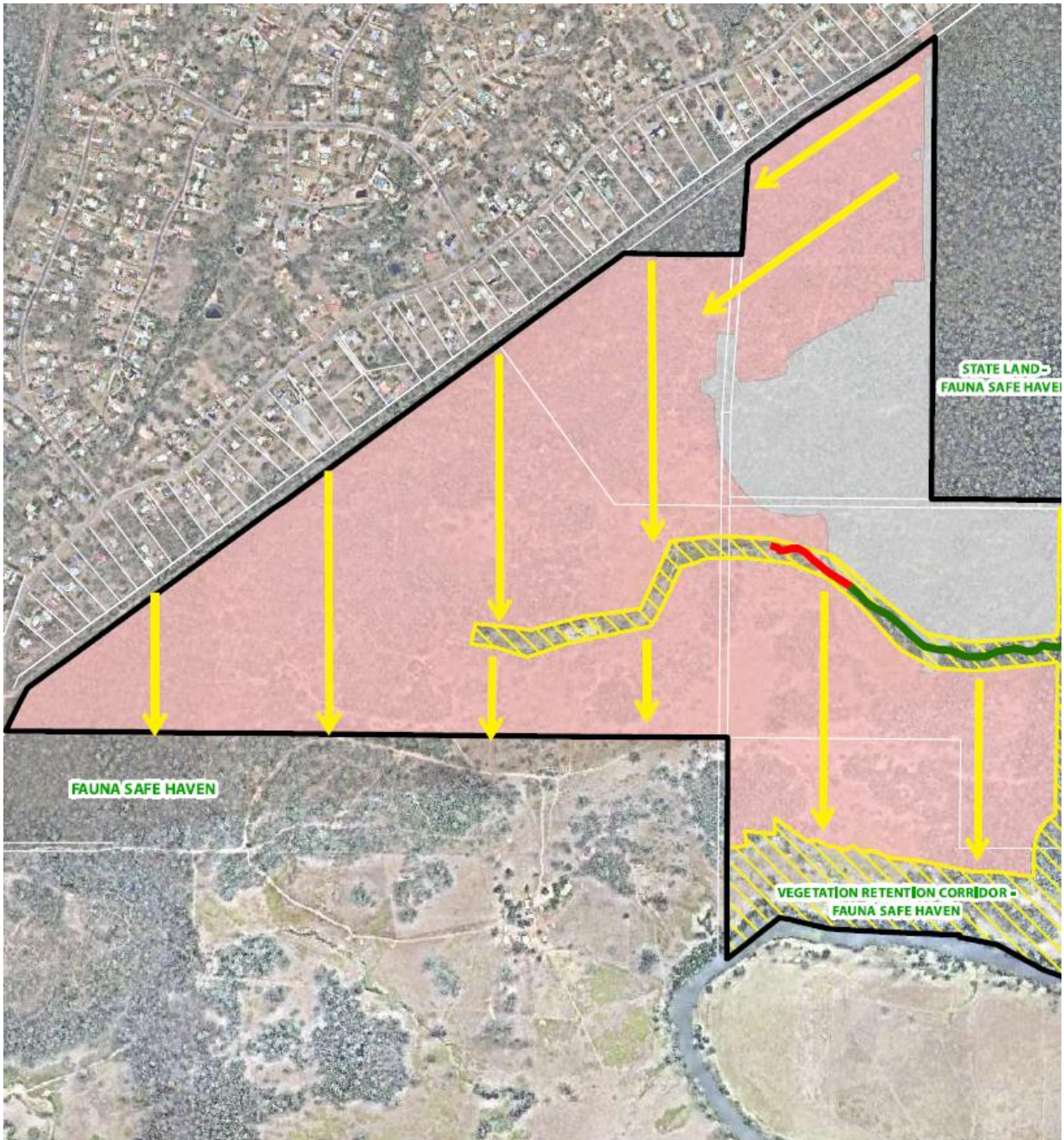
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## 10. Appendix A: Intended Direction of Clearing



## 11. Appendix B: Intended Release Sites for Wildlife







January 2022

# Fauna Spotter Catcher Pre-clearance Survey and Wildlife Protection & Management Plan

Separable Portions 1, 2 & 3 – Riverbend, Teviot Road  
Jimboomba, Queensland  
Report prepared for CCA Winslow Pty Ltd



Report prepared by  
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Title:	Fauna Spotter Catcher Pre-clearance Survey and Wildlife Protection & Management Plan Separable Portions 1, 2 & 3 – Riverbend, Teviot Road, Jimboomba
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## 1. Introduction

### 1.1 Project Background

Queensland Fauna Consultancy Pty Ltd has been engaged by CCA Winslow Pty Ltd to conduct a Fauna Spotter Catcher Pre-clearance and Habitat Values Survey and present a subsequent report for Separable Portions 1, 2 & 3 1 Riverbend, Jimboomba, Queensland. The site location is presented in Map 1.

The objective of this report is to summarise the existing fauna values present and assign mitigatory strategies applicable to probable species likely to be encountered during the clearing of identified habitats throughout or within specific localities of the site. Fauna species both common and of elevated conservation value have been considered within the parameters of onsite investigations and, where provided to QFC, include review of current fauna and floristic reports that may influence the assemblages expected to utilise the micro habitats evident within the site.

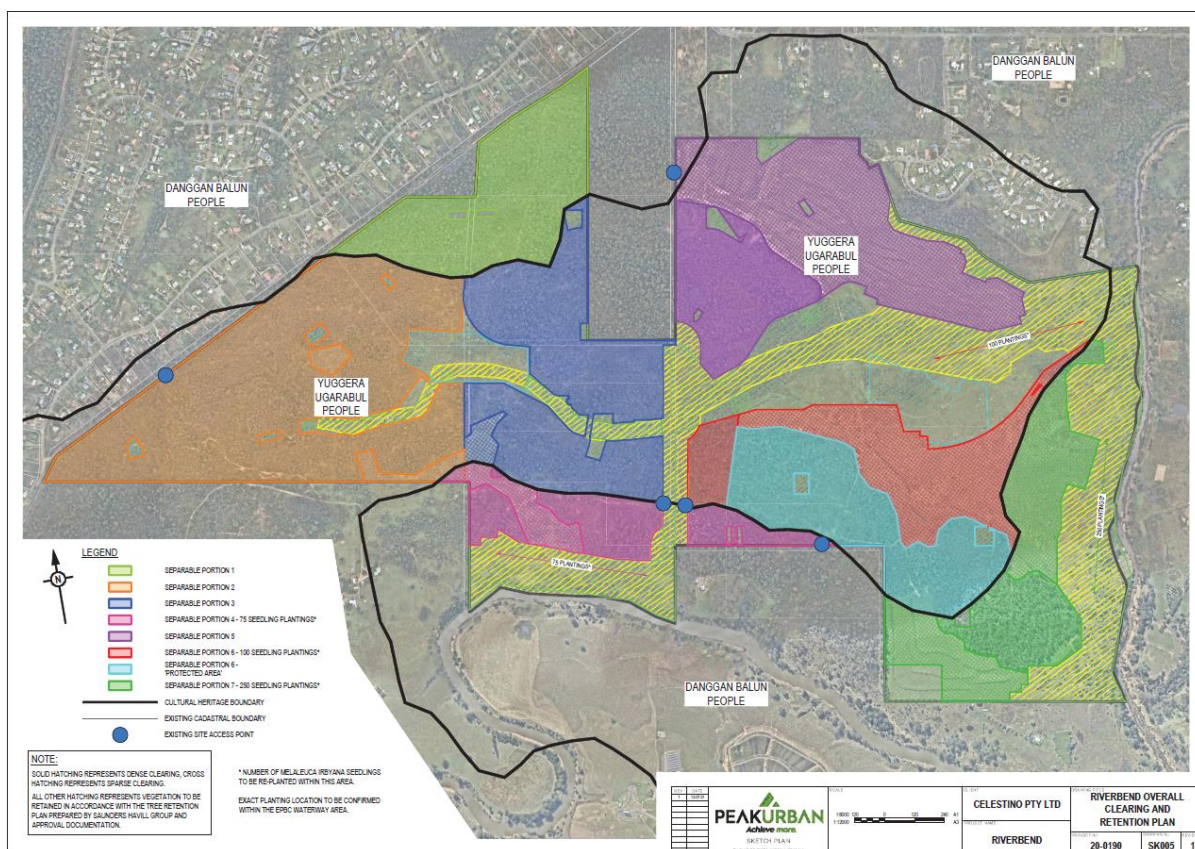
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance identified under commonwealth, state or local planning instruments aimed at the persistence of biodiversity values within the area.

### 1.2 Project Location and Site Description

Riverbend is located at the end of Teviot Road, Jimboomba, north of the Cedar Grove Environmental Centre and south of Flagstone State School.

Existing features exhibit a remnant woodland vegetative complex on undulating topography with drainage features and rock outcrops. Dominant trees species include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, and *C. intermedia*. Understorey vegetation consists of grass, scattered shrubs and weeds and dense leaf litter.

**Map 1: Locality Plan**



Source: Extracted from Riverbend Site Staging (CCA Winslow, 2022)

### 1.3 Current Permits and Authorities

All activities conducted during the site investigations were implemented under the provisions of several permits issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), formerly the Department of Environment and Heritage Protection (DEHP), and the Department of Employment, Economic Development and Innovation (DEEDI). These permits and additional authorities are listed in Table 1.

**Table 1: Current Permits and authorities issued to QFC**

Permit/Authorisation	Permit Number	Expiry Date
Damage Mitigation Permit	WA0018804	10 <sup>th</sup> November 2022
Rehabilitation Permit	WA0026789	16 <sup>th</sup> September 2023
Scientific Purposes Permit	WA0032325	3 <sup>rd</sup> March 2026
Scientific User Registration	Registration Number 589	27 <sup>th</sup> February 2025
Animal Ethics	CA 2022/01/1569	27 <sup>th</sup> February 2025
General Fisheries Permit	207015	16 <sup>th</sup> April 2023

These permits and approvals enable QFC to conduct the investigation, observation and relocation of protected animals exposed to disturbance due to infrastructure expansion resulting in the destruction of natural and artificial habitats.

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## 2. Methodology

A site inspection was carried out between the 14<sup>th</sup> to the 25<sup>th</sup> of January 2022 by Qld Fauna Consultancy. A standard set of observational techniques aimed at maximising the detection of fauna and the probable habitats they may occupy were employed to ascertain and identify the current fauna values throughout the project area. Where species of elevated conservation significance were foreseen as potentially present targeted searches were instigated to further evaluate individual species habitat.

Due to the habitat variability expressed across the development site the composition of investigations may include a range of features that entail specific components indicative of the presence of particular species or faunal groups. This may include where evident, observation of activity or signs of both historical and current use.

These may include but are not limited to the following:

- Identification of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, stands of heavy vegetation, fallen branches and bark exfoliations;
- Identification of arboreal micro habitats including basal, trunk and limb hollows, tree fissures, bark exfoliates and arboreal termitaria;
- Identification of constructed arboreal micro habitats including bird nests and Ringtail Possum dreys;
- Artificial habitats including but not limited to ornamental gardens, discarded rubbish, human dwellings and other infrastructure;
- Observation and investigation of aquatic habitats including dams, soaks, creeks, rivers and seasonally inundated vegetation communities. Artificial aquatic habitats may include constructed drains and culverts. Further components of interest include bank profiles and undercuts, submerged and/or exposed timber and rock, immediate aquatic and riparian vegetation, surfacing animals, nesting and/or feeding birds;
- Direct observation of active or exposed fauna within terrestrial, aquatic and arboreal habitats;
- Identification of scats, tracks and scratchings to determine fauna potentially present or to have historically utilised the site for either transient or longer-term life history purposes.

### 2.1 Specific methodology for Koalas *Phascolarctos cinereus*

Due to specific requirements and the cryptic nature of the Koala the following techniques were employed to assist in ascertaining the current and historical presence/absence status of the species at the site:

- Use of binoculars to inspect the crown, forks and trunk of trees for individuals currently occupying the site;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

---

### 3. Findings

The findings endeavor to demarcate the existing habitat profiles and the features present into three distinct groups: terrestrial, arboreal and aquatic. All habitat features present onsite are noted, however it is probable additional features will be present with these being accounted for during the Fauna Spotter Catcher process to be applied to all vegetation clearing across the site.

#### 3.1 Terrestrial Habitat Features

The terrestrial fauna values of the site consist of a variety of different components and microhabitat features. This includes an open low-level understorey of Eucalypt and *Acacia* regrowth (Figure 1 to Figure 4), with sections exhibiting dense cover provided by dense grass (Figure 5 to Figure 7) and weed species such as Lantana *Lantana camara* (Figure 8 to Figure 10), Creeping Lantana *Lantana montevidensis* (Figure 11 and Figure 12), and Passionfruit *Passiflora sp.* (Figure 13 to Figure 15). These features represent a moderate terrestrial fauna habitat value for numerous common reptile, amphibian and small mammal species.

Dense leaf litter and bark exfoliations also feature on site being present in abundance and at variable depths (Figure 16 to Figure 19), providing both refugial opportunities and microhabitat connectivity that can be exploited by a number of different native terrestrial vertebrate and invertebrate species.

Further the site exhibits woody debris (Figure 20 to Figure 22), hollow logs (Figure 23 to Figure 26), timber stockpiles (Figure 27 and Figure 28) and rock piles (Figure 29) that may provide habitat opportunities for reptiles and small mammals. A large amount of artificial debris is also present in the locality adding to its potential habitat value for resident and transient fauna (Figure 30 and Figure 31).

Terrestrial termite mounds of various sizes and condition are common across the site, with a number of mounds exhibiting excavations (Figure 32 to Figure 38). Some mounds exhibited excavations that are likely indicative of Short-beaked Echidna *Tachyglossus aculeatus* foraging activities. These mounds may also provide refugial opportunities for reptile and mammal species.

Several burrows were identified during the inspection (Figure 39 to Figure 45). The burrows did not appear active at the time of the inspection, however further inspections are recommended immediately prior to clearing commencement. Burrow constructing species likely to occur on site include the Striated Pardalote *Striatus pardalotus*, Spotted Pardalote *Striatus punctatus*, and Rainbow Bee-eater *Merops ornatus* (sighted during the inspection).

Mammal assemblages may comprise both native and introduced species. Macropod presence within the clearance zone was observed during the inspection (Figure 46 to Figure 48), and further indicated by scat (Figure 49 to Figure 51). Macropod species likely to occur on site include the Red-necked Wallaby *Notamacropus rufogriseus* and Swamp Wallaby *Wallabia bicolor*. A dingo or wild dog was also observed during the inspection (Figure 52). All terrestrial species observed during the inspection are listed in Table 2. Other native mammals which may occur on site include the Northern Brown Bandicoot *Isodon macrourus* which may be present in localities with significant vegetative ground cover.



These features collectively contribute to the potential presence of a wide variety of native fauna species utilising the area for refugial, foraging and other resources. Probable species include the Robust Velvet Gecko *Nebulifera robusta*, Dubious Dtella *Gehyra dubia*, Wall Skink *Cryptoblepharus pulcher*, Dark-flecked Garden Sunskink *Lampropholis delicata*, Eastern Blue-tongued Lizard *Tiliqua scincoides*, Common Tree Snake *Dendrelaphis punctulatus*, Coastal Carpet Python *Morelia spilota mcdowelli*, Eastern Bearded Dragon *Pogona barbata*, and the Striped Marsh Frog *Limnodynastes peronii*.

GPS coordinates for identified terrestrial habitat features are shown in Appendix A.

**Table 2: Terrestrial Fauna Species Observed**

Number	Common Name and <i>Scientific Name</i>
1	Eastern Grey Kangaroo <i>Macropus giganteus</i>
2	Dingo (intr.) <i>Canis lupus dingo</i>



**Figure 1: Understorey**



**Figure 2: Understorey**



**Figure 3: Understorey**



**Figure 4: Understorey**



**Figure 5: Dense grass**



**Figure 6: Dense grass**



Figure 7: Dense grass



Figure 8: Dense Lantana *Lantana camara*



Figure 9: Dense Lantana *Lantana camara*



Figure 10: Dense Lantana *Lantana camara*



Figure 11: Creeping Lantana *Lantana montevidensis*



Figure 12: Creeping Lantana *Lantana montevidensis*



Figure 13: Weeds in understory



Figure 14: Passionfruit *Passiflora sp.*



Figure 15: Passionfruit *Passiflora sp.*



Figure 16: Dense leaf litter



Figure 17: Dense leaf litter



Figure 18: Bark exfoliations



**Figure 19: Bark exfoliations**



**Figure 20: Woody debris**



**Figure 21: Woody debris**



**Figure 22: Woody debris**



**Figure 23: Hollow log**



**Figure 24: Hollow log**



**Figure 25: Hollow log**



**Figure 26: Hollow log**



**Figure 27: Timber stockpile**



**Figure 28: Timber stockpile**



**Figure 29: Rock pile**



**Figure 30: Artificial debris**



**Figure 31: Artificial debris**



**Figure 32: Terrestrial termitaria**



**Figure 33: Terrestrial termitaria**



**Figure 34: Terrestrial termitaria**



**Figure 35: Terrestrial termitaria with excavation**



**Figure 36: Terrestrial termitaria with excavation**



Figure 37: Terrestrial termitaria with excavation



Figure 38: Terrestrial termitaria with excavation



Figure 39: Burrow



Figure 40: Burrow



Figure 41: Burrow



Figure 42: Burrow





Figure 43: Burrow



Figure 44: Burrow



Figure 45: Burrow



Figure 46: Eastern Grey Kangaroo *Macropus giganteus*



Figure 47: Eastern Grey Kangaroo *Macropus giganteus*



Figure 48: Eastern Grey Kangaroo *Macropus giganteus*



**Figure 49: Macropod scat**



**Figure 50: Macropod scat**



**Figure 51: Macropod scat**



**Figure 52: Wild dog or Dingo**

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### 3.2 Arboreal Habitat Features

The clearance site consists predominantly of regrowth dry sclerophyll forest with the dominant trees being *Eucalyptus*, *Corymbia* and *Acacia* species. (Figure 53 to Figure 60). Onsite trees exhibit potential feeding and nesting resources for a number of bird and mammal species. The intermittent contiguous canopy structure, combined with vine growth (Figure 61 to Figure 63) within some of the vegetation represented may be facilitative of arboreal progression for species such as Common Brushtail Possum *Trichosurus vulpecula* and Common Ringtail Possum *Pseudocheirus peregrinus*.

Hollow-bearing trees (Figure 64 to Figure 68), stag trees (Figure 69 to Figure 71), hollow stumps and fissures (Figure 72 and Figure 73) are present in the clearance area, which may provide habitat opportunities for arboreal mammals, reptiles, and birds. Exfoliating bark on tree trunks (Figure 74 and Figure 75) may provide refugial opportunities for reptile species including skinks and geckos.

Arboreal termite mounds are also common across the site (Figure 76 to Figure 85), with numerous mounds exhibiting excavations. A number of suitable mounds were located with the potential for use as egg deposition and incubation sites by species such as the Lace Monitor *Varanus varius* (observed during the inspection), Laughing Kookaburra *Dacelo novaeguineae*, and Sacred Kingfisher *Todiramphus sanctus*. A Squirrel Glider *Petaurus norfolcensis* was observed emerging from an arboreal termite mound during the inspection (Figure 86 and Figure 87). Common Brushtail Possums *Trichosurus vulpecula* and Sugar Gliders *Petaurus breviceps* may also utilise these features for shelter where hollows are not readily available

A native stingless bee hive *Tetragonula sp.* was identified within a tree trunk, with recommendations made to salvage and relocate the hive during the clearing process where practicable.

Twenty-four avian stick nests were located during the inspection, with some appearing active at the time of the survey (Figure 88 to Figure 91). Further inspections are recommended immediately prior to clearing commencement. A number of avian species were observed utilising the site at the time of the inspection (foraging or perching) these species are presented in Table 3.

Two Possum dreys were located during the inspection, however, the dense vegetation structure in some areas may have concealed visibility of further dreys, and further inspections are recommended immediately prior to clearing commencement. Possum activity was also evident in the form of scratchings on several tree trunks (Figure 92 and Figure 93). Suitable vegetation communities containing both feeding and roosting resources for the Grey-headed Flying-Fox *Pteropus poliocephalus* occur on and adjacent to the clearance site.

Koala food trees located in the clearance area include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, and *C. intermedia*. Koalas were observed during the inspection utilising trees within the clearing zone, and characteristic scratchings were found during trunk investigations. A Koala habitat values map for the clearance area is presented in Appendix K.

GPS coordinates for identified arboreal habitat features are shown in Appendix B.



Figure 53: Site overview



Figure 54: Site overview



Figure 55: Site overview



Figure 56: Site overview



Figure 57: Site overview



Figure 58: Site overview



**Figure 59: Site overview**



**Figure 60: Site overview**



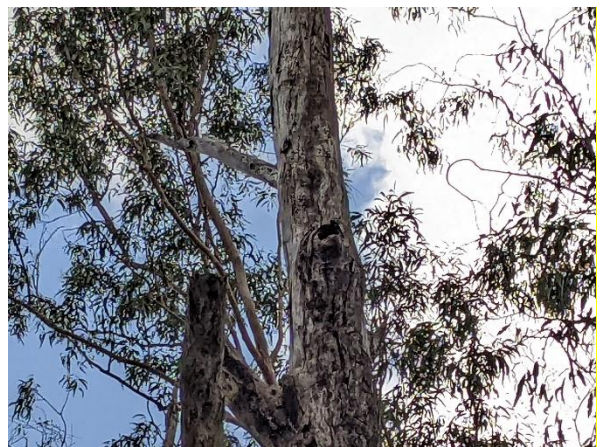
**Figure 61: Intermittently contiguous canopy**



**Figure 62: Intermittently contiguous canopy**



**Figure 63: Intermittently contiguous canopy**



**Figure 64: Hollow bearing tree**



Figure 65: Hollow bearing tree



Figure 66: Hollow bearing tree



Figure 67: Hollow bearing tree



Figure 68: Hollow bearing tree



Figure 69: Stag tree



Figure 70: Stag tree



**Figure 71: Stag tree**



**Figure 72: Fissure**



**Figure 73: Fissure**



**Figure 74: Exfoliating bark**



**Figure 75: Exfoliating bark**



**Figure 76: Arboreal termitaria**



**Figure 77: Arboreal termitaria**



**Figure 78: Arboreal termitaria**



**Figure 79: Arboreal termitaria**



**Figure 80: Arboreal termitaria**



**Figure 81: Arboreal termitaria with excavation**



**Figure 82: Arboreal termitaria with excavation**





Figure 83: Arboreal termitaria with excavation



Figure 84: Arboreal termitaria with excavation



Figure 85: Arboreal termitaria with excavation



Figure 86: Arboreal termitaria being utilised by a Squirrel Glider *Petaurus norfolcensis*



Figure 87: Arboreal termitaria being utilised by a Squirrel Glider *Petaurus norfolcensis*



Figure 88: Avian stick nest



**Figure 89: Avian nest resting on Arboreal termitaria**



**Figure 90: Avian nest**



**Figure 91: Avian nest**



**Figure 92: Possum scratchings**



**Figure 93: Possum scratchings**

**Table 3: Arboreal Fauna Species Observed**

Number	Common Name and <i>Scientific Name</i>
1	Laughing Kookaburra <i>Dacelo novaeguineae</i>
2	Blue-faced Honeyeater <i>Entomyzon cyanotis</i>
3	Noisy Friarbird <i>Philemon corniculatus</i>
4	Scaly-breasted Lorikeet <i>Trichoglossus chlorolepidotus</i>
5	Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>
6	Channel-billed Cuckoo <i>Scythrops novaehollandiae</i>
7	Sacred Kingfisher <i>Todiramphus sanctus</i>
8	Torresian Crow <i>Corvus orru</i>
9	Australian Magpie <i>Cracticus tibicen</i>
10	Rainbow Bee-eater <i>Merops ornatus</i>
11	Red-browed Finch <i>Neochmia temporalis</i>
12	Red-backed Fairy-wren <i>Malurus melanocephalus</i>
13	Dollarbird <i>Eurystomus orientalis</i>
14	Bar-shouldered Dove <i>Geopelia humeralis</i>
15	Noisy Miner <i>Manorina melanocephala</i>
16	Pale-headed Rosella <i>Platycercus adscitus</i>
17	Brown Quail <i>Coturnix ypsilophora</i>
18	Gecko Egg/s (species unidentified)
19	Lace Monitor <i>Varanus varius</i>
20	Squirrel Glider <i>Petaurus norfolkensis</i>
21	Sulphur-crested Cockatoo <i>Cacatua galerita</i>
22	Common Bronzewing <i>Phaps chalcoptera</i>
23	Pheasant Coucal <i>Centropus phasianinus</i>
24	Superb Fairy-wren <i>Malurus ccyaneus</i>
25	Spangled Drongo <i>Dicrurus bracteatus</i>
26	Double-barred Finch <i>Taeniopygia bichenovii</i>

27	Yellow-faced Honeyeater <i>Lichenostomus chrysops</i>
28	Magpie-lark <i>Grallina cyanoleuca</i>
29	Variegated Fairy-wren <i>Malurus lamberti</i>
30	Pacific Baza <i>Aviceda subcristata</i>
31	Koala <i>Phascolarctos cinereus</i>

### 3.3 Aquatic Habitat Features

One medium sized dam and four ponds are present within the clearance area (Figure 94 and Figure 95). The dam and ponds were retaining water at the time of the inspection and exhibited sparse to dense riparian vegetation. A number of native species may exploit the various microhabitats presented by such environmental features including Longfin Eel *Anguilla reinhardtii*, Eastern Long-necked Turtle *Chelodina longicollis*, Tusked Frog *Adelotus brevis*, Ornate Burrowing Frog *Platyplectrum ornatum*, Eastern Sedge Frog *Litoria fallax*, and Graceful Treefrog *Litoria gracilentia*.

GPS coordinates for identified aquatic habitat features are shown in Appendix C.



Figure 94: Pond



Figure 95: Pond

### 3.4 Endangered, Vulnerable and Near Threatened (EVNT) & Special Least Concern (SLC) Species

It is not envisaged that any EVNT or SLC fauna species will be detrimentally impacted by the proposed works. However, eight species identified within the Online EPBC Protected Matters Report (Appendix B) and the Queensland Government Wildlife Online Search Tool (Appendix C) were considered possible to occur within the site and will require further mitigation during clearing activities.

Evidence of recent Koala use was identified in the form of sightings and scratchings during the site inspection, and the species is well-documented in the area. The site contains habitat identified as Core Koala Habitat under the Koala Habitat in South East Queensland mapping sourced from the Queensland Globe online search tool (see Appendix A).

It is advised that dedicated methodologies be employed by a qualified Fauna Spotter specific to the detection of these identified species prior to vegetation clearing activities.

**Table 5: Significant species deemed possible to occur within the clearance survey area**

Common Name Scientific Name	Species Information	Likelihood of Occurrence within the Clearance Survey area
<b>Mammals</b>		
Koala <i>Phascolarctos cinereus</i>  EPBC: Vulnerable NCA: Vulnerable	Inhabits a range of open forest and woodland communities which may include any of the following noted food trees: <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Melaleuca</i> , <i>Angophora</i> and <i>Lophostemon</i> .	<b>Present</b> Known food trees for the transient Koala ( <i>Phascolarctos cinereus</i> ) occur on the clearance site and the species is well documented within the area. Evidence of recent Koala use identified in the form on scratchings and scat.
Greater Glider <i>Petauroides volans</i>  EPBC: Vulnerable NCA: Endangered	The Greater Glider lives in a variety of Eucalypt-dominated habitats, feeding almost exclusively on eucalypt leaves. Dens are constructed in suitable hollow-bearing trees with the breeding season occurring from March to June (Strahan R (ed) 1995).	<b>Possible</b> Suitable vegetation communities containing both feeding and nesting resources occur on and adjacent to the clearance site.
Grey-headed Flying-fox <i>Pteropus poliocephalus</i>  EPBC: Vulnerable NCA: Least Concern	The Grey-headed Flying-Fox roosts in aggregations of various sizes on exposed branches, commonly of emergent trees. Roost sites are typically located near water, such as lakes, rivers or the coast. Habitat includes open forests, woodlands, urban parks and gardens.	<b>Possible</b> Suitable vegetation communities containing both feeding and roosting resources occur on and adjacent to the clearance site.

<p>Short-beaked Echidna <i>Tachyglossus aculeatus</i></p> <p>EPBC: Not Listed NCA: Special Least Concern</p>	<p>Inhabits a broad range of habitat types across Australia where there is a supply of ants or termites. Echidnas will shelter within hollow logs, under bushes and debris (Van Dyck &amp; Strahan 2008).</p>	<p><b>Likely</b> Suitable feeding resources occur onsite and evidence of diggings observed onsite.</p>
<p><b>Amphibians</b></p>		
<p>Tusked Frog <i>Adelotus brevis</i></p> <p>EPBC: Not Listed NCA: Vulnerable</p>	<p>Inhabits permanent ponds and streams within rainforests, wet to dry forests and farmland areas (Anstis 2013). Nests are constructed under leaf litter, vegetation or logs at the edge of ponds or stream pools in concealed locations (Anstis 2013).</p>	<p><b>Possible</b> Habitat conducive to this species is found within the survey area.</p>
<p><b>Birds</b></p>		
<p>Powerful Owl <i>Ninox strenua</i></p> <p>EPBC: Not Listed NCA: Vulnerable</p>	<p>Inhabits open forests and woodlands, favouring creek lines and gullies for roosting. Can be found in suburban areas and remnant bushland patches. Requires old growth trees with large hollows for nesting and breeds from April to September (Simpson &amp; Day 2004; BirdLife Australia n.d.)</p>	<p><b>Possible</b> Habitat conducive to this species is found within the clearance area and the species has been recorded in the area.</p>
<p>Rainbow Bee-eater <i>Merops ornatus</i></p> <p>EPBC: Migratory NCA: Special Least Concern</p>	<p>Breeds from August to January (Higgins 1999; Boland 2004). The nest is located in an enlarged chamber at the end of long burrow or tunnel (Comrie-Smith 1930; Morris 1977), in flat or sloping ground, in the banks of rivers, creeks or dams, in roadside cuttings, in the walls of gravel pits or quarries, in mounds of gravel, or in cliff faces (Forshaw and Cooper 1987; Lill 1993; Higgins 1999; Boland 2004).</p>	<p><b>Present</b> Habitat conducive to this species is found within the survey area.</p>
<p>Rufous Fantail <i>Rhipidura uniforms</i></p> <p>EPBC: Migratory NCA: Special Least Concern</p>	<p>The Rufous Fantail builds a small compact cup nest, of fine grasses bound with spider webs, that is suspended from a tree fork about 5m from the ground. The bottom of the nest is drawn out into a long stem. Both sexes share nest building, incubation and feeding of the young. One or two broods may be raised in a season (Serventy, 1982).</p>	<p><b>Possible</b> Habitat conducive to this species is found within the survey area.</p>

## 4. Fauna Impacts

It is important to consider the existing and future residential developmental areas when investigation potential fauna impacts.

Impacts to fauna, as a result of vegetation clearance, will include the following:

- Loss of trees for foraging, roosting and nesting;
- Loss of hollow-bearing trees for nesting and refuge;
- Loss of habitat and foraging areas for terrestrial species;
- Loss of overall habitat;
- Potential loss of abundance of some local species.

Other impacts may include:

- Injury or death during felling of trees;
- Injury or death from machinery;
- Alteration of nesting, foraging and general activities due to disturbance.

## 5. Assessment and Conclusion

Overall the site contains high value refugial opportunities for arboreal and terrestrial fauna species (see Section 3.1 and 3.2). The species expected within the site are likely to primarily reflect common fauna assemblages for the region; however, provisions will be proposed directly for common fauna and species of conservation significance.

The connectivity to adjacent conservation land in the south, in conjunction with sequential clearing methodologies, will aid in the movement of medium to large size fauna such as Koala and Kangaroos. Specific methodologies for these species will be detailed within the Wildlife and Habitat Impact Mitigation Plan (WHIMP).

A number of conclusions and recommendations will be presented in the WHIMP, with the specific intention of providing a comprehensive management structure to facilitate minimal impact to fauna during the clearing of vegetation and subsequent disturbance of habitats.

It is advised that all identified fauna habitats onsite be inspected by a DES approved Fauna Spotter prior to vegetation clearing and all vegetation removal activities be supervised during the clearing process. Terrestrial load reduction activities will be conducted ahead of the clearing front where possible. Fauna captured will be relocated to adjacent habitat consistent with the life history requirements of the species requiring translocation. The directives given by Fauna Spotter Catchers should embrace a “best practice” approach which includes implementation of proven specific management techniques for identified habitat types and compliance with legislation relevant to the activity.

It is recommended that in the event any nests which contain chicks are identified during clearing be left until fledged, and those that are in a construction phase should be dismantled to prevent further nesting activity. Any fertile eggs recovered will require incubation and subsequent rearing for latter release.



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## 6. References

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## 7. Appendix A: Localities for Identified Terrestrial Habitat Features

Number	Habitat Feature	GPS Coordinates (Latitude, Longitude)
1	Artificial Debris	-27.8290977, 152.961599
2	Artificial Debris	-27.8351565, 152.9636783
3	Artificial Debris	-27.8323914, 152.9647475
4	Artificial Debris	-27.8268547, 152.9644283
5	Artificial Debris	-27.8321992, 152.9550236
6	Bark Exfoliations (Terrestrial)	-27.8238842, 152.9570723
7	Bark Exfoliations (Terrestrial)	-27.8311462, 152.9659358
8	Burrow	-27.8271186, 152.9592357
9	Burrow	-27.8272798, 152.9603645
10	Burrow	-27.8255451, 152.9592667
11	Burrow	-27.825445, 152.9583406
12	Burrow	-27.8271726, 152.9572268
13	Burrow	-27.827368, 152.9572636
14	Burrow	-27.8233716, 152.9578574
15	Burrow	-27.8296006, 152.9622792
16	Burrow	-27.8285264, 152.9550997
17	Burrow	-27.8225582, 152.9651745
18	Burrow	-27.8205134, 152.965696
19	Burrow	-27.8245299, 152.9648345
20	Burrow	-27.8314825, 152.949689
21	Burrow	-27.8260766, 152.9598639
22	Burrow	-27.826076, 152.9601431
23	Burrow	-27.8258823, 152.9602453
24	Burrow	-27.8253258, 152.9597836
25	Burrow	-27.8255139, 152.9596809
26	Hollow Log	-27.8275926, 152.9592188

27	Hollow Log	-27.8259375, 152.9598277
28	Hollow Log	-27.8255124, 152.9584379
29	Hollow Log	-27.8251741, 152.9577093
30	Hollow Log	-27.8261423, 152.9526917
31	Hollow Log	-27.8253574, 152.9578627
32	Hollow Log	-27.8282264, 152.9544169
33	Hollow Log	-27.8262483, 152.9573853
34	Hollow Log	-27.8293278, 152.9450632
35	Hollow Log	-27.8275925, 152.9515761
36	Hollow Log	-27.8361161, 152.965005
37	Hollow Log	-27.8352111, 152.9657341
38	Hollow Log	-27.8303528, 152.9666877
39	Hollow Log	-27.8314590, 152.9663201
40	Hollow Log (with Woody Debris)	-27.8202802, 152.9658641
41	Hollow Log	-27.8217047, 152.9655526
42	Hollow Log	-27.8222804, 152.9652589
43	Hollow Log	-27.8258624, 152.9647004
44	Hollow Log	-27.8299397, 152.96519
45	Hollow Log	-27.8222455, 152.9630866
46	Hollow Log	-27.8226642, 152.9637956
47	Hollow Log	-27.8311312, 152.9504297
48	Hollow Log	-27.8309897, 152.9500994
49	Rock Pile	-27.8278717, 152.9527251
50	Rocks (Singular)	-27.8270488, 152.9529867
51	Terrestrial Termitaria (x5, with Excavations)	-27.8277155, 152.958697
52	Terrestrial Termitaria (x2, with Excavations)	-27.8272591, 152.9597077
53	Terrestrial Termitaria (x3, with Excavations)	-27.8274881, 152.9601644
54	Terrestrial Termitaria	-27.8272928, 152.9608627
55	Terrestrial Termitaria (x2, with Excavations)	-27.827491, 152.9615639

56	Terrestrial Termitaria (x2, with Excavations)	-27.8262579, 152.9621383
57	Terrestrial Termitaria (x2, with Excavations)	-27.8253862, 152.962005
58	Terrestrial Termitaria (x2, with Excavations)	-27.8255633, 152.9603581
59	Terrestrial Termitaria	-27.8254488, 152.9582766
60	Terrestrial Termitaria (x2)	-27.8251071, 152.9578832
61	Terrestrial Termitaria (x3, with Excavations)	-27.8262315, 152.9524267
62	Terrestrial Termitaria (x2, with Excavations)	-27.8258528, 152.9538719
63	Terrestrial Termitaria (x10, with Excavations)	-27.8252066, 152.9553368
64	Terrestrial Termitaria (with Excavations)	-27.8246122, 152.9565462
65	Terrestrial Termitaria (x14, with Excavations)	-27.8266214, 152.9563946
66	Terrestrial Termitaria	-27.8260211, 152.9614264
67	Terrestrial Termitaria (with Excavations)	-27.8263704, 152.961434
68	Terrestrial Termitaria	-27.8269271, 152.9618907
69	Terrestrial Termitaria	-27.8276196, 152.9599492
70	Terrestrial Termitaria (x4, with Excavations)	-27.8256526, 152.9561777
71	Terrestrial Termitaria (x3)	-27.8246058, 152.9554678
72	Terrestrial Termitaria (x2)	-27.8248143, 152.9548766
73	Terrestrial Termitaria (x4, with Excavations)	-27.8250913, 152.954827
74	Terrestrial Termitaria (x4, with Excavations)	-27.8250956, 152.9546993
75	Terrestrial Termitaria	-27.8252581, 152.9541992
76	Terrestrial Termitaria (x2, with Excavations)	-27.8254892, 152.9541914
77	Terrestrial Termitaria (x3)	-27.8255288, 152.95372
78	Terrestrial Termitaria (x6, with Excavations)	-27.8258838, 152.9527431
79	Terrestrial Termitaria (x3)	-27.8260817, 152.9523022
80	Terrestrial Termitaria	-27.8265071, 152.951824
81	Terrestrial Termitaria (x2, with Excavations)	-27.827181, 152.9532275
82	Terrestrial Termitaria	-27.8282125, 152.9545054
83	Terrestrial Termitaria (with Excavations)	-27.8279558, 152.9560772

84	Terrestrial Termitaria (x6 with Excavations)	-27.8279401, 152.956214
85	Terrestrial Termitaria	-27.827176, 152.9574479
86	Terrestrial Termitaria (with Excavations)	-27.8267306, 152.9581054
87	Terrestrial Termitaria (x4)	-27.8252707, 152.9568239
88	Terrestrial Termitaria	-27.8237991, 152.9607761
89	Terrestrial Termitaria (x3)	-27.8237014, 152.9587969
90	Terrestrial Termitaria	-27.8234171, 152.9581215
91	Terrestrial Termitaria (x5, with Excavations)	-27.8238913, 152.9573550
92	Terrestrial Termitaria (with Excavations)	-27.8257923, 152.9641005
93	Terrestrial Termitaria	-27.8257546, 152.9629265
94	Terrestrial Termitaria	-27.8268849, 152.9635253
95	Terrestrial Termitaria	-27.8270738, 152.9626638
96	Terrestrial Termitaria (x3, with Excavations)	-27.8283317, 152.9624522
97	Terrestrial Termitaria (x5, with Excavations)	-27.8296029, 152.9630088
98	Terrestrial Termitaria (x2, with Excavations)	-27.8302541, 152.9588627
99	Terrestrial Termitaria	-27.8306042, 152.9510556
100	Terrestrial Termitaria (x3, with Excavations)	-27.8304881, 152.9510901
101	Terrestrial Termitaria	-27.8303453, 152.9498185
102	Terrestrial Termitaria	-27.8303752, 152.9466376
103	Terrestrial Termitaria (with Excavations)	-27.8302911, 152.9457124
104	Terrestrial Termitaria	-27.8293033, 152.9446894
105	Terrestrial Termitaria (x2, with Excavations)	-27.8288721, 152.9458452
106	Terrestrial Termitaria (x3, with Excavations)	-27.8287078, 152.946788
107	Terrestrial Termitaria (x2, with Excavations)	-27.8278964, 152.9481733
108	Terrestrial Termitaria (x2, with Excavations)	-27.8279018, 152.9484346
109	Terrestrial Termitaria (with Excavations)	-27.8275321, 152.9487356
110	Terrestrial Termitaria (with Excavations)	-27.827317, 152.9492032
111	Terrestrial Termitaria (x5, with Excavations)	-27.8270206, 152.9503671

112	Terrestrial Termitaria (x6, with Excavations)	-27.8268341, 152.951169
113	Terrestrial Termitaria (x2, with Excavations)	-27.8285076, 152.9499182
114	Terrestrial Termitaria	-27.8288393, 152.949223
115	Terrestrial Termitaria (x2, with Excavations)	-27.8297098, 152.9493185
116	Terrestrial Termitaria	-27.8299148, 152.9504767
117	Terrestrial Termitaria	-27.8289246, 152.9506392
118	Terrestrial Termitaria (x4, with Excavations)	-27.8274684, 152.9522516
119	Terrestrial Termitaria (x8, with Excavations)	-27.8280495, 152.9525065
120	Terrestrial Termitaria	-27.8284154, 152.9530298
121	Terrestrial Termitaria (x2, with Excavations)	-27.8306875, 152.9536498
123	Terrestrial Termitaria	-27.8299215, 152.9542408
124	Terrestrial Termitaria (x3)	-27.8289116, 152.9549895
125	Terrestrial Termitaria (x3, with Excavations)	-27.8285138, 152.9549145
126	Terrestrial Termitaria (x4)	-27.8285524, 152.9564067
127	Terrestrial Termitaria	-27.8277032, 152.9576155
128	Terrestrial Termitaria (with Excavations)	-27.8282145, 152.9589834
129	Terrestrial Termitaria (with Excavations)	-27.8279747, 152.9599889
130	Terrestrial Termitaria (with Excavations)	-27.8281389, 152.9607126
131	Terrestrial Termitaria (x3, with Excavations)	-27.8284486, 152.9608337
132	Terrestrial Termitaria (x2, with Excavations)	-27.8289705, 152.9631742
134	Terrestrial Termitaria	-27.8295576, 152.9638374
135	Terrestrial Termitaria (x4)	-27.8345418, 152.9635311
136	Terrestrial Termitaria	-27.8350404, 152.9640557
137	Terrestrial Termitaria	-27.8347582, 152.964679
138	Terrestrial Termitaria (x7)	-27.8347017, 152.9659972
139	Terrestrial Termitaria (x3)	-27.8361676, 152.9650472
140	Terrestrial Termitaria	-27.8346573, 152.9624862
141	Terrestrial Termitaria	-27.8326758, 152.9602247
142	Terrestrial Termitaria	-27.8302191, 152.9646403

143	Terrestrial Termitaria (x4)	-27.8303874, 152.9651843
144	Terrestrial Termitaria (with Excavations)	-27.8314641, 152.9660920
145	Terrestrial Termitaria (with Excavations)	-27.8306096, 152.9656010
146	Terrestrial Termitaria	-27.8307189, 152.9653481
147	Terrestrial Termitaria	-27.8299931, 152.9636357
148	Terrestrial Termitaria (with Excavations)	-27.8303680, 152.9630941
149	Terrestrial Termitaria (with Excavations)	-27.8314304, 152.9638044
150	Terrestrial Termitaria (with Excavations)	-27.8318957, 152.9639106
151	Terrestrial Termitaria (with Excavations)	-27.8321958, 152.9642429
152	Terrestrial Termitaria (with Excavations)	-27.8318634, 152.9644190
153	Terrestrial Termitaria (with Excavations)	-27.8323059, 152.9647716
154	Terrestrial Termitaria (with Excavations)	-27.8322370, 152.9653502
155	Terrestrial Termitaria	-27.8322491, 152.9668380
156	Terrestrial Termitaria (with Excavations)	-27.8323097, 152.9667030
157	Terrestrial Termitaria (with Excavations)	-27.8325560, 152.9662378
158	Terrestrial Termitaria (with Excavations)	-27.8326422, 152.9662061
159	Terrestrial Termitaria	-27.8324347, 152.9654502
160	Terrestrial Termitaria (with Excavations)	-27.8317274, 152.9629185
161	Terrestrial Termitaria (with Excavations)	-27.8308563, 152.9626464
162	Terrestrial Termitaria	-27.8305899, 152.9623395
163	Terrestrial Termitaria	-27.8313991, 152.9616044
164	Terrestrial Termitaria	-27.8316820, 152.9613688
165	Terrestrial Termitaria	-27.8319795, 152.9614120
166	Terrestrial Termitaria (x3)	-27.8322296, 152.9614436
167	Terrestrial Termitaria (x3)	-27.8324800, 152.9618521
168	Terrestrial Termitaria	-27.8326416, 152.9621172
169	Terrestrial Termitaria	-27.8336029, 152.9627161
170	Terrestrial Termitaria (x2)	-27.8340011, 152.9636619
171	Terrestrial Termitaria	-27.8332977, 152.9642878
172	Terrestrial Termitaria (with Excavations)	-27.8340572, 152.9644355

173	Terrestrial Termitaria	-27.8343748, 152.9645499
174	Terrestrial Termitaria	-27.8345346, 152.9637642
175	Terrestrial Termitaria	-27.821715, 152.9624062
176	Terrestrial Termitaria (x2, with Excavations)	-27.8218947, 152.9641812
177	Terrestrial Termitaria (x3, with Excavations)	-27.8220196, 152.9645973
178	Terrestrial Termitaria (x2)	-27.8212028, 152.9639969
179	Terrestrial Termitaria (with Excavations)	-27.8204408, 152.9657504
180	Terrestrial Termitaria (with Excavations)	-27.8207811, 152.9656028
181	Terrestrial Termitaria (with Excavations)	-27.8208516, 152.9655834
182	Terrestrial Termitaria (with Excavations)	-27.8213986, 152.9653791
183	Terrestrial Termitaria (x2, with Excavations)	-27.821265, 152.965357
184	Terrestrial Termitaria (with Excavations)	-27.821511, 152.9654825
185	Terrestrial Termitaria	-27.8217759, 152.9653113
186	Terrestrial Termitaria (with Excavations)	-27.8221712, 152.9653823
187	Terrestrial Termitaria	-27.8223729, 152.9652748
188	Terrestrial Termitaria	-27.8225235, 152.9652741
189	Terrestrial Termitaria (with Excavations)	-27.8227284, 152.9651513
190	Terrestrial Termitaria	-27.8231857, 152.9652289
191	Terrestrial Termitaria	-27.8236539, 152.9652284
192	Terrestrial Termitaria (with Excavations)	-27.8238796, 152.9649047
193	Terrestrial Termitaria (with Excavations)	-27.8240331, 152.9649678
194	Terrestrial Termitaria (with Excavations)	-27.8241204, 152.9649396
195	Terrestrial Termitaria (with Excavations)	-27.8242558, 152.9648926
196	Terrestrial Termitaria (with Excavations)	-27.8245432, 152.9648673
197	Terrestrial Termitaria (x2)	-27.8255806, 152.9649512
198	Terrestrial Termitaria	-27.8261487, 152.964578
199	Terrestrial Termitaria (with Excavations)	-27.8265746, 152.9642937
200	Terrestrial Termitaria (with Excavations)	-27.8271121, 152.9643918
201	Terrestrial Termitaria	-27.8271657, 152.9641443
202	Terrestrial Termitaria (with Excavations)	-27.8272244, 152.9642868



203	Terrestrial Termitaria (x2)	-27.8272696, 152.9643057
204	Terrestrial Termitaria (with Excavations)	-27.8279009, 152.9643164
205	Terrestrial Termitaria (with Excavations)	-27.827992, 152.964189
206	Terrestrial Termitaria (with Excavations)	-27.8286087, 152.9641874
207	Terrestrial Termitaria	-27.8298507, 152.9642319
208	Terrestrial Termitaria	-27.8298979, 152.9644503
209	Terrestrial Termitaria	-27.8300379, 152.9647879
210	Terrestrial Termitaria (with Gecko Egg)	-27.8298822, 152.9652833
211	Terrestrial Termitaria (with Excavations)	-27.8298307, 152.9654332
212	Terrestrial Termitaria (with Excavations)	-27.830107, 152.9656968
213	Terrestrial Termitaria (with Excavations)	-27.8301455, 152.9657783
214	Terrestrial Termitaria (with Excavations)	-27.8302765, 152.9660577
215	Terrestrial Termitaria	-27.8239986, 152.9644619
216	Terrestrial Termitaria (x4, with Excavations)	-27.8238142, 152.9628772
217	Terrestrial Termitaria (x5, with Excavations)	-27.8236053, 152.9624598
218	Terrestrial Termitaria (x2, with Excavations)	-27.8236992, 152.9621467
219	Terrestrial Termitaria	-27.8234209, 152.9617385
220	Terrestrial Termitaria	-27.8229742, 152.9612107
221	Terrestrial Termitaria (with Excavations)	-27.82271, 152.9609708
222	Terrestrial Termitaria	-27.8226501, 152.961199
223	Terrestrial Termitaria (with Excavations)	-27.8223387, 152.9617829
224	Terrestrial Termitaria (x3, with Excavations)	-27.8213213, 152.9622889
225	Terrestrial Termitaria (with Excavations)	-27.8206732, 152.9642283
226	Terrestrial Termitaria (x3, with Excavations)	-27.8203175, 152.9649213
227	Terrestrial Termitaria (with Excavations)	-27.8223822, 152.9618956
228	Terrestrial Termitaria (with Excavations)	-27.8231472, 152.9633024
229	Terrestrial Termitaria	-27.8231027, 152.9627843
230	Terrestrial Termitaria (with Excavations)	-27.822857, 152.9623303
231	Terrestrial Termitaria (x6)	-27.8329735, 152.9634652

232	Terrestrial Termitaria	-27.8345108, 152.9615339
234	Terrestrial Termitaria (x2)	-27.8346971, 152.9610998
235	Terrestrial Termitaria	-27.8337823, 152.9583825
236	Terrestrial Termitaria	-27.8335388, 152.9581488
237	Terrestrial Termitaria	-27.8318883, 152.9583529
238	Terrestrial Termitaria (x3)	-27.831898, 152.9585099
239	Terrestrial Termitaria (x5, with Excavations)	-27.8309661, 152.9583468
240	Terrestrial Termitaria	-27.8333768, 152.9563806
241	Terrestrial Termitaria	-27.8324223, 152.9564341
242	Terrestrial Termitaria	-27.8317638, 152.9562686
243	Terrestrial Termitaria (x3)	-27.8318556, 152.9559432
244	Terrestrial Termitaria	-27.8330408, 152.9552202
245	Terrestrial Termitaria (x4)	-27.832395, 152.955055
246	Terrestrial Termitaria (x5)	-27.8321362, 152.9550366
247	Terrestrial Termitaria (x4)	-27.8317701, 152.9549133
248	Terrestrial Termitaria	-27.8322023, 152.954135
249	Terrestrial Termitaria (x2, with Excavations)	-27.8328082, 152.9534431
250	Terrestrial Termitaria	-27.8316281, 152.9529305
251	Terrestrial Termitaria (x3)	-27.8326112, 152.9520169
252	Terrestrial Termitaria	-27.8317014, 152.9516881
253	Terrestrial Termitaria (x6)	-27.832016, 152.9511581
254	Terrestrial Termitaria	-27.8321395, 152.9498103
255	Terrestrial Termitaria	-27.8320399, 152.9495006
256	Terrestrial Termitaria	-27.8316033, 152.9485258
257	Terrestrial Termitaria (x2)	-27.8308598, 152.9480835
258	Terrestrial Termitaria	-27.831042, 152.9460405
259	Terrestrial Termitaria	-27.8309919, 152.9446192
260	Terrestrial Termitaria (with Excavations)	-27.8305711, 152.9421834
261	Timber Stockpile	-27.8318119, 152.9609430
262	Woody Debris	-27.8267128, 152.9595441

263	Woody Debris	-27.8263553, 152.9622297
264	Woody Debris	-27.8245525, 152.9554701
265	Woody Debris	-27.8265526, 152.9518542
266	Woody Debris	-27.8272701, 152.9538252
267	Woody Debris	-27.8232916, 152.9579205
268	Woody Debris	-27.8259831, 152.9635865
269	Woody Debris	-27.8256866, 152.9625164
270	Woody Debris	-27.8279017, 152.9622669
271	Woody Debris	-27.827965, 152.9627757
272	Woody Debris	-27.8293057, 152.9632316
273	Woody Debris	-27.8302416, 152.9479813
274	Woody Debris	-27.8303239, 152.9465163
275	Woody Debris	-27.8303674, 152.9464157
276	Woody Debris	-27.8302796, 152.9457343
277	Woody Debris	-27.8290024, 152.9455193
278	Woody Debris	-27.8283481, 152.9468121
279	Woody Debris	-27.8271898, 152.9497871
280	Woody Debris	-27.8278343, 152.9513032
281	Woody Debris	-27.8280889, 152.9529081
282	Woody Debris	-27.8290369, 152.9550197
283	Woody Debris	-27.8283531, 152.9552307
284	Woody Debris	-27.8291624, 152.9616773
285	Woody Debris	-27.8332536, 152.9603608
286	Woody Debris	-27.8213338, 152.9644426
287	Woody Debris	-27.8198559, 152.9658419
288	Woody Debris	-27.8220934, 152.9653647
289	Woody Debris	-27.8257439, 152.9647271
290	Woody Debris	-27.8265257, 152.9645797
291	Woody Debris	-27.8294129, 152.9640293
292	Woody Debris	-27.8301494, 152.966484

293	Woody Debris	-27.8240586,152.9643847
294	Woody Debris	-27.8209362,152.9633011
295	Woody Debris	-27.8327964,152.955056
296	Woody Debris	-27.8308751,152.9516844
297	Woody Debris	-27.8305726,152.949184
298	Woody Debris	-27.8304786,152.9479364
299	Woody Debris	-27.8311189,152.9476864
300	Woody Debris	-27.831143,152.9460441
301	Woody Debris	-27.8309586,152.9447553
302	Woody Debris	-27.8306478,152.9434146
303	Woody Debris	-27.8297943,152.943672

## 8. Appendix B: Localities for Identified Arboreal Habitat Features

Number	Habitat Feature	GPS Coordinates (Latitude, Longitude)
1	Arboreal Termitaria	-27.8269777, 152.9591417
2	Arboreal Termitaria	-27.8269696, 152.9591542
3	Arboreal Termitaria	-27.8269285, 152.9593875
4	Arboreal Termitaria	-27.8268311, 152.9593386
5	Arboreal Termitaria	-27.8264713, 152.9596963
6	Arboreal Termitaria	-27.8266122, 152.9596993
7	Arboreal Termitaria	-27.8270182, 152.9597586
8	Arboreal Termitaria	-27.8271027, 152.9596914
9	Arboreal Termitaria	-27.8272439, 152.959593
10	Arboreal Termitaria	-27.8274708, 152.9599423
11	Arboreal Termitaria	-27.8273735, 152.9607292
12	Arboreal Termitaria	-27.8274534, 152.9609453
13	Arboreal Termitaria	-27.8275336, 152.961601
14	Arboreal Termitaria	-27.8271547, 152.9616893
15	Arboreal Termitaria	-27.8273414, 152.9620061
16	Arboreal Termitaria	-27.8266664, 152.9620606
17	Arboreal Termitaria	-27.8264619, 152.962245
18	Arboreal Termitaria	-27.8263153, 152.962102
19	Arboreal Termitaria	-27.8261198, 152.9623035
20	Arboreal Termitaria	-27.8256647, 152.9596966
21	Arboreal Termitaria	-27.8260766, 152.9598639
22	Arboreal Termitaria	-27.826076, 152.9601431
23	Arboreal Termitaria	-27.8258823, 152.9602453
24	Arboreal Termitaria	-27.8253258, 152.9597836
25	Arboreal Termitaria	-27.8255139, 152.9596809
26	Arboreal Termitaria	-27.8254872, 152.9588156

27	Arboreal Termitaria	-27.8255177, 152.9585927
28	Arboreal Termitaria	-27.8252326, 152.9583028
29	Arboreal Termitaria	-27.8255023, 152.9583145
30	Arboreal Termitaria	-27.8254365, 152.9583743
31	Arboreal Termitaria	-27.8255291, 152.9584418
32	Arboreal Termitaria	-27.8250452, 152.9578484
33	Arboreal Termitaria	-27.8259526, 152.951928
34	Arboreal Termitaria	-27.8262763, 152.9529703
35	Arboreal Termitaria	-27.8262031, 152.953389
36	Arboreal Termitaria	-27.8259756, 152.9536778
37	Arboreal Termitaria	-27.8256007, 152.9546267
38	Arboreal Termitaria	-27.8256751, 152.9552601
39	Arboreal Termitaria	-27.8244975, 152.9559928
40	Arboreal Termitaria	-27.8245723, 152.9560491
41	Arboreal Termitaria	-27.8246102, 152.9566158
42	Arboreal Termitaria	-27.8269525, 152.9564271
43	Arboreal Termitaria	-27.8257214, 152.9576135
44	Arboreal Termitaria	-27.8256013, 152.9579954
45	Arboreal Termitaria	-27.8253992, 152.957965
46	Arboreal Termitaria	-27.8260218, 152.9592077
47	Arboreal Termitaria	-27.8257847, 152.9594999
48	Arboreal Termitaria	-27.8260235, 152.959643
49	Arboreal Termitaria	-27.826011, 152.9591462
50	Arboreal Termitaria	-27.8265332, 152.9592292
51	Arboreal Termitaria	-27.8266908, 152.9591077
52	Arboreal Termitaria	-27.8266425, 152.9590557
53	Arboreal Termitaria	-27.8269414, 152.9590335
54	Arboreal Termitaria	-27.8267943, 152.9596923
55	Arboreal Termitaria	-27.8268213, 152.9597327
56	Arboreal Termitaria	-27.8263928, 152.960668

57	Arboreal Termitaria	-27.826277, 152.9609705
58	Arboreal Termitaria	-27.8262608, 152.9610306
59	Arboreal Termitaria	-27.8263817, 152.9613515
60	Arboreal Termitaria	-27.8274386, 152.9611838
61	Arboreal Termitaria	-27.8279544, 152.9602526
62	Arboreal Termitaria	-27.8278088, 152.9598967
63	Arboreal Termitaria	-27.8275621, 152.9597103
64	Arboreal Termitaria	-27.8275099, 152.959688
65	Arboreal Termitaria	-27.825555, 152.9565141
66	Arboreal Termitaria	-27.8256377, 152.9560893
67	Arboreal Termitaria	-27.8256762, 152.9560983
68	Arboreal Termitaria	-27.824516, 152.9550635
69	Arboreal Termitaria	-27.8243087, 152.9558375
70	Arboreal Termitaria	-27.8246898, 152.9552879
71	Arboreal Termitaria	-27.824819, 152.954994
72	Arboreal Termitaria	-27.825023, 152.9548724
73	Arboreal Termitaria	-27.8251004, 152.9546943
74	Arboreal Termitaria	-27.8250125, 152.954551
75	Arboreal Termitaria	-27.8253304, 152.9546282
76	Arboreal Termitaria	-27.8252851, 152.9543181
77	Arboreal Termitaria	-27.8251938, 152.9541695
78	Arboreal Termitaria	-27.8255305, 152.954226
79	Arboreal Termitaria	-27.8258417, 152.9533867
80	Arboreal Termitaria	-27.8259581, 152.9532236
81	Arboreal Termitaria	-27.8259505, 152.9531828
82	Arboreal Termitaria	-27.8266193, 152.9520581
83	Arboreal Termitaria	-27.8272617, 152.9531159
84	Arboreal Termitaria	-27.8270798, 152.953363
85	Arboreal Termitaria (x2)	-27.8270824, 152.9533334
86	Arboreal Termitaria	-27.82719, 152.9538989

87	Arboreal Termitaria	-27.8271758, 152.9538425
88	Arboreal Termitaria	-27.8282908, 152.9545394
89	Arboreal Termitaria	-27.8280814, 152.9554161
90	Arboreal Termitaria	-27.8273072, 152.9573968
91	Arboreal Termitaria	-27.8262752, 152.9573902
92	Arboreal Termitaria	-27.825885, 152.9569776
93	Arboreal Termitaria	-27.823822, 152.9600804
94	Arboreal Termitaria	-27.8237049, 152.9597824
95	Arboreal Termitaria	-27.8239801, 152.9569434
96	Arboreal Termitaria	-27.8262661, 152.9639962
97	Arboreal Termitaria	-27.8262829, 152.9640702
98	Arboreal Termitaria	-27.8259857, 152.9636064
99	Arboreal Termitaria	-27.8258298, 152.9629906
100	Arboreal Termitaria	-27.8257231, 152.9629083
101	Arboreal Termitaria	-27.8258599, 152.9628461
102	Arboreal Termitaria	-27.8260785, 152.9629463
103	Arboreal Termitaria	-27.8256007, 152.9627019
104	Arboreal Termitaria	-27.8257286, 152.9626357
105	Arboreal Termitaria	-27.8257532, 152.9626225
106	Arboreal Termitaria	-27.825773, 152.9625022
107	Arboreal Termitaria	-27.8262553, 152.9629125
108	Arboreal Termitaria	-27.8264392, 152.9631312
109	Arboreal Termitaria	-27.8266039, 152.9633613
110	Arboreal Termitaria	-27.8267626, 152.9635385
111	Arboreal Termitaria	-27.8268605, 152.9634909
112	Arboreal Termitaria	-27.8273591, 152.9623292
113	Arboreal Termitaria	-27.8278472, 152.9622282
114	Arboreal Termitaria	-27.8279542, 152.9622031
115	Arboreal Termitaria	-27.8282835, 152.9622197
116	Arboreal Termitaria	-27.8280997, 152.9622528



117	Arboreal Termitaria	-27.828069, 152.9631595
118	Arboreal Termitaria	-27.8285952, 152.9638004
119	Arboreal Termitaria	-27.8286209, 152.9638463
120	Arboreal Termitaria	-27.8291122, 152.9634434
121	Arboreal Termitaria	-27.8293959, 152.9632426
122	Arboreal Termitaria	-27.829659, 152.9629231
123	Arboreal Termitaria	-27.8296746, 152.9622423
124	Arboreal Termitaria	-27.8306706, 152.9592452
125	Arboreal Termitaria	-27.8302746, 152.9588029
126	Arboreal Termitaria	-27.8314986, 152.9540312
127	Arboreal Termitaria	-27.8314918, 152.9538154
128	Arboreal Termitaria	-27.831179, 152.9525092
129	Arboreal Termitaria	-27.8307404, 152.9507122
130	Arboreal Termitaria	-27.8299805, 152.9496028
131	Arboreal Termitaria	-27.8304225, 152.9476718
132	Arboreal Termitaria	-27.8304125, 152.9466776
133	Arboreal Termitaria	-27.8302618, 152.9464064
134	Arboreal Termitaria	-27.8304111, 152.9463814
135	Arboreal Termitaria	-27.8303279, 152.9455476
136	Arboreal Termitaria	-27.830043, 152.9454413
137	Arboreal Termitaria	-27.8290508, 152.9467162
138	Arboreal Termitaria	-27.8283254, 152.9469925
139	Arboreal Termitaria	-27.8279094, 152.9481316
140	Arboreal Termitaria	-27.8275182, 152.9484595
141	Arboreal Termitaria	-27.8275255, 152.9487136
142	Arboreal Termitaria	-27.826995, 152.9499594
143	Arboreal Termitaria	-27.8270337, 152.9508202
144	Arboreal Termitaria	-27.8279668, 152.950647
145	Arboreal Termitaria	-27.8284995, 152.9505947
146	Arboreal Termitaria	-27.8277576, 152.9511826

147	Arboreal Termitaria	-27.8276428, 152.9512134
148	Arboreal Termitaria	-27.8274732, 152.9522866
149	Arboreal Termitaria	-27.827511, 152.9523891
150	Arboreal Termitaria	-27.827484, 152.9524877
151	Arboreal Termitaria	-27.8274551, 152.9527382
152	Arboreal Termitaria	-27.8302717, 152.9530983
153	Arboreal Termitaria	-27.8296943, 152.9542394
154	Arboreal Termitaria	-27.8296745, 152.9543265
155	Arboreal Termitaria	-27.8296162, 152.9542834
156	Arboreal Termitaria	-27.8295746, 152.9544896
157	Arboreal Termitaria	-27.8294901, 152.9549926
158	Arboreal Termitaria	-27.8295139, 152.955414
159	Arboreal Termitaria	-27.8293175, 152.9553782
160	Arboreal Termitaria	-27.828336, 152.955257
161	Arboreal Termitaria	-27.8279264, 152.9550112
162	Arboreal Termitaria	-27.8278586, 152.9549805
163	Arboreal Termitaria	-27.8278997, 152.9600369
164	Arboreal Termitaria	-27.8281721, 152.9607392
165	Arboreal Termitaria	-27.8284974, 152.9608189
166	Arboreal Termitaria	-27.8286562, 152.9608179
167	Arboreal Termitaria	-27.828997, 152.9616877
168	Arboreal Termitaria	-27.8289386, 152.9623361
169	Arboreal Termitaria (x2)	-27.8291733, 152.9625317
170	Arboreal Termitaria	-27.8289591, 152.9624134
171	Arboreal Termitaria	-27.8291703, 152.9628157
172	Arboreal Termitaria	-27.8289668, 152.9632646
173	Arboreal Termitaria	-27.8289928, 152.962922
174	Arboreal Termitaria	-27.8294785, 152.96379
175	Arboreal Termitaria	-27.8265486, 152.9642247
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496	Arboreal Termitaria (with excavation)	-27.8224511, 152.9643851
497	Arboreal Termitaria (with excavation)	-27.8224467, 152.9643739
498	Arboreal Termitaria (with excavation)	-27.8230473, 152.9633988
499	Arboreal Termitaria (with excavation)	-27.8227088, 152.9616612
500	Arboreal Termitaria (with excavation)	-27.8349016, 152.959548
501	Arboreal Termitaria (with excavation)	-27.8311859, 152.9588052
502	Arboreal Termitaria (with excavation)	-27.8314036, 152.9585366
503	Arboreal Termitaria (with excavation)	-27.83098, 152.9589706
504	Arboreal Termitaria (with excavation)	-27.8314404, 152.9578247
505	Arboreal Termitaria (with excavation)	-27.8328821, 152.9562713
506	Arboreal Termitaria (with excavation)	-27.8318012, 152.9554681

507	Arboreal Termitaria (with excavation)	-27.8323924, 152.9557408
508	Arboreal Termitaria (with excavation)	-27.8326396, 152.9558837
509	Arboreal Termitaria (with excavation)	-27.8327696, 152.9557245
510	Arboreal Termitaria (with excavation)	-27.8318568, 152.955138
511	Arboreal Termitaria (with excavation)	-27.8311553, 152.9504664
512	Arboreal Termitaria (with excavation)	-27.8315495, 152.9503489
513	Arboreal Termitaria (with excavation)	-27.83181, 152.9504027
514	Arboreal Termitaria (with excavation)	-27.8314738, 152.9496746
515	Arboreal Termitaria (with excavation)	-27.8312313, 152.9479403
516	Arboreal Termitaria (with excavation)	-27.8311572, 152.9430346
517	Arboreal Termitaria (with excavation)	-27.8264265, 152.9510217
518	Bird Nest	-27.8269945, 152.9597036
519	Bird Nest	-27.8246446, 152.9582155
520	Bird Nest	-27.8266062, 152.9599726
521	Bird Nest	-27.8263443, 152.9516408
522	Bird Nest	-27.8298363, 152.9449963
523	Bird Nest	-27.8296754, 152.9531904
524	Bird Nest (on Arboreal Termitaria)	-27.8292513, 152.9552342
525	Bird Nest	-27.8344473, 152.9634819
526	Bird Nest	-27.8350691, 152.9640436
527	Bird Nest	-27.8362699, 152.965332
528	Bird Nest	-27.8327417, 152.9602449
529	Bird Nest	-27.8309928, 152.9667654
530	Bird Nest	-27.820397, 152.9645723
531	Bird Nest (on Arboreal Termitaria)	-27.8226154, 152.9622089
532	Bird Nest	-27.8333473, 152.9633124
533	Bird Nest (on Arboreal Termitaria)	-27.8341139, 152.9630047
534	Bird Nest	-27.8344866, 152.9618208
535	Bird Nest (x2)	-27.8350471, 152.9608301
536	Bird Nest	-27.8327714, 152.9559747

537	Bird Nest	-27.8318026, 152.9553537
538	Bird Nest	-27.8323894, 152.9558327
539	Bird Nest	-27.8323731, 152.955963
540	Bird Nest	-27.8317777, 152.9508643
541	Bird Nest	-27.8298982, 152.9435832
542	Dead Stag (with Exfoliating Bark)	-27.8266961, 152.9595987
543	Dead Stag	-27.8264576, 152.9597296
544	Dead Stag (with Exfoliating Bark)	-27.8275168, 152.9609537
545	Dead Stag	-27.8273427, 152.9608181
546	Dead Stag	-27.825621, 152.961393
547	Dead Stag	-27.8259416, 152.959771
548	Dead Stag	-27.8259595, 152.9597811
549	Dead Stag	-27.8258836, 152.9537687
550	Dead Stag (with Arboreal Termitaria)	-27.8258847, 152.9539096
551	Dead Stag	-27.8255664, 152.954486
552	Dead Stag	-27.8246547, 152.9553944
553	Dead Stag	-27.8271361, 152.9561897
554	Dead Stag	-27.826512, 152.959118
555	Dead Stag	-27.8265597, 152.9591834
556	Dead Stag (x10, various sizes)	-27.8240053, 152.9601802
557	Dead Stag (with Arboreal Termitaria)	-27.8305296, 152.9590249
558	Dead Stag	-27.8305307, 152.9507852
559	Dead Stag	-27.8299315, 152.945112
560	Dead Stag	-27.8299231, 152.9451263
561	Dead Stag	-27.8294608, 152.9448317
562	Dead Stag	-27.829389, 152.9448535
563	Dead Stag	-27.8272675, 152.9493402
564	Dead Stag	-27.8277857, 152.9507545
565	Dead Stag	-27.8301293, 152.9529646
566	Dead Stag (with Arboreal Termitaria with Excavation)	-27.8296018, 152.95491

567	Dead Stag	-27.828017, 152.9549989
568	Dead Stag	-27.8292243, 152.9623125
569	Dead Stag	-27.8267276, 152.9636369
570	Dead Stag (with Exfoliating Bark)	-27.8344559, 152.9643435
571	Dead Stag (with Exfoliating Bark)	-27.8344936, 152.966159
572	Dead Stag	-27.8332281, 152.9603446
573	Dead Stag (with Arboreal Termitaria with Excavation)	-27.8332976, 152.9599807
574	Dead Stag	-27.8309799, 152.9662543
575	Dead Stag	-27.8310684, 152.9666056
576	Dead Stag	-27.8313994, 152.9663032
577	Dead Stag	-27.8314383, 152.9661411
578	Dead Stag	-27.8307635, 152.9649245
579	Dead Stag	-27.8305831, 152.9647757
580	Dead Stag (with Hollows)	-27.8318818, 152.9646545
581	Dead Stag	-27.8325278, 152.9666033
582	Dead Stag	-27.8214142, 152.9654566
583	Dead Stag (with Exfoliating Bark and potential Hollows)	-27.8274352, 152.9642613
584	Dead Stag	-27.8279593, 152.9641569
585	Dead Stag	-27.8299794, 152.9653229
586	Dead Stag	-27.8302761, 152.9653976
587	Dead Stag	-27.8300949, 152.9657844
588	Dead Stag	-27.8238251, 152.9635363
589	Dead Stag	-27.8239125, 152.9630569
590	Dead Stag	-27.8237002, 152.9621514
591	Dead Stag	-27.8232057, 152.961251
592	Dead Stag (with Arboreal Termitaria)	-27.8225168, 152.9616574
593	Dead Stag	-27.8222386, 152.9617293
594	Dead Stag	-27.8225039, 152.9621112
595	Dead Stag	-27.8233216, 152.9625479
596	Dead Stag (with Exfoliating Bark and Arboreal Termitaria with Excavation)	-27.8338748, 152.9630567



597	Dead Stag	-27.8344948, 152.9615197
598	Dead Stag	-27.8348146, 152.9614075
599	Dead Stag	-27.8346348, 152.9618493
600	Dead Stag (with Arboreal Termitaria with Excavation)	-27.8349915, 152.9585927
601	Dead Stag (with Exfoliating Bark)	-27.8308125, 152.9591674
602	Dead Stag	-27.8325113, 152.955723
603	Dead Stag	-27.8328478, 152.9559028
604	Dead Stag (with Exfoliating Bark)	-27.8320252, 152.9514347
605	Dead Stag (with Exfoliating Bark)	-27.8315749, 152.9502005
606	Dead Stag	-27.83238, 152.9495465
607	Dead Stag	-27.8305556, 152.9490131
608	Dead Stag	-27.831672, 152.9480723
609	Dead Stag (with Exfoliating Bark and Arboreal Termitaria)	-27.8312668, 152.9482087
610	Dead Stag	-27.8314982, 152.9470988
611	Dead Stag	-27.8313569, 152.9460412
612	Dead Stag	-27.8312402, 152.9429949
613	Dead Stag	-27.8307082, 152.9428614
614	Dead Stag	-27.8306816, 152.9433172
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616	Dead Stag (x2)	-27.8306612, 152.9438515
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618	Dead Stag	-27.8308338, 152.9424065
619	Dead Stag	-27.8297394, 152.9438821
620	Exfoliating Bark (Arboreal)	-27.8272688, 152.9613366
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622	Exfoliating Bark (Arboreal)	-27.825186, 152.9542993
623	Exfoliating Bark (Arboreal)	-27.8252217, 152.9542706
624	Exfoliating Bark (Arboreal)	-27.8253322, 152.9539013
625	Exfoliating Bark (Arboreal)	-27.8280895, 152.9630476
626	Exfoliating Bark (Arboreal)	-27.827167, 152.9499337

627	Exfoliating Bark (Arboreal)	-27.8265333, 152.9514917
628	Exfoliating Bark (Arboreal)	-27.827207, 152.9517179
629	Exfoliating Bark (Arboreal)	-27.8274671, 152.9525208
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633	Exfoliating Bark (Arboreal)	-27.8333840, 152.9641085
634	Exfoliating Bark (Arboreal)	-27.8238263, 152.9648473
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637	Exfoliating Bark (Arboreal)	-27.830166, 152.9649133
638	Exfoliating Bark (Arboreal)	-27.8226394, 152.9611675
639	Exfoliating Bark (Arboreal)	-27.8216355, 152.9623903
640	Exfoliating Bark (Arboreal)	-27.8349206, 152.9586217
641	Exfoliating Bark (Arboreal)	-27.8329783, 152.9561184
642	Exfoliating Bark (Arboreal)	-27.8329218, 152.9560657
643	Exfoliating Bark (Arboreal)	-27.8326767, 152.9563013
644	Exfoliating Bark (Arboreal)	-27.8318771, 152.9528126
645	Fissure (with Arboreal Termitaria)	-27.8309938, 152.9585394
646	Fissure (with Arboreal Termitaria with Excavation)	-27.8327853, 152.9565453
647	Hollow Bearing Tree	-27.8253882, 152.9540178
648	Hollow Bearing Tree	-27.8232512, 152.9583299
649	Hollow Bearing Tree	-27.8243537, 152.9565172
650	Hollow Bearing Tree	-27.8260049, 152.9636484
651	Hollow Bearing Tree	-27.8258832, 152.9632622
652	Hollow Bearing Tree	-27.8261322, 152.9627596
653	Hollow Bearing Tree	-27.8301368, 152.9453585
654	Hollow Bearing Tree	-27.8290292, 152.9455465
655	Hollow Bearing Tree	-27.829147, 152.9465712
656	Hollow Bearing Tree	-27.8291533, 152.9616251

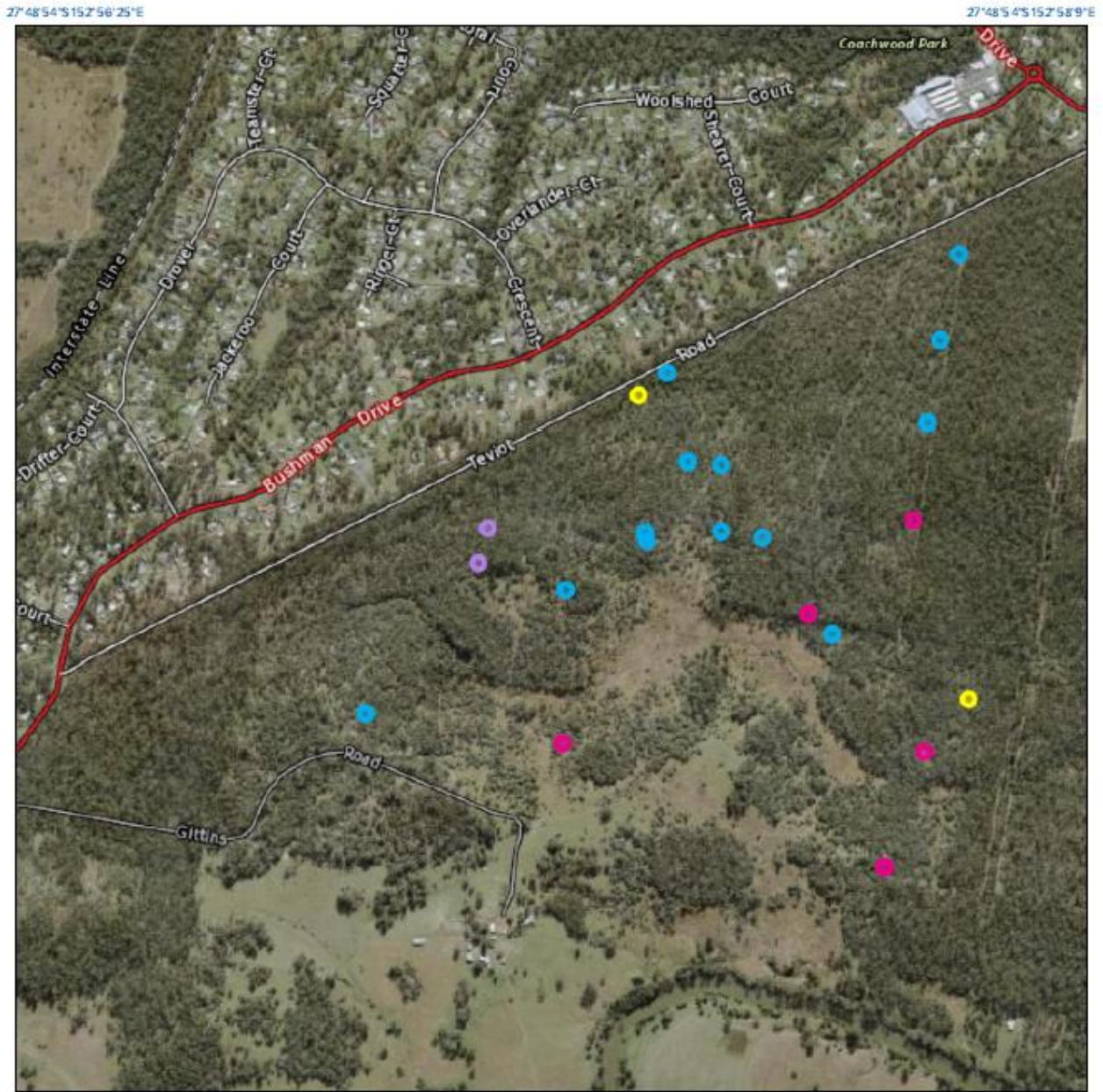
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660	Hollow Bearing Tree	-27.8314514, 152.9661313
661	Hollow Bearing Tree	-27.8213777, 152.9628885
662	Hollow Bearing Tree	-27.8219869, 152.963908
663	Hollow Bearing Tree	-27.8213237, 152.9644235
664	Hollow Bearing Tree	-27.8220643, 152.9653143
665	Hollow Bearing Tree	-27.8247913, 152.9650151
666	Hollow Bearing Tree (with Exfoliating Bark)	-27.8237881, 152.9635228
667	Hollow Bearing Tree	-27.8234371, 152.9617341
668	Hollow Bearing Tree	-27.8229382, 152.9612656
669	Hollow Bearing Tree	-27.8228595, 152.9610551
670	Hollow Bearing Tree	-27.8219962, 152.9621264
671	Hollow Bearing Tree	-27.8210734, 152.9634189
672	Hollow Bearing Tree (with Arboreal Termitaria)	-27.8227413, 152.9626894
673	Hollow Bearing Tree	-27.8225377, 152.9631941
674	Hollow Bearing Tree	-27.830231, 152.9426572
675	Hollow Bearing Tree	-27.8301725, 152.9426184
676	Hollow Bearing Tree	-27.8305994, 152.9424806
677	Hollow Bearing Tree	-27.8308236, 152.9424512
678	Hollow Bearing Tree (with Arboreal Termitaria)	-27.8286434, 152.9463546
679	Hollow Stump	-27.8260455, 152.9629603
680	Hollow Stump	-27.8304405, 152.9462746
681	Hollow Stump	-27.8348596, 152.9654634
682	Hollow Stump	-27.8326506, 152.9579039
683	Native Bee Hive	-27.8251667, 152.9577558
684	Native Bee Hive	-27.8289725, 152.9461056
685	European Bee Hive	-27.8314672, 152.9435229
686	Paper Wasp Nest	-27.8234832, 152.9607902

687	Paper Wasp Nest	-27.8305212, 152.9420368
688	Possum Drey	-27.8208903, 152.9652272
689	Possum Drey	-27.8317077, 152.9496758

## 9. Appendix C: Localities for Identified Aquatic Habitat Features

Number	Habitat Feature	GPS Coordinates (Latitude, Longitude)
1	Dam	-27.8314913, 152.9515813
2	Dry Creek Bed	-27.827646, 152.9569318
3	Deep Gully	-27.8314453, 152.9437477
4	Pond	-27.8287717, 152.9504408
5	Pond (x2)	-27.8273362, 152.9622049
6	Pond	-27.8277174, 152.9569044

## 10. Appendix D: Artificial Debris, Bark Exfoliations, Burrow and Rock Locations

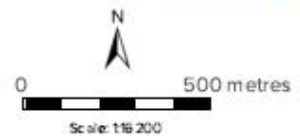


27°48'54\"/>

27°48'54\"/>

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 Legend

**POINT-Burrows.csv**



**POINT-Artificial Debris.csv**



**POINT-Bark Exfoliations.csv**



**POINT-Rocks.csv**



**Cities and Towns**



**Road Crossing**

— Bridge

— Tunnel

**Road**

— Highway

— Main

— Local

— Private

**Railway**



 Attribution

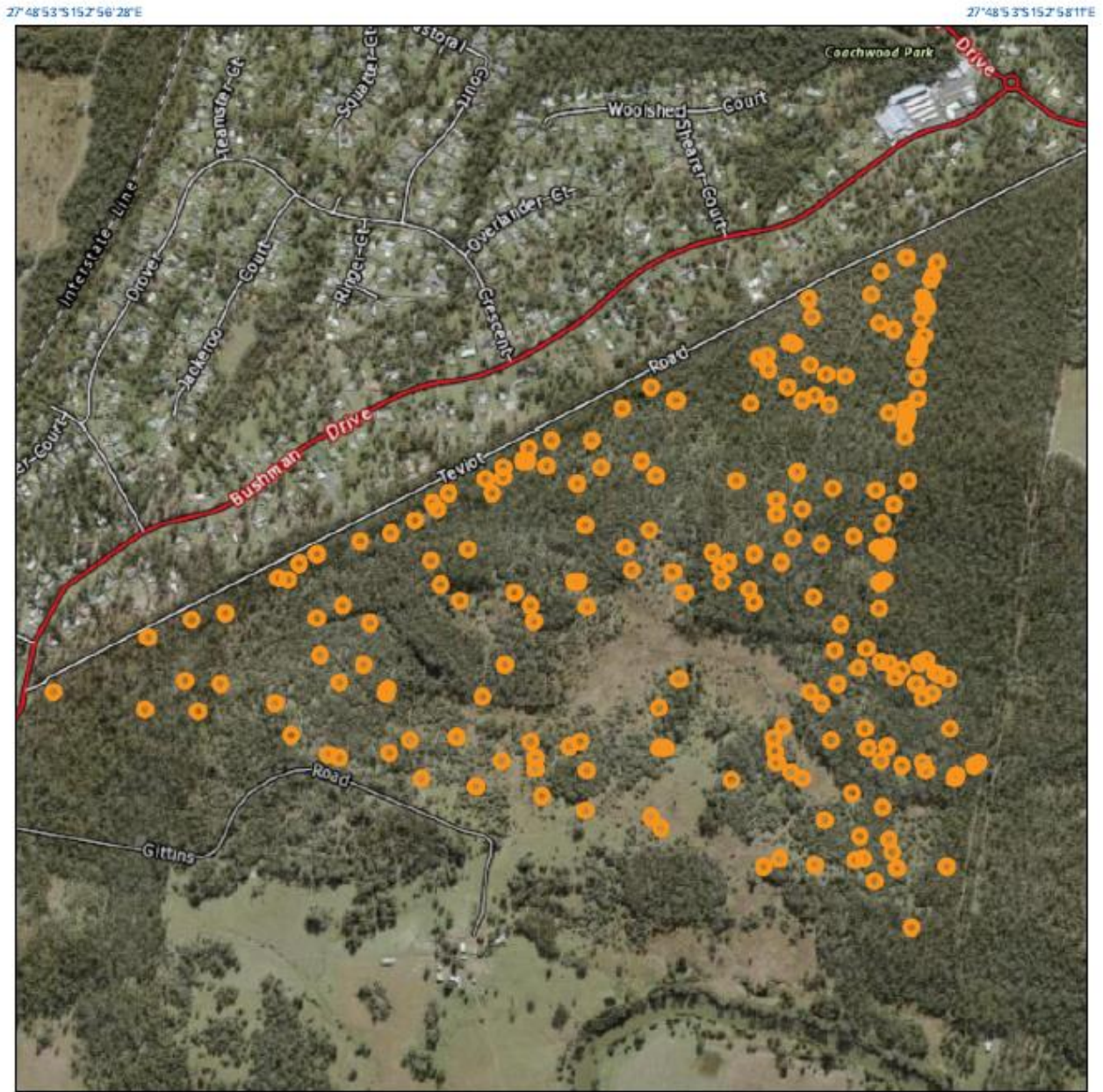
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## 11. Appendix E: Terrestrial Termitaria Locations



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27°48'53\"/>

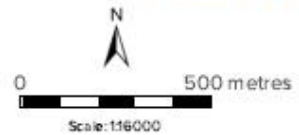
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 Legend

**POINT-Terrestrial termite.csv**



**Road Crossing**

-  Bridge
-  Tunnel

**Road**

-  Highway
-  Main
-  Local
-  Private

**Cities and Towns**



**Railway**



 Attribution

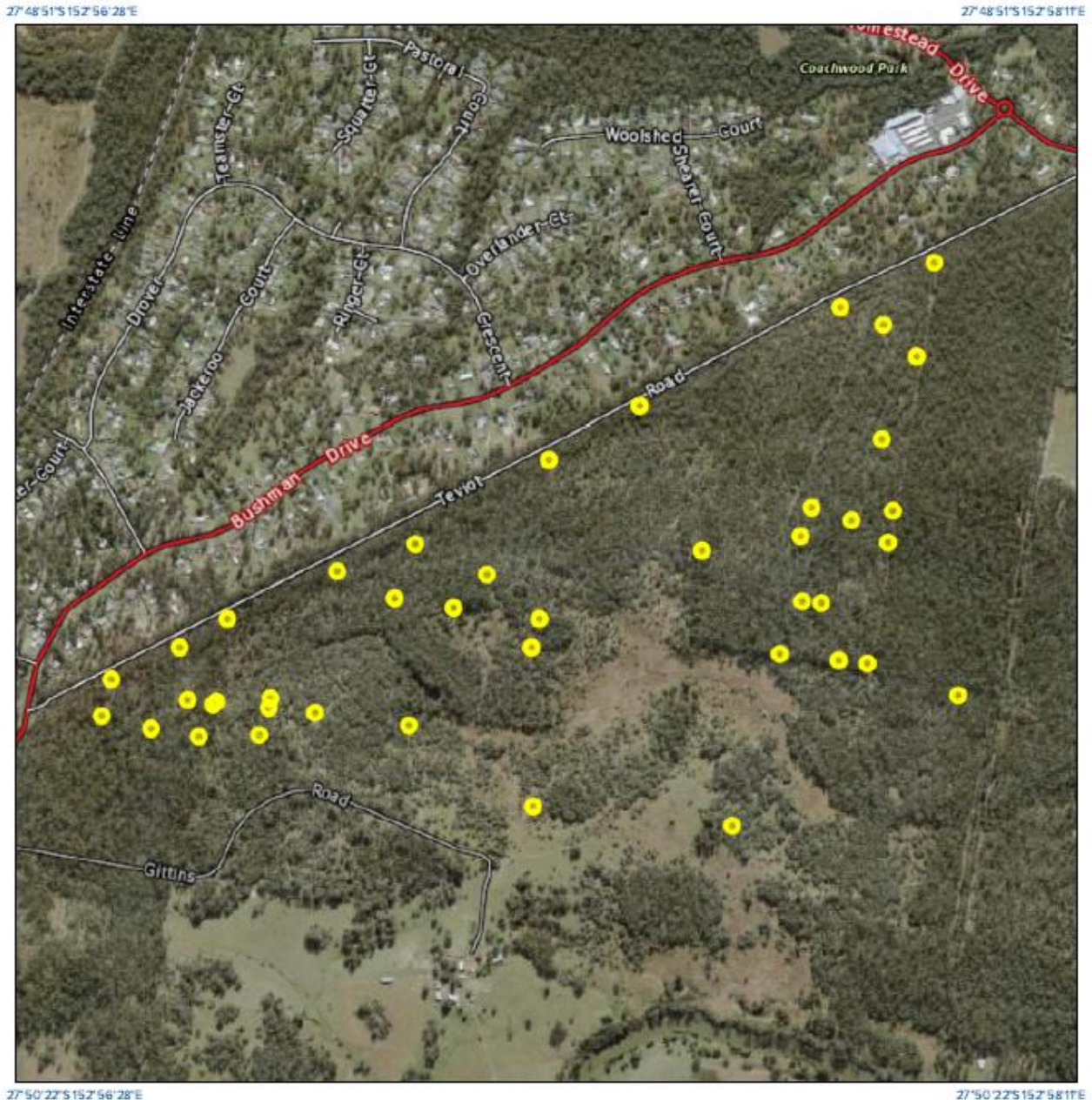
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## 12. Appendix F: Woody Debris Locations



27°50'22\"/>

27°50'22\"/>

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 Legend

**POINT-Woody Debris.csv**



**Road crossing**

— Bridge

— Tunnel

**Railway**



**Road**

 Highway

 Main

 Local

 Private

**Cities and Towns**



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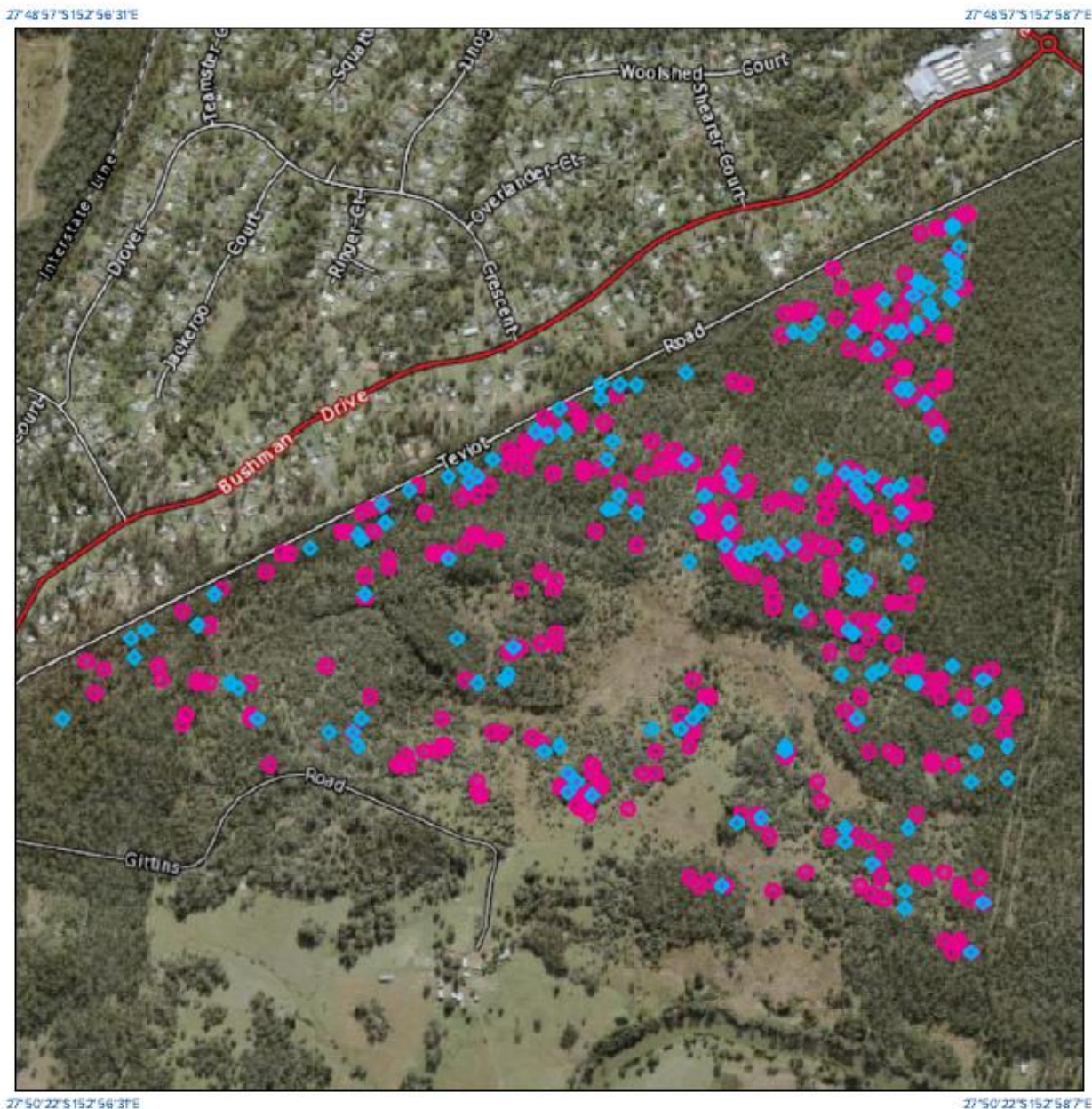
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### 13. Appendix G: Arboreal Termitaria Locations



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 Legend

POINT-ATM (2).csv



POINT-ATM w excavation.csv



Railway



Road Crossing

— Bridge

— Tunnel

Road

 Highway

 Main

 Local

 Private

Cities and Towns



 Attribution

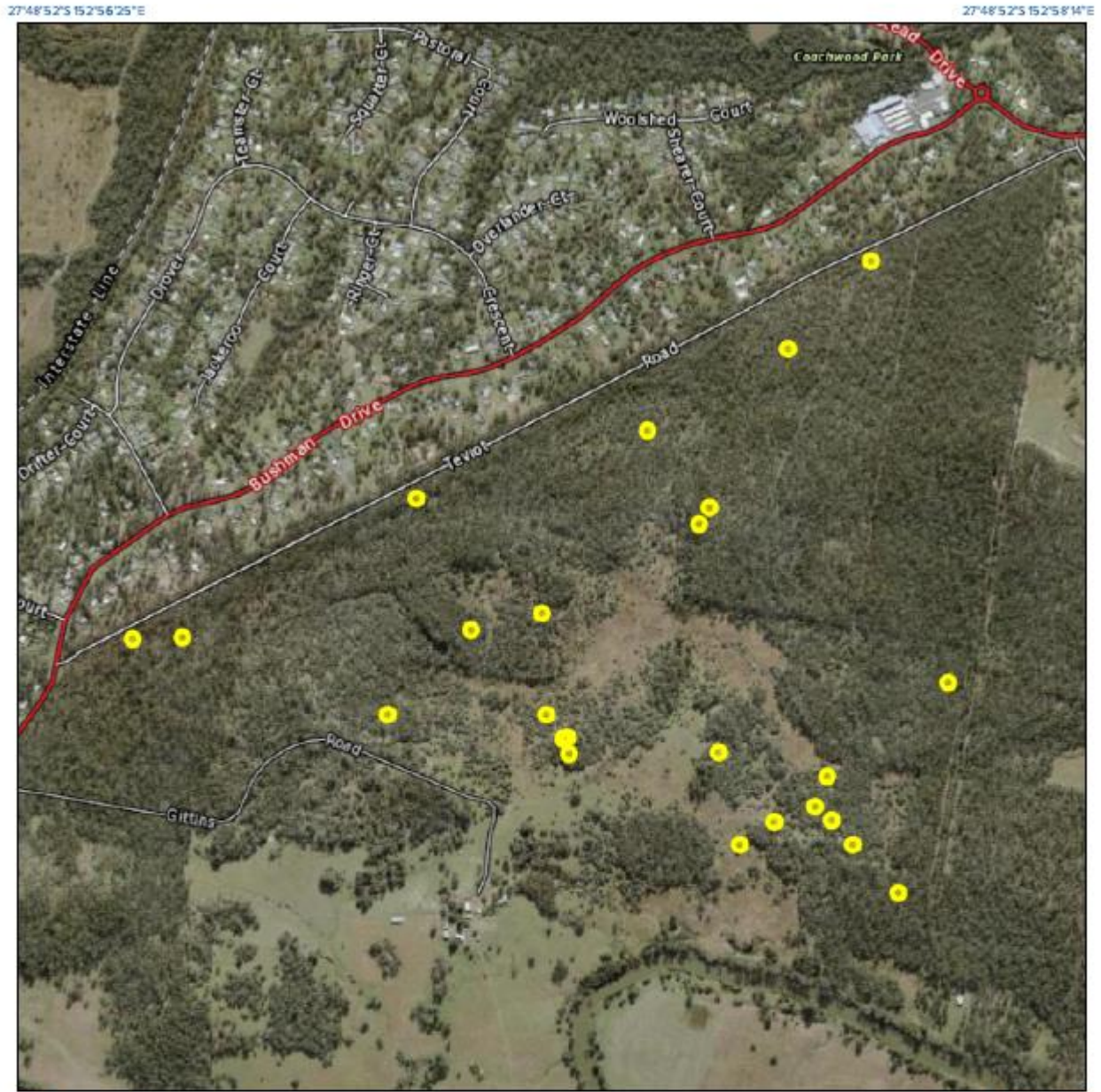
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## 14. Appendix H: Bird Nest Locations



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 Legend

**POINT-Bird Nest.csv**



**Road Crossing**

-  Bridge
-  Tunnel

**Road**

-  Highway
-  Main
-  Local
-  Private

**Cities and Towns**



**Railway**



 Attribution

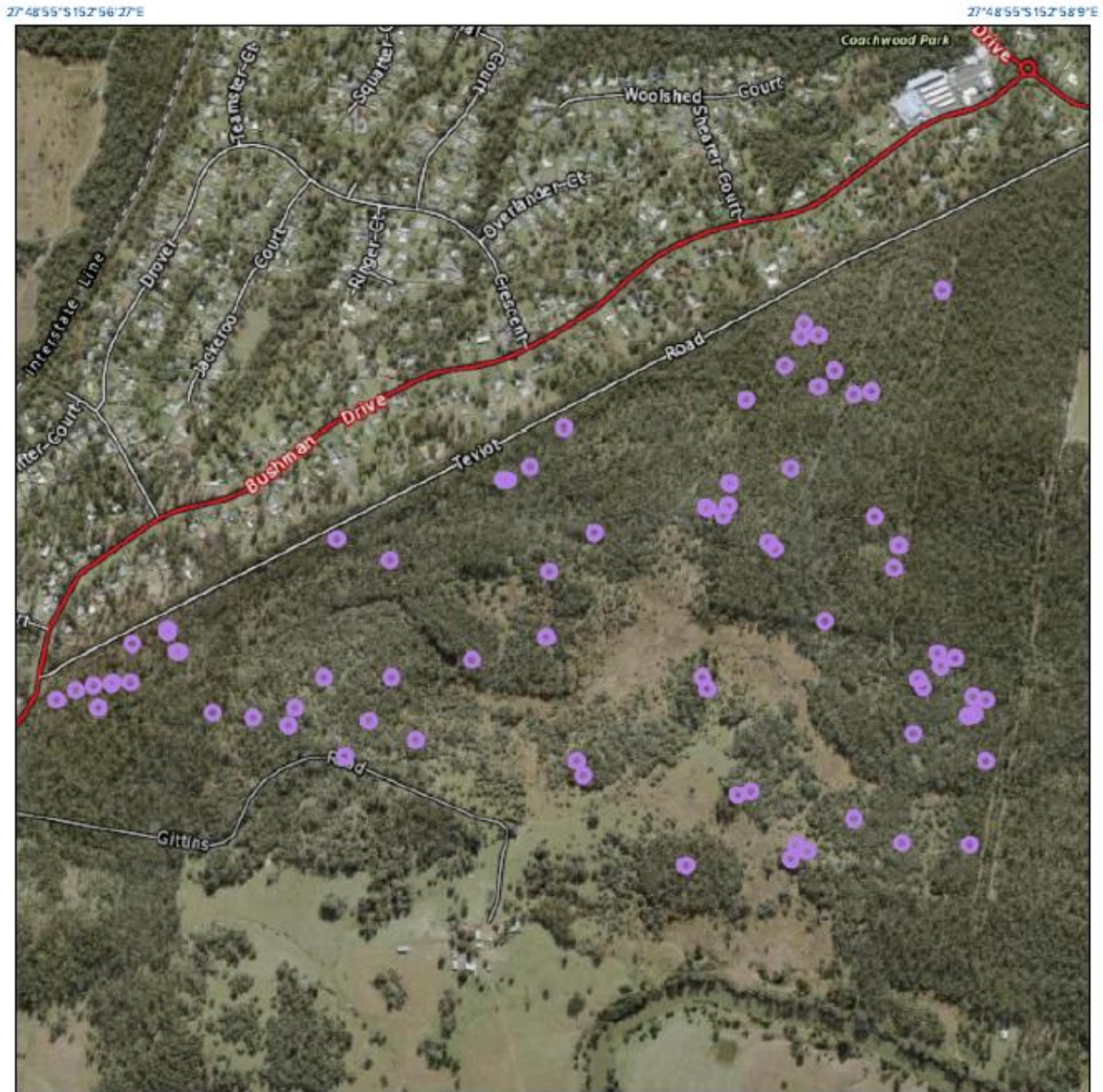
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## 15. Appendix I: Dead Stag Locations



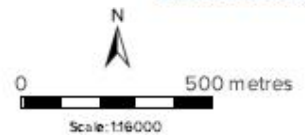
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 Legend

**POINT-Dead Stag.csv**



**Railway**



**Road crossing**

— Bridge

— Tunnel

**Cities and Towns**



**Road**

 Highway

 Main

 Local

 Private

 Attribution

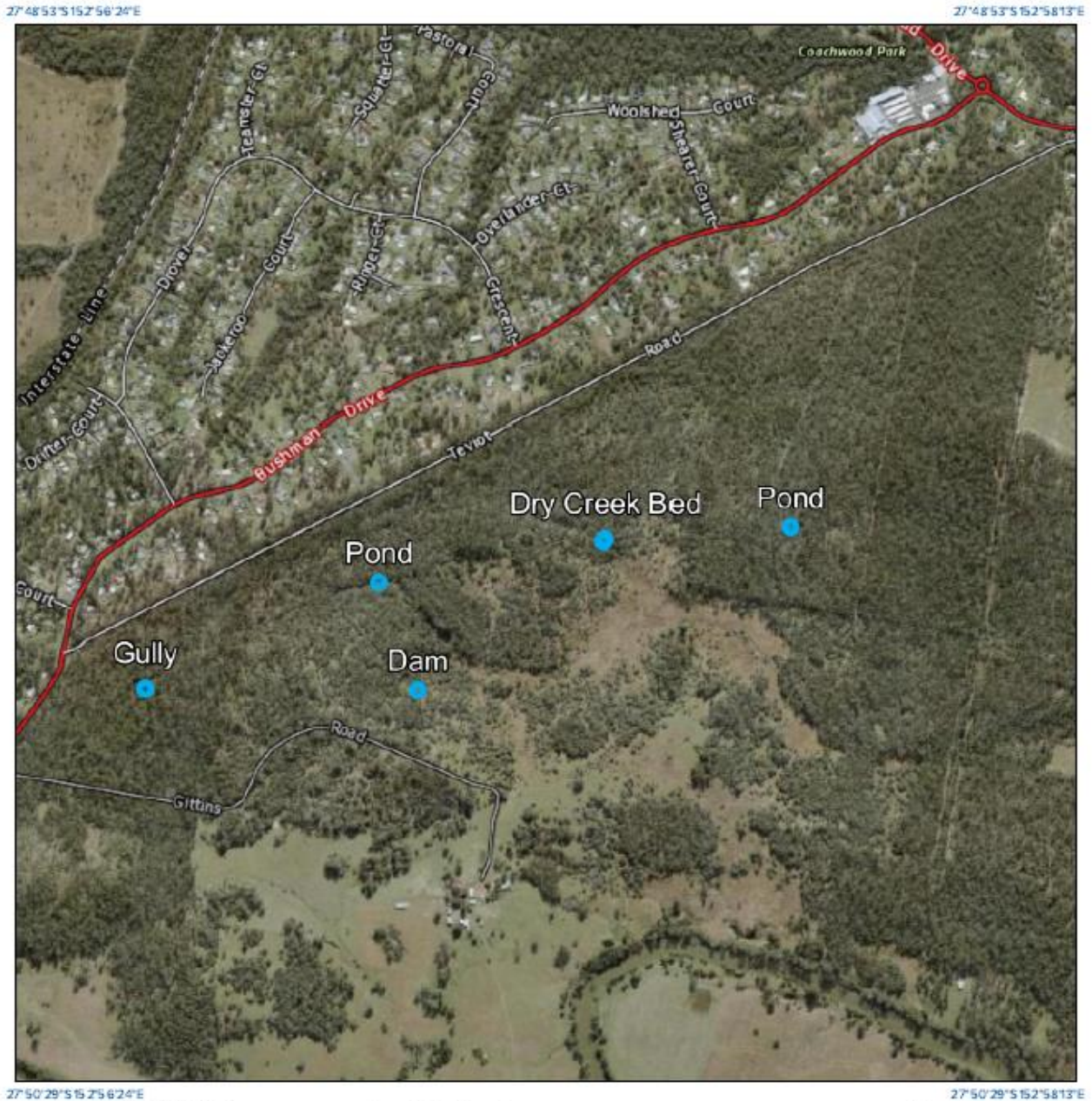
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## 16. Appendix J: Aquatic Habitat Feature Locations



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 Legend

POINT-Aquatic features.csv



Road crossing

- Bridge
- Tunnel

Road

-  Highway
-  Main
-  Local
-  Private

Railway



Cities and Towns



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## 17. Appendix K: Koala Habitat Values



27°48'48" S 152°56'11" E

27°48'48" S 152°58'32" E

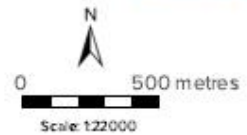
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 For more information, visit  
<https://qdglobe.information.qld.gov.au/help/info/contact-us.html>



 Legend

**Koala priority area**



**Core koala habitat area**



**Identified koala broad-  
hectare area**



**Railway**



**Road Crossing**

— Bridge

— Tunnel

**Road**

— Highway

— Main

— Local

— Private

**Cities and Towns**



 Attribution

**Maxar**

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## 18. Appendix L: EPBC Act Protected Matters Report



**Australian Government**  
**Department of Agriculture,  
Water and the Environment**

### 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: 13/04/22 14:08:14

[Summary](#)

[Details](#)

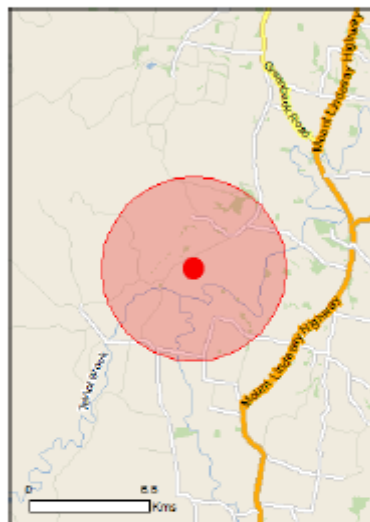
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



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[Coordinates](#)  
[Buffer: 5.0Km](#)



## Summary

### Matters of National Environmental Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	1
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	6
<a href="#">Listed Threatened Species:</a>	42
<a href="#">Listed Migratory Species:</a>	16

### 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.

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	21
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None

### Extra Information

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

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	32
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine):</a>	None

## Details

### Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
<a href="#">Moreton bay</a>	30 - 40km upstream

### 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
<a href="#">Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community</a>	Endangered	Community may occur within area
<a href="#">Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland</a>	Endangered	Community likely to occur within area
<a href="#">Lowland Rainforest of Subtropical Australia</a>	Critically Endangered	Community may occur within area
<a href="#">Poplar Box Grassy Woodland on Alluvial Plains</a>	Endangered	Community may occur within area
<a href="#">Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland</a>	Critically Endangered	Community likely to occur within area
<a href="#">White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</a>	Critically Endangered	Community may occur within area

### Listed Threatened Species

[ Resource Information ]

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Anthochaera phrygia</a>		
Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
<a href="#">Botaurus poiciloptilus</a>		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a>		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Cyclopsitta diophthalma coxeni</a>		
Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area
<a href="#">Erythrotriorchis radiatus</a>		
Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Falco hypoleucos</a>		
Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Geophaps scripta scripta</a>		
Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
<a href="#">Grantiella picta</a>		
Painted Honeyeater [470]	Vulnerable	Species or species



Name	Status	Type of Presence
<b>Fish</b>		
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [882]	Vulnerable	habitat may occur within area Species or species habitat known to occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<a href="#">Turnix melanogaster</a> Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
<b>Fish</b>		
<a href="#">Maccullochella mariensis</a> Mary River Cod [83806]	Endangered	Translocated population known to occur within area
<b>Insects</b>		
<a href="#">Argynnis hyperbius inconstans</a> Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
<b>Mammals</b>		
<a href="#">Chalinolobus dwyeri</a> Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Dasyurus maculatus maculatus (SE mainland population)</a> Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
<a href="#">Macroderma gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area
<a href="#">Petauroides volans</a> Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Petaurus australis australis</a> Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Petrogale penicillata</a> Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</a> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area
<a href="#">Potorous tridactylus tridactylus</a> Long-nosed Potoroo (northern) [86645]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pteropus poliocephalus</a> Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
<b>Plants</b>		
<a href="#">Arthraxon hispidus</a> Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
<a href="#">Bosistoa transversa</a> Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Cupaniopsis shirleyana</a> Wedge-leaf Tuckerroo [3205]	Vulnerable	Species or species habitat may occur within area
<a href="#">Cupaniopsis tomentella</a> Boonah Tuckerroo [3322]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Dichanthium setosum</a> bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Fontainea venosa</a> [24040]	Vulnerable	Species or species habitat may occur within area
<a href="#">Macadamia integrifolia</a> Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Macadamia tetraphylla</a> Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area
<a href="#">Notelaea ipsviciensis</a> Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Notelaea lloydii</a> Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Phaius australis</a> Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
<a href="#">Rhodamnia rubescens</a> Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rhodomyrtus psidioides</a> Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Samadera bidwillii</a> Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Thesium australe</a> Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
<b>Reptiles</b>		
<a href="#">Coeranoscincus reticulatus</a> Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area
<a href="#">Delma torquata</a> Adomed Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
<a href="#">Furina dunmalli</a> Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
<b>Listed Migratory Species</b>		<b>[ Resource Information ]</b>
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence

Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [878]		Species or species habitat likely to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Cuculus optatus</a> Oriental Cuckoo, Horsfield's Cuckoo [86851]		Species or species habitat may occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [882]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Monarcha melanopsis</a> Black-faced Monarch [809]		Species or species habitat likely to occur within area
<a href="#">Monarcha trivirgatus</a> Spectacled Monarch [810]		Species or species habitat likely to occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [844]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [812]		Species or species habitat known to occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[ Resource Information ]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Anseranas semipalmata</a> Maggie Goose [978]		Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Monarcha melanopsis</a> Black-faced Monarch [609]		Species or species habitat likely to occur within area
<a href="#">Monarcha trivirgatus</a> Spectacled Monarch [610]		Species or species habitat likely to occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat known to occur

Name	Threatened	Type of Presence
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

## Extra Information

### 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
<b>Birds</b>		
<i>Acridotheres tristis</i> Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
<i>Anas platyrhynchos</i> Mallard [974]		Species or species habitat likely to occur within area
<i>Carduelis carduelis</i> European Goldfinch [403]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Lonchura punctulata</i> Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur within area
<i>Streptopelia chinensis</i> Spotted Turtle-Dove [780]		Species or species habitat likely to occur

Name	Status	Type of Presence
<i>Sturnus vulgaris</i> Common Starling [389]		within area Species or species habitat likely to occur within area
<b>Frogs</b>		
<i>Rhinella marina</i> Cane Toad [83218]		Species or species habitat known to occur within area
<b>Mammals</b>		
<i>Bos taurus</i> Domestic Cattle [16]		Species or species habitat likely to occur within area
<i>Canis lupus familiaris</i> Domestic Dog [82654]		Species or species habitat likely to occur within area
<i>Equus caballus</i> Horse [5]		Species or species habitat likely to occur within area
<i>Felis catus</i> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
<i>Lepus capensis</i> Brown Hare [127]		Species or species habitat likely to occur within area
<i>Mus musculus</i> House Mouse [120]		Species or species habitat likely to occur within area
<i>Oryctolagus cuniculus</i> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<i>Rattus norvegicus</i> Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
<i>Rattus rattus</i> Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
<i>Sus scrofa</i> Pig [6]		Species or species habitat likely to occur within area
<i>Vulpes vulpes</i> Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
<i>Anredera cordifolia</i> 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
<i>Cabomba caroliniana</i> Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
<i>Chrysanthemoides monilifera</i> Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
<i>Eichhornia crassipes</i> Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
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
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19568]		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 [88497]		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
<b>Reptiles</b>		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

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## Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

## Coordinates

-27.8314 152.9515



## Acknowledgements

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

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

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

Please feel free to provide feedback via the [Contact Us](#) page.

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## 19. Appendix M: WildNet Species List



### WildNet species list

Search Criteria: Species List for a Specified Point  
Species: Animals  
Type: Native  
Queensland status: All  
Records: All  
Date: All  
Latitude: -27.8277  
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Distance: 5  
Email: projects@qfc.com.au  
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Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	<i>Litoria balatus</i>	slender bleating tree frog		C		3
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		21
animals	amphibians	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog		C		12
animals	amphibians	Hylidae	<i>Litoria gracilentia</i>	graceful treefrog		C		5
animals	amphibians	Hylidae	<i>Litoria latopalmata</i>	broad palmed rocketfrog		C		3
animals	amphibians	Hylidae	<i>Litoria nasuta</i>	striped rocketfrog		C		4
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		6
animals	amphibians	Limnodynastidae	<i>Limnodynastes peronii</i>	striped marshfrog		C		6
animals	amphibians	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog		C		2
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		3
animals	amphibians	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog		C		9
animals	amphibians	Myobatrachidae	<i>Crinia parinsignifera</i>	beeping froglet		C		9
animals	amphibians	Myobatrachidae	<i>Mixophyes fasciolatus</i>	great barred frog		C		2
animals	amphibians	Myobatrachidae	<i>Uperoleia rugosa</i>	chubby gungan		C		1
animals	birds	Acanthizidae	<i>Acanthiza chrysorrhoa</i>	yellow-rumped thornbill		C		1
animals	birds	Acanthizidae	<i>Acanthiza nana</i>	yellow thornbill		C		3
animals	birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		C		1
animals	birds	Acanthizidae	<i>Acanthiza reguloides</i>	buff-rumped thornbill		C		9
animals	birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		C		7
animals	birds	Acanthizidae	<i>Pyrrholaemus sagittatus</i>	speckled warbler		C		5
animals	birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		C		3
animals	birds	Acanthizidae	<i>Smicrornis brevirostris</i>	weebill		C		5
animals	birds	Accipitridae	<i>Accipiter novaehollandiae</i>	grey goshawk		C		1
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		1
animals	birds	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza		C		3
animals	birds	Accipitridae	<i>Circus assimilis</i>	spotted harrier		C		1
animals	birds	Accipitridae	<i>Elanus axillaris</i>	black-shouldered kite		C		1
animals	birds	Alaudidae	<i>Mirafra javanica</i>	Horsfield's bushlark		C		1
animals	birds	Alcedinidae	<i>Ceyx azureus</i>	azure kingfisher		C		4
animals	birds	Anatidae	<i>Anas gracilis</i>	grey teal		C		3
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		26
animals	birds	Anatidae	<i>Aythya australis</i>	hardhead		C		1
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		12
animals	birds	Anatidae	<i>Cygnus atratus</i>	black swan		C		1
animals	birds	Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail		V	V	1
animals	birds	Ardeidae	<i>Ardea alba modesta</i>	eastern great egret		C		4
animals	birds	Ardeidae	<i>Ardea intermedia</i>	intermediate egret		C		2
animals	birds	Ardeidae	<i>Bubulcus ibis</i>	cattle egret		C		11
animals	birds	Ardeidae	<i>Egretta garzetta</i>	little egret		C		1
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		6
animals	birds	Artamidae	<i>Artamus leucorhynchus</i>	white-breasted woodswallow		C		1
animals	birds	Artamidae	<i>Artamus superciliosus</i>	white-browed woodswallow		C		1
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird		C		23
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		15
animals	birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		C		44
animals	birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		C		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		16
animals	birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		C		2
animals	birds	Cacatuidae	<i>Eolophus roseicapilla</i>	galah		C		24
animals	birds	Cacatuidae	<i>Nymphicus hollandicus</i>	cockatiel		C		2
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		28
animals	birds	Charadriidae	<i>Elseyornis melanops</i>	black-fronted dotterel		C		3
animals	birds	Charadriidae	<i>Erythronyx cinctus</i>	red-kneed dotterel		C		1
animals	birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		C		5
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		7
animals	birds	Charadriidae	<i>Vanellus tricolor</i>	banded lapwing		C		2
animals	birds	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black-necked stork		C		2
animals	birds	Cisticolidae	<i>Cisticola exilis</i>	golden-headed cisticola		C		8
animals	birds	Climacteridae	<i>Cormobates leucophaea</i>	white-throated treecreeper		C		1
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		14
animals	birds	Columbidae	<i>Geopelia placida</i>	peaceful dove		C		4
animals	birds	Columbidae	<i>Lopholaimus antarcticus</i>	topknot pigeon		C		1
animals	birds	Columbidae	<i>Macropygia amboinensis</i>	brown cuckoo-dove		C		1
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		19
animals	birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		C		3
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		17
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		41
animals	birds	Cuculidae	<i>Cacomantis flabelliformis</i>	fan-tailed cuckoo		C		1
animals	birds	Cuculidae	<i>Cacomantis variolosus</i>	brush cuckoo		C		2
animals	birds	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal		C		7
animals	birds	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo		C		1
animals	birds	Cuculidae	<i>Eudynamys orientalis</i>	eastern koel		C		4
animals	birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		C		6
animals	birds	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		1
animals	birds	Estrildidae	<i>Lonchura castaneothorax</i>	chestnut-breasted mannikin		C		4
animals	birds	Estrildidae	<i>Neochmia modesta</i>	plum-headed finch		C		1
animals	birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		C		11
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		7
animals	birds	Falconidae	<i>Falco berigora</i>	brown falcon		C		1
animals	birds	Falconidae	<i>Falco longipennis</i>	Australian hobby		C		2
animals	birds	Halcyonidae	<i>Dacelo leachii</i>	blue-winged kookaburra		C		3
animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		26
animals	birds	Halcyonidae	<i>Todiramphus macleayii</i>	forest kingfisher		C		6
animals	birds	Halcyonidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		15
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		11
animals	birds	Hirundinidae	<i>Petrochelidon ariel</i>	fairy martin		C		2
animals	birds	Hirundinidae	<i>Petrochelidon nigricans</i>	tree martin		C		3
animals	birds	Jacaniidae	<i>Irediparra gallinacea</i>	comb-crested jacana		C		1
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		20
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		2
animals	birds	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		18
animals	birds	Megaluridae	<i>Cincloramphus timoriensis</i>	tawny grassbird		C		6

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Meliphagidae	<i>Acanthorhynchus tenuirostris</i>	eastern spinebill		C		2
animals	birds	Meliphagidae	<i>Caligavis chrysops</i>	yellow-faced honeyeater		C		16
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		25
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		15
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		20
animals	birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		C		16
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		17
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		8
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		7
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		17
animals	birds	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater		C		5
animals	birds	Meliphagidae	<i>Ptilotula fusca</i>	fuscous honeyeater		C		6
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		13
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		27
animals	birds	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher		C		1
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		3
animals	birds	Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian pipit		C		1
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		3
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		5
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		3
animals	birds	Oriolidae	<i>Sphecothebes vieilloti</i>	Australasian figbird		C		7
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		10
animals	birds	Pachycephalidae	<i>Colluricincla megarhyncha</i>	little shrike-thrush		C		1
animals	birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		C		8
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		12
animals	birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		C		3
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		25
animals	birds	Petroicidae	<i>Eopsaltria australis</i>	eastern yellow robin		C		1
animals	birds	Petroicidae	<i>Microeca fascinans</i>	jacky winter		C		1
animals	birds	Petroicidae	<i>Petroica boodang</i>	scarlet robin		C		1
animals	birds	Petroicidae	<i>Petroica rosea</i>	rose robin		C		7
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		4
animals	birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		C		2
animals	birds	Phalacrocoracidae	<i>Phalacrocorax varius</i>	pied cormorant		C		1
animals	birds	Phasianidae	<i>Synoicus ypsilophorus</i>	brown quail		C		4
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		7
animals	birds	Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian grebe		C		2
animals	birds	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler		C		5
animals	birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		C		14
animals	birds	Psittacidae	<i>Parvipsitta pusilla</i>	little lorikeet		C		7
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		27
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		22
animals	birds	Psittacidae	<i>Trichoglossus moluccanus</i>	rainbow lorikeet		C		34
animals	birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		C		1
animals	birds	Ptilonorhynchidae	<i>Ptilonorhynchus crassirostris</i>	green catbird		C		1
animals	birds	Rallidae	<i>Fulica atra</i>	Eurasian coot		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Rallidae	<i>Gallinula tenebrosa</i>	dusky moorhen		C		1
animals	birds	Rallidae	<i>Gallirallus philippensis</i>	buff-banded rail		C		1
animals	birds	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen		C		2
animals	birds	Recurvirostridae	<i>Himantopus himantopus</i>	black-winged stilt		C		2
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		19
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		20
animals	birds	Rhipiduridae	<i>Rhipidura rufifrons</i>	rufous fantail		SL		2
animals	birds	Scolopacidae	<i>Gallinago hardwickii</i>	Latham's snipe		SL		2
animals	birds	Strigidae	<i>Ninox boobook</i>	southern boobook		C		3
animals	birds	Strigidae	<i>Ninox strenua</i>	powerful owl		V		1
animals	birds	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill		C		3
animals	birds	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill		C		2
animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		6
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		11
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silvereye		C		16
animals	mammals	Dasyuridae	<i>Antechinus flavipes flavipes</i>	yellow-footed antechinus		C		15
				(south-east Queensland)				
animals	mammals	Dasyuridae	<i>Dasyurus maculatus maculatus</i>	spotted-tailed quoll (southern subspecies)		E	E	1
animals	mammals	Dasyuridae	<i>Phascogale tapoatafa tapoatafa</i>	brush-tailed phascogale		C		1
animals	mammals	Dasyuridae	<i>Sminthopsis murina</i>	common dunnart		C		6
animals	mammals	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo		C		17
animals	mammals	Macropodidae	<i>Notamacropus rufogriseus</i>	red-necked wallaby		C		12
animals	mammals	Muridae	<i>Rattus fuscipes</i>	bush rat		C		2
animals	mammals	Muridae	<i>Rattus tunneyi</i>	pale field-rat		C		1
animals	mammals	Peramelidae	<i>Isoodon macrourus</i>	northern brown bandicoot		C		1
animals	mammals	Peramelidae	<i>Isoodon sp.</i>			C		1
animals	mammals	Petauridae	<i>Petaurus australis australis</i>	yellow-bellied glider (southern subspecies)		V	V	1
animals	mammals	Petauridae	<i>Petaurus breviceps sensu lato</i>	sugar glider		C		8
animals	mammals	Petauridae	<i>Petaurus norfolcensis</i>	squirrel glider		C		1
animals	mammals	Phalangeridae	<i>Trichosurus sp.</i>			C		1
animals	mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		C		10
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		E	E	31
animals	mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		C		1
animals	mammals	Pteropodidae	<i>Pteropus alecto</i>	black flying-fox		C		29
animals	mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox		C	V	15
animals	mammals	Pteropodidae	<i>Pteropus scapulatus</i>	little red flying-fox		C		4
animals	mammals	Pteropodidae	<i>Pteropus sp.</i>			C		1
animals	mammals	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna		SL		3
animals	mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		C		1
animals	ray-finned fishes	Ambassidae	<i>Ambassis agassizii</i>	Agassiz's glassfish				8
animals	ray-finned fishes	Anguillidae	<i>Anguilla australis</i>	southern shortfin eel				4
animals	ray-finned fishes	Anguillidae	<i>Anguilla reinhardtii</i>	longfin eel				24
animals	ray-finned fishes	Anguillidae	<i>Anguilla sp.</i>					1
animals	ray-finned fishes	Atherinidae	<i>Craterocephalus stercusmuscarum</i>	flyspecked hardyhead				1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	ray-finned fishes	Eleotridae	<i>Gobiomorphus australis</i>	striped gudgeon				23
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris compressa</i>	empire gudgeon				16
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris galii</i>	firetail gudgeon				22
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris klunzingeri</i>	western carp gudgeon				20
animals	ray-finned fishes	Eleotridae	<i>Mogurnda adspersa</i>	southern purplespotted gudgeon				1
animals	ray-finned fishes	Eleotridae	<i>Philypnodon grandiceps</i>	flathead gudgeon				8
animals	ray-finned fishes	Eleotridae	<i>Philypnodon macrostomus</i>	dwarf flathead gudgeon				3
animals	ray-finned fishes	Melanotaeniidae	<i>Melanotaenia duboulayi</i>	crimsonspotted rainbowfish				23
animals	ray-finned fishes	Mugilidae	<i>Mugil cephalus</i>	sea mullet				19
animals	ray-finned fishes	Mugilidae	<i>Trachystoma petardi</i>	pinkeye mullet				8
animals	ray-finned fishes	Percichthyidae	<i>Macquaria novemaculeata</i>	Australian bass				2
animals	ray-finned fishes	Plotosidae	<i>Tandanus tandanus</i>	freshwater catfish				3
animals	ray-finned fishes	Pseudomugilidae	<i>Pseudomugil signifer</i>	Pacific blue eye				15
animals	ray-finned fishes	Retropinnidae	<i>Retropinna semoni</i>	Australian smelt				9
animals	ray-finned fishes	Scorpaenidae	<i>Notesthes robusta</i>	bullrout				2
animals	ray-finned fishes	Terapontidae	<i>Leiopotherapon unicolor</i>	spangled perch				16
animals	reptiles	Agamidae	<i>Amphibolurus muricatus</i>	jacky lizard		C		1
animals	reptiles	Agamidae	<i>Intellagama lesueurii</i>	eastern water dragon		C		3
animals	reptiles	Agamidae	<i>Pogona barbata</i>	bearded dragon		C		14
animals	reptiles	Boidae	<i>Morelia spilota</i>	carpet python		C		2
animals	reptiles	Chelidae	<i>Chelodina longicollis</i>	eastern snake-necked turtle		C		1
animals	reptiles	Colubridae	<i>Tropidonophis mairii</i>	freshwater snake		C		1
animals	reptiles	Diplodactylidae	<i>Nebulifera robusta</i>	robust velvet gecko		C		2
animals	reptiles	Elapidae	<i>Cryptophis nigrescens</i>	eastern small-eyed snake		C		1
animals	reptiles	Elapidae	<i>Hoplocephalus bitorquatus</i>	pale-headed snake		C		1/1
animals	reptiles	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake		C		1
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink		C		1
animals	reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		C		2
animals	reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water skink		C		1
animals	reptiles	Varanidae	<i>Varanus varius</i>	lace monitor		C		2

CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*.

The codes are Extinct (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*.

The values of EPBC are Extinct (EX), Extinct in the Wild (XW), Critically Endangered (CE), Endangered (E), Vulnerable (V) and Conservation Dependent (CD).

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).

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

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

# Appendix C

## Separable Portions 4-7 WHIMP and WPMP





October 2022

# Fauna Spotter Catcher Wildlife and Habitat Impact Mitigation Plan

Separable Portions 4-7 – Riverbend, Teviot Road  
Jimboomba, Queensland  
Report prepared for CCA Winslow Pty Ltd



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Date:	12/10/22
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## 1. Introduction

### 1.1 Project Background

Queensland Fauna Consultancy Pty Ltd has been engaged by CCA Winslow Pty Ltd to prepare a Fauna Spotter Catcher Wildlife and Habitat Impact Mitigation Plan for Separable Portions 4-7 of the Riverbend development located at Jimboomba, Queensland. The site location is presented in Map 1.

The objective of this report is to summarise the existing fauna values presented in the Fauna Spotter Catcher Pre-Clearance Survey and Wildlife Protection and Management Plan (WPMP) and assign mitigatory strategies applicable to probable species likely to be encountered during the clearing of identified habitats throughout or within specific localities of the site. Fauna species both common and of elevated conservation value have been considered within the parameters of onsite investigations and, where provided to QFC, include review of current fauna and floristic reports that may influence the assemblages expected to utilise the microhabitats evident within the site.

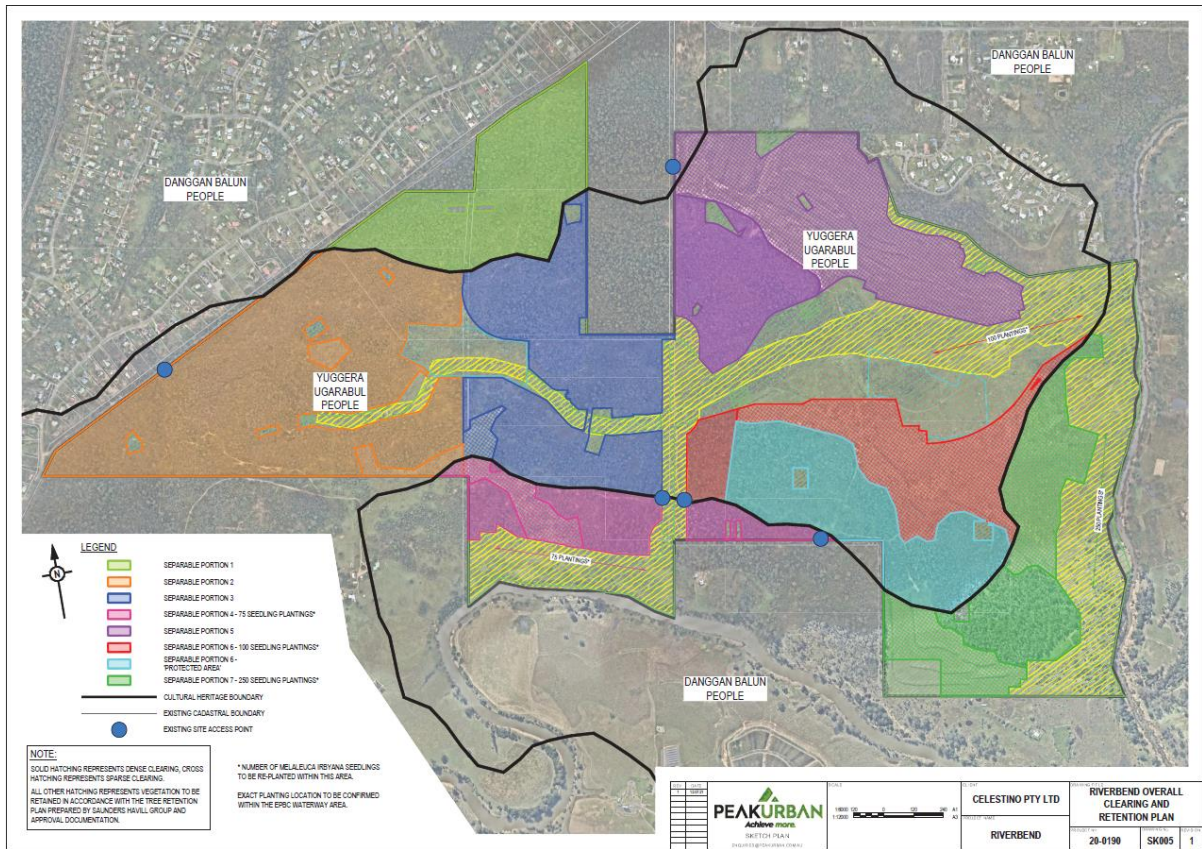
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance identified under commonwealth, state or local planning instruments aimed at the persistence of biodiversity values within the area.

### 1.2 Project Location and Site Description

Riverbend is located at the end of Teviot Road, Jimboomba, north of the Cedar Grove Environmental Centre and south of Flagstone State School.

Existing features exhibit a remnant woodland vegetative complex on undulating topography with drainage features and rock outcrops. Dominant trees species include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, and *C. intermedia*. Understorey vegetation consists of grass, scattered shrubs and weeds and dense leaf litter.

**Map 1: Project Location**



Source: Extracted from Riverbend Site Staging (CCA Winslow, 2022)

### 1.3 Current Permits and Authorities

All activities conducted during the site investigations were implemented under the provisions of a number of permits issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), formerly the Department of Environment and Heritage Protection (DEHP), and the Department of Employment, Economic Development and Innovation (DEEDI). These permits and additional authorities are listed in *Table 1*.

**Table 1: Current Permits and authorities issued to QFC**

Permit/Authorisation	Permit Number	Expiry Date
Damage Mitigation Permit	WA0018804	10 <sup>th</sup> November 2022
Rehabilitation Permit	WA0026789	16 <sup>th</sup> September 2023
Scientific Purposes Permit	WA0032325	3 <sup>rd</sup> March 2026
Scientific User Registration	Registration Number 589	27 <sup>th</sup> February 2025
Animal Ethics	CA 2019/02/1259	27 <sup>th</sup> February 2022
General Fisheries Permit	207015	16 <sup>th</sup> April 2023

These permits and approvals enable QFC to conduct the investigation, observation and relocation of protected animals exposed to disturbance due to infrastructure expansion resulting in the destruction of natural and artificial habitats.

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## 2. Mitigation Strategies

### 2.1 Fauna Spotter

It is advised that all identified fauna habitats onsite be inspected by a licensed Fauna Spotter prior to vegetation clearing, and all vegetation removal activities be supervised during the clearing process.

### 2.2 Clearing Methodologies

In accordance to the *Nature Conservation (Koala) Conservation Plan 2017* the following sequential clearing conditions are required to be adhered to:

- Clearing of trees is carried out in a way that ensures koalas living in or near the area being cleared (the clearing site) have enough time to move out of the clearing site without human intervention, including in particular, for a clearing site with an area of more than 6ha, by:
  - Carrying out the clearing in stages; and
  - Ensuring not more than the following is cleared in any one stage:
    - for a clearing site with an area of 6 ha or less—50 percent of the site's area;
    - for a clearing site with an area of more than 6ha—3ha or 3 percent of the site's area, whichever is the greater; and
  - Ensuring that between each stage there is at least one period of 12 hours that starts at 6 p.m. on a day and ends at 6 a.m. on the following day, during which no trees are cleared on the site;

In addition to these measures it is recommended that clearing activities be undertaken in a directional manner specified by the fauna spotter/catcher. This is done to reduce the likelihood of negative interactions between fauna and potential hazards e.g. roads and traffic, prevent isolation of fauna through habitat fragmentation, and to ensure that natural dispersal of wildlife away from clearing activities is not impeded.

A plan detailing the recommended clearing direction can be viewed in Appendix A.

### 2.3 Fauna Fencing

Due to the location of the clearing footprint, the installation of temporary fencing in conjunction with existing residential fencing may aid in minimizing the movement of large fauna, including highly mobile macropods into adjacent estates and nearby roadways.

The addition of further fauna fencing may be required if site conditions change and fauna considerations are presented by the fauna spotter catcher.

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## 2.4 Felling Procedures

Trees identified as having potential fauna values (such as hollows, arboreal termitaria and exfoliating bark) will be clearly identified and subsequently marked for supervision during felling and inspected once felled. Efforts will be made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks) on the day(s) of clearing. Where no signs are found or potentially occupant species are undeterminable, machinery operators will be instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

All identified microhabitats will be inspected via ground-based observation and the direction of felling will be determined considering the safety of personnel, machinery and potentially occupant fauna. Felling procedures will see implementation of a soft felling technique specifically constructed by QFC to achieve minimal deceleration and impact upon felling. This will be achieved under direction of the Fauna Spotter present directly communicating with the plant operator(s).

## 2.5 Macropods

Macropod movement throughout the site was identified by the presence of scats and footprints during the fauna survey, as well as sightings of Eastern Grey Kangaroos *Macropus giganteus* and Red-necked Wallabies *Notamacropus rufogriseus*.

The area of proposed clearing activities exhibits direct connectivity to notable habitat values to the west and north-west. Therefore, if clearing commences in a directional and incremental fashion any macropods potentially encountered on site may move on of their own volition. In this event, it is recommended that clearing proceed as already recommended with continual reassessment by the onsite fauna spotters.

## 2.6 Aquatic Fauna

In the event aquatic dewatering activities will be required within the proposed clearing area; pooled water and drainage features will be inspected during terrestrial load reduction activities ahead of the clearing front. The following recommendations are made to mitigate impacts to potentially occupant fauna:

- Inspection of banks, peripheral vegetation and other immediate terrestrial microhabitats;
- Identification of potential fauna values including: logs, rocks, artificial structures, discarded rubbish and burrows;
- Targeted searched for frog egg deposition sites on debris, bank edges, water surface and vegetation.



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## 2.7 General Terrestrial and Arboreal Fauna

Overall the site contains high value refugial opportunities for arboreal and terrestrial fauna species. The species expected within the site are likely to primarily reflect common fauna assemblages for the region however provisions are proposed directly for common fauna and species of conservation significance.

It is advised that all identified fauna habitats onsite be inspected by a DES approved Fauna Spotter prior to vegetation clearing and all vegetation removal activities be supervised during the clearing process. Terrestrial load reduction activities will be conducted ahead of the clearing front where possible. Fauna captured will be relocated to adjacent habitat consistent with the life history requirements of the species requiring translocation.

## 2.8 EVNT & SLC Fauna

It is not envisaged that any species, listed under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* or the *Nature Conservation Act 1992*, other than those listed in the WPMP, will require specific management during vegetation clearing activities.

However, specific management for those identified EVNT & SLC species will include targeted investigations immediately prior to vegetation removal activities on each day of clearing and subsequently whilst clearing takes place. Preliminary investigations will be supported by additional monitoring applied during clearing activities with a designated fauna spotter operating with each machine actively involved in vegetation or identified habitat disturbance. These should include the following:

### Short-beaked Echidna

Although no individuals were observed during the survey, evidence of echidna use throughout the site was observed during the inspection by QFC and would see probability for the Short-beaked Echidna to be encountered during clearing activities.

The following recommendations are made for management of potentially occurring Short-beaked Echidna:

- Daily inspection of areas to be cleared for transient individuals;
- Inspection daily for potential burrow sites;
- Monitored dismantling of identified microhabitats by fauna spotters with machinery assistance

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**Koala:**

As favoured Koala food trees on site exceed a diameter of 100mm at 1.3 metres from the ground, requirements under the Koala Plan's 'Koala Habitat Area' provisions trigger the need for inspection and monitoring during vegetation clearing by a qualified Fauna Spotter.

Historically known to occur within the area the Koala will feature highly in daily search efforts with a dedicated and detailed methodology employed as follows:

- Pre-clearing (preliminary) investigations to be conducted specifically for Koala detection by one experienced fauna spotter a minimum half hour prior to works each day. The investigation will embrace all designated clearing zones identified for that day inclusive of a 25-metre buffer around that zone;
- Once clearing commences a fauna spotter will accompany each machine providing continuous verification of habitat values and potential identification of undetected koalas ahead of operating plant. This will also account for potentially transient Koalas that may enter the site after preliminary investigations are complete.

Direct observational methodology will include the following components

- Use of binoculars to inspect the crown, forks and trunk of trees for individuals currently occupying the site;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas;
- Repeat observations made of single trees from numerous angles at repeated times throughout the clearing activities by the assigned fauna spotter.

In the event a Koala is detected, the Fauna Spotter will determine the appropriate course of action with exclusion zones implemented and alterations to the clearing plan discussed with the Site Supervisor. Once defined, these directions will be communicated to the plant operators and clearing will proceed in accordance with the recommendations made.

Changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees. These provisions entail an increased responsibility by developers and land clearance operators alike to ensure the welfare of potentially present Koalas in areas identified as having significance for the persistence of this species.

Where significance under planning instruments is assigned provisions may include the restriction of all clearance that directly interferes with any tree a Koala is residing in or surrounding trees that, when felled, may impact on the crown of the host tree. Koalas are to leave via their own volition through a corridor designated by the Fauna Spotter to the closest remaining suitable habitat.

Throughout this time the Koala may not be interfered with by any means unless special dispensation has been sought through the appropriate government body or where the Koala is evidently in a state of compromised health. Only when Koalas have vacated a tree can clearance operations include the identified host tree and surrounding vegetation which composes the established exclusion zone. Recommendations made by the Fauna Spotter on site will embrace these provisions.

## Response to Diseased/Injured Koalas

In the event the Fauna Spotter Catcher detects a koala showing signs of disease or injury the following procedure is to be implemented immediately after establishing the machinery exclusion zone:

- Photograph the animal and where possible the specific issue observed (i.e. dirty rump, emaciation);
- Contact Bryan Robinson, Principal Ecologist at QFC, to provide further assessment of the Koala via the images taken;
- Bryan to contact the Ipswich Koala Protection Society (IKPS) President Ruth Lewis for further opinion and collaboratively decide on the relevant response and timing;
- Where deemed to require veterinary assistance a Koala trap will be acquired from IKPS and installed by QFC;
- Bryan to ensure DES are immediately notified of the intended take of the animal;
- All Koalas will be taken to Moggill Koala Hospital for veterinary examination upon capture.

### Employed Koala Trapping Technique

A dedicated Koala trap will be utilised in the event a Koala is deemed to require veterinary assistance. The trap used (Figure 1 and Figure 2) will be supplied by IKPS and consists of the following components:

- 1200mm high Core flute wall;
- Steel bracing pins/star pickets;
- Zip ties;
- Purpose built Koala trapping box with guillotine/footpad style closing mechanism.

The core flute wall is placed around the tree the koala is in to form a solid barrier, subsequently channelling the animal to the trapping box when it descends from the tree. Checks are conducted on the trap periodically between 6pm and 6am to check if the Koala has entered the trap. Once captured the Koala is transported within the trapping box to minimise handling and undue stress or interference. Notification is given immediately to Bryan Robinson who will provide transportation and inform IKPS of the pending arrival of the Koala to Moggill Koala Hospital.



Figure 1: Koala trap exterior



Figure 2: Koala trap interior

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Grey-headed Flying Fox:

Although no Flying Fox camps or roosts were noted during the site survey, the transient nature of this species and the abundance of available feeding resources would see probability for the species to intermittently utilise the site.

The following recommendations are made for management of potentially occurring Grey-headed Flying Fox:

- Daily Inspection of trees assigned for removal be conducted to detect potential roosting Flying Foxes;
- Trees found to contain roosting Flying Foxes to be left standing and re assessed at the end of each days clearing. Being a transient species, the disturbance associated by the surrounding clearing is likely to see individuals fly off via its own volition come nightfall and not return the following morning, thus negating the need for direct disturbance.

Greater Glider:

The site contains hollow-bearing trees with the potential to support den localities for the Greater Glider. Suitable feeding resources are highly available given the availability of *Eucalyptus* leaves; on which the Greater Glider almost exclusively feeds on. The following recommendations are made for management of potentially occurring Greater Glider;

- Basal and drip zone searches for scats indicative of the presence of Greater Glider;
- Inspection daily of trees assigned for removal in areas of likely occurrence to detect Great Glider;
- Implementation of a soft felling technique where trees are determined to have potential for occupancy.

Tusked Frog:

Habitats conducive to the presence of these amphibians are noted at several localities throughout the site. Subsequently, it is recommended that Inspection of these microhabitats be conducted prior to the disturbance of microhabitat to detect potentially occupant frogs.

Rufous Fantail:

The site contains preferred habitat types with the potential to support nesting localities for the Rufous Fantail.

The following recommendations are made for management of potentially occurring Rufous Fantail:

- Inspection daily of trees assigned for removal in areas of likely occurrence to detect potentially roosting birds;
- Observation of mature birds to ensure individuals are out of immediate felling zones;
- Implementation of a soft felling technique where trees are determined to have potential nests.

*Powerful Owl:*

The site contains preferred habitat types with the potential to support nesting localities for the Powerful Owl.

The following recommendations are made for management of potentially occurring Powerful Owl:

- Inspection daily of trees assigned for removal in areas of likely occurrence to detect potentially roosting birds;
- Observation of mature birds to ensure individuals are out of immediate felling zones;
- Implementation of a soft felling technique where trees are determined to have potential nests where hollow cannot be accessed to inspect for birds prior to felling. Trees found to contain or considered probable for nesting Powerful Owls are to be felled in a manner directed at minimising potential risk of injury to fauna, and hollows to be 'plugged' to prevent animals from escaping during the soft felling procedure.

*Rainbow Bee-eater:*

The site contains preferred habitat types with the potential to support nesting localities for the Rainbow Bee-eater.

The following recommendations are made for management of potentially occurring Rainbow Bee-eater:

- Inspection daily of trees assigned for removal in areas of likely occurrence to detect potentially roosting birds;
- Observation of mature birds to ensure individuals are out of immediate felling zones;
- Inspection of potential burrows for nesting activity

A DES approved Fauna Spotter should be in attendance throughout all disturbance of vegetation associated with identified EVNT habitats. No clearing is to commence prior to the Fauna Spotter being satisfied all required investigations have been undertaken within the designated areas to be cleared.

### **3. Wildlife Capture & Removal Plan**

Relocation of native fauna is a strategy that may be required during the course of developmental works to adhere to the project's required nature conservation, animal welfare and human safety objectives.

In all circumstance where native fauna is required to be relocated it must be done so, or under the direct supervision of, a suitably licensed fauna spotter/catcher. A summary of the fauna capture, handling and relocations strategies to be implemented by the fauna spotter/catcher for fauna groups deemed likely, or possible, to occur on site are presented in *Table 2*.

**Table 2: Fauna capture, handling and relocation strategy table**

Animal Group	Capture and handling	Relocation
<b>Lizards Geckoes Dragons Monitors</b>	<ul style="list-style-type: none"> <li>• Place one hand behind the head at the base of the quadrates and the other at the base of the tail behind the hind limbs;</li> <li>• Be cautious when handling smaller skinks and legless lizards as they may discard their tail;</li> <li>• Lizards and geckoes can be placed inside suitably sized calico bags</li> <li>• In the case of large monitor lizards keep the animal's ventral surface directly away from the body with the tail between the upper arm and torso.</li> <li>• Dragons and small monitors can be placed in suitably sized calico bags. Larger monitors to be placed in suitably sized crate</li> </ul>	<ul style="list-style-type: none"> <li>• Place the lizard head first into a suitable holding crate for later release.                             <ul style="list-style-type: none"> <li>○ Dragons &amp; monitors– release up trees or into heavy vegetation;</li> <li>○ Water dragons – in the vicinity of riparian areas;</li> <li>○ Skinks, Geckoes, Legless lizards – around creek margins.</li> </ul> </li> </ul>
<b>Snakes</b>	<ul style="list-style-type: none"> <li>• Due to their mobile nature, large snakes generally do not require to be handled or relocated, with the exception of slow moving species (i.e. pythons) or smaller species;</li> <li>• Snakes should be identified and only moved if competent and safe to do so (see SOP006 Handling Venomous Snakes Procedure);</li> <li>• Do not attempt to catch a snake if you're not competent;</li> <li>• Injured snakes should be handled with suitable equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Release in suitable habitat e.g. along creek lines for python and tree snakes</li> <li>• If feasible take them well away from clearance site to a suitable release location</li> <li>• Release discreetly away from high density suburban areas</li> </ul>
<b>Small Mammals</b>	<ul style="list-style-type: none"> <li>• Place a gloved hand around the whole animal in the case of small mammals (melomys or rats),</li> <li>• Do not handle rodents by the tail as this will cause damage to the tail sheath</li> <li>• Place the animal in calico bag in a cool place for later relocation.</li> <li>• Minimise holding time to avoid animal gnawing through bags and escaping</li> </ul>	<ul style="list-style-type: none"> <li>• Release animal into area suitable to its habitat requirements. Ensure plenty of cover is available.</li> </ul>

Animal Group	Capture and handling	Relocation
<p><b>Glider Family</b></p>	<ul style="list-style-type: none"> <li>• Place gloved hands around the animal at initial capture;</li> <li>• Place the glider(s) into a calico bag or suitable animal crate ensuring family groups are kept together for all-inclusive release;</li> <li>• Place in a cool dry area during the day.</li> <li>• When using calico bags ensure the bag is hung and well ventilated</li> <li>• Where possible contain gliders within hollow by plugging openings with a towel or calico bag</li> </ul>	<ul style="list-style-type: none"> <li>• Release glider into habitat with natural hollows and canopy cover;</li> <li>• When releasing a family group with more than one furred young (being carried on the back) either:                             <ul style="list-style-type: none"> <li>○ Divide young between parents as a mother is unlikely to carry more than one young,</li> <li>○ Place young in elevated hollow with parents and allow them to move away in their own time.</li> </ul> </li> <li>• Place animal in bag at the base of the selected tree, opening the bag wide and allowing the animal to leave the bag when it is ready.</li> <li>• Relocate hollow (with gliders inside) to suitable habitat and cover lightly with foliage so that the gliders can move away of their own accord and are protected from predators.</li> </ul>
<p><b>Amphibians</b></p>	<ul style="list-style-type: none"> <li>• Amphibians should be handled only when necessary and handling times should be kept to a minimum to help prevent:                             <ul style="list-style-type: none"> <li>○ Removal of the protective mucous layer covering the skin of amphibians;</li> <li>○ To prevent handling stress induced by changes in their body temperature;</li> <li>○ Risk of spreading pathogens and parasites.</li> </ul> </li> <li>• Amphibians from different sites need to be kept isolated from each other, and need to be kept in different containers or bags;</li> <li>• Any dead or sick amphibians need to be quarantined from other amphibians.</li> </ul> <p>Amphibians can be handled utilising one of the following methodologies:</p> <ul style="list-style-type: none"> <li>• <b>Bare handed</b> – ensure hands are sterilized before handling and free from lotions, sunscreen etc.</li> <li>• <b>Gloves</b> – disposable gloves desirable or disinfect gloves between handling different animals;</li> <li>• <b>Plastic bags</b> – Single use lightweight plastic bags can be used to pick up and handle frogs; again, plastic bags should be disposed of before handling amphibians from a different site.</li> <li>• All staff should be knowledgeable and familiar with the <i>Interim Hygiene Protocol for Handling Amphibians – Technical Manual (DEHP)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Always ensure that amphibians are kept moist until release. This can include storing in a designated container with moist soil or toweling or in a wet calico bag;</li> <li>• Release into suitable adjacent vegetation that is typical of the species requirements;</li> <li>• Suitable release locations include riparian vegetation, low-lying wetlands, alongside creek lines, hollow logs, dams and ponds;</li> <li>• Amphibians from different sites need to be released in separate locations;</li> <li>• Disinfection procedures in relation to amphibians need to be followed.</li> </ul>



Animal Group	Capture and handling	Relocation
<b>Macropods</b>	<ul style="list-style-type: none"> <li>Capture and restraint of macropods carries a high risk of injury and fatal hyperthermia/myopathy syndrome, and must not be performed by inexperienced personnel, or without appropriate equipment and sedation.</li> <li>Capture and restraint of healthy macropods (other than pouch young) must be performed using sedation or anaesthesia due to the high risk of developmental myopathy, and other capture and restraint-associated conditions. Sedative and anaesthetic drugs may only be used under direct supervision of a registered veterinarian, or by appropriately licensed persons (Hanger &amp; Nottidge, 2009).</li> </ul>	<ul style="list-style-type: none"> <li>Release animal into suitable to its habitat requirements. Ensure plenty of cover is available.</li> <li>Macropods are to be released within the range of normal movement from their place of origin. E.g. a Kangaroo can be released within 100 km of its origin, based on its capacity to travel long distances.</li> <li>Monitor animals to ensure adequate recovery if sedated.</li> </ul>
<b>Microbats</b>	<ul style="list-style-type: none"> <li>Only vaccinated persons are to handle bats</li> <li>If possible, plug the hollow opening with a bag or towel and ask the operator to cut the hollow from the tree;</li> <li>Always wear gloves when handling bats.</li> <li>If not contained within a hollow, place bats inside a calico bag and hang upright in a cool place</li> </ul>	<ul style="list-style-type: none"> <li>Relocate hollow (with bats inside) to suitable habitat and cover lightly with foliage so that the bats can move away of their own accord and are protected from predators.</li> <li>Bats not contained within a hollow should be released as late as possible at the end of the day.</li> </ul>
<b>Possums</b>	<ul style="list-style-type: none"> <li>Use thick elbow length gloves when handling possums;</li> <li>Try to grip the animal behind the head near the shoulder blades and around the tail so that you have control of the animal;</li> <li>Keep fingers away from the mouth of the animal;</li> <li>Keep the animal's body facing away at all times;</li> <li>Transfer into a thick calico bag and then into a kitty crate. Place in a safe and shady place until you can relocate the animal.</li> </ul>	<ul style="list-style-type: none"> <li>Release the possum into habitat with adequate hollows and cover;</li> <li>Place animal in bag at the base of a select tree, opening the bag and allow the animal to leave the bag when it is ready;</li> <li>When releasing a Ringtail Possum mother with more than one furred young (being carried on her back) it is unlikely that she will carry both young if highly stressed;                         <ul style="list-style-type: none"> <li>Choose a smaller shrubby tree with vines or heavy foliage (so the adult can construct a drey easily)</li> <li>Watch the adult ascend the tree, it is possible she will only carry one young and so any additional young may be pushed from her back</li> <li>It may be necessary to take one or more of the young to a wildlife carer</li> <li>If possible place mother and young in a suspended hollow, cover lightly with foliage and allow the animals to move on their own accord. This way the mother can ferry young one at a time to a more suitable location.</li> </ul> </li> </ul>

Animal Group	Capture and handling	Relocation
<b>Birds</b>	<ul style="list-style-type: none"> <li>• Use gloves when handling larger birds</li> <li>• Use a towel to cover the bird and simultaneously restrain the bird and transfer into calico bag</li> <li>• With larger parrots and raptors, restrain head and legs and transfer into a kitty crate</li> <li>• Wrap chicks loosely in a towel and transfer to kitty crate, keep in a warm location.</li> </ul>	<ul style="list-style-type: none"> <li>• Relocate adult birds in suitable habitat</li> <li>• Chicks should be referred to wildlife carer</li> </ul>
<b>Koalas</b>	<p>Movement of Koalas is heavily legislated in South East Queensland. Koalas are not to be captured or relocated without the prior consent of Department of Environment and Science (DES). Koalas should be left to move away of their own volition and trees are not to be felled while a Koala remains in occupancy. See SOP003 Koala Management Procedure for further information.</p>	

## 4. Wildlife Contingency Plan

In the event sick, injured or orphaned protected animals are encountered during the course of the project they shall be administered to in accordance with the *Code of Practice Care of Sick, Injured or Orphaned Protected Animals in Queensland* under the *Nature Conservation Act 1992*.

The stages in which injuries or illness are described under the code are as follows:

**Critical:** Injuries or illnesses that are life-threatening; for example, an animal that has been struck by a car and has serious head injuries.

**Serious:** Injuries or illnesses that might reasonably be expected to cause moderate pain (but are not immediately life-threatening), and the animal is not showing obvious signs of distress or pain, or significantly reduced mental activity; for example, an animal with a closed fracture but no other apparent injuries and that is alert and responsive.

**Mild:** The injuries or illness of an animal appear to cause little discomfort, pain or function loss and are not life-threatening (even without immediate vet treatment); for example, superficial cuts, superficial bruising or orphaned animals suffering from mild dehydration.

### 4.1 Basic Wildlife Care

If wildlife requiring care are encountered by the fauna spotter/catcher, they will be attended to in the manner set out by the guidelines provided in *Table 4*. Supplementary advice will be sought from a wildlife carer and/or veterinarian where required. QFC have previously utilised experienced local carer groups and vets. These are listed in *Table 3*.

**Table 3: List of Local Vets & Wildlife Carer Groups**

<b>Vets</b>			
<b>Name</b>	<b>Location</b>	<b>Contact Number</b>	<b>Comments</b>
RSPCA Wildlife Hospital	139 Wacol Station Road, Wacol	07 3426 9999	24 Hours/7days
VetLove Flagstone Veterinary Clinic	Shop 7, Cnr Hollows & Wild Mint Drive, Jimboomba	07 5546 0315	8am-6pm
<b>Carers</b>			
<b>Name</b>	<b>Location</b>	<b>Contact Number</b>	<b>Comments</b>
Ipswich Koala Protection Society	Ipswich	[REDACTED]	Specialize in koalas however rescue all wildlife
Ann De Jong	Gailes	[REDACTED]	Most fauna, particularly birds
Jessica	Park Ridge South	[REDACTED]	Birds
Natalie Scotcher	Goodna	[REDACTED]	Marsupials, macropods, birds
Ivan	Woodend	[REDACTED]	Most fauna, particularly birds

**Table 4: Basic Wildlife Care**

<b>Birds</b>	<b>Reptiles &amp; Amphibians</b>	<b>Mammals</b>
<p><b>Egg</b></p> <p>Viable eggs must be kept warm until transferred to a suitable wildlife carer. It is necessary that the orientation of the eggs be maintained as fixed embryos may be lost. Keep wrapped in a pouch and on a heat source (where available). An ideal temperature is between 25-27° (DEHP 2013); where possible attempt to identify the species so the carer can be informed as the management of eggs can vary in accordance with species and stage of development.</p>	<p><b>Egg</b></p> <p>Viable eggs must be kept warm and stable until transferred to a wildlife carer. It is necessary that the orientation of the eggs be maintained as fixed embryos may be lost. Keep wrapped in pouch or towel and place into an animal crate in a safe location.</p>	<p><b>Neonate</b></p> <p>Unfurred animals need to be kept warm until transferred to a carer. Place into a pouch and onto a heat pad. Ideal temperature is between 31-34°. 25-27° is appropriate in most other cases (DEHP 2013). Regularly check the animal to ensure it is not overheating by observing for obvious signs of distress (i.e. panting, very warm to the touch, red blotched skin). Adjust the temperature where required. Seek further advice from the carer if you are unsure.</p>
<p><b>Chick</b></p> <p>Make sure the animal is correctly identified as different species often have very different requirements. Place chicks into a pouch/towel onto a heat source maintained around 31-34° (only if they have not fledged) and keep in an animal crate until transferred to a carer.</p>	<p><b>Juvenile</b></p> <p>Place animals in a suitable lined crate and keep covered in a dark quiet place. Refer to the wildlife contact list in your QFC Folder for a carer who specialises in reptiles.</p>	<p><b>Juvenile</b></p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p><b>Adult</b></p> <p>Keep adult birds in a lined animal crate or cage and covered in a quiet area.</p>	<p><b>Adult</b></p> <p>Place animals in a suitable lined crate and keep covered in a dark quiet place. Refer to the wildlife contact list in your QFC Folder for a carer who specialises in reptiles.</p>	<p><b>Adult</b></p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p><b>Feeding</b></p> <p>Providing food and water is generally not required during short periods (2-3 hrs) though this should be reconsidered if animals need to be held longer. Consult the vet and/or carer for further advice on how to proceed.</p>	<p><b>Feeding</b></p> <p>Newly hatched reptiles may require feeding if kept overnight. Consult with QFC for further advice. Snakes and turtles will not require feeding but water should be made available.</p>	<p><b>Feeding</b></p> <p>Providing food and water is generally not required during short periods (2-3 hrs) though this should be reconsidered if animals need to be held longer. Consult the carer for further advice on how to proceed.</p>

## 4.2 First Aid

Animals suffering from serious injuries or illness encountered on the project should be passed on to veterinary care as soon as possible. In the interim a licensed fauna spotter/catcher can provide first aid for the animal and organise suitable transportation.

If a seriously sick or injured animal is encountered the fauna spotter/catcher should:

1. Keep the animal calm by placing into an animal crate and keeping it covered in a dark and quiet location. Isolate any nearby threats such as domestic animals or predators.
2. Quickly and thoroughly inspect the animal for trauma. If the injuries are not serious enough to require euthanasia administer the basic first aid as a minimum (but only if capable to do so)

Representative first aid that may be administered by a fauna spotter/catcher is provided in *Table 5*.

**Table 5: Wildlife First Aid**

Ailment	First Aid
Bleeding	Using material that is clean and sanitary, apply direct pressure to the affected area. Bandages can be used to hold material in place until vet treatment can be sought. Veterinarian treatment should be sought for further assistance as soon as possible.
Broken limbs	House the animal in a suitably sized animal crate with towels under the animal for comfort. Keep the crate covered and in a quiet location. Proceed to a veterinarian for further assistance as soon as possible.
Injured tails	House the animal in a suitably sized animal crate with towels under the animal for comfort. Keep the crate covered and in a quiet location. Proceed to a veterinarian for further assistance as soon as possible.
Concussions	House the animal in a suitably sized animal crate with towels under the animal for comfort. Keep the crate covered and in a quiet location. Proceed to a veterinarian for further assistance as soon as possible.

---

### 4.3 Euthanasia

Section 12 of the code details how to determine when euthanasia is required and how to euthanise animals ethically. The following standards as listed under the code are to be followed when assessing whether euthanasia is required:

- The euthanasia of wildlife where required is to be provided for by all wildlife rehabilitators;
- Euthanasia without exception is to be carried out when:
  - Significant pain or suffering is to be alleviated where it is not able to be managed by a vet;
  - Further treatment is **not** practical, or recovery is **not** expected in a way in which the animal can be successfully rehabilitated back to the wild;
  - Resources are not available to provide appropriate care or an acceptable quality of life throughout the likely rehabilitation period.
- Animals that are suffering and have a poor prognosis for survival must be euthanised rather than left to die from the injury or illness. Failure to undertake appropriate action is a breach of the *Animal Care and Protection Act 2001*.
- Unless permission has been granted by the Department of Environment and Heritage Protection for the animal to enter the Queensland Species Management Plan (QSMP) or otherwise advised by the DEHP Wildlife Management Director, animals must be euthanised when:
  - An orphaned animal is not viable or likely to be rehabilitated;
  - No suitable release locations are available;
  - The ability for an animal to reproduce is lost due to an injury, disease or surgical procedure;
  - The ability to move freely or normally (i.e. run, climb, crawl, hop, fly or swim) is permanently impaired. Examples are: a missing or impaired limb, wing, foot or tail that would significantly impair the animal's ability to survive in the wild;
  - The ability to sense environment (i.e. see, smell, feel, taste or hear) is permanently impaired. For example: missing or injured organ such as an eye, ear or nose that would significantly impair the animal's ability to survive in the wild;
  - The ability to catch, find or handle food is permanently impaired;
  - Its advanced age renders it unlikely to survive in the wild.

---

## 5. Wildlife Storage & Housing Plan

For wildlife requiring storage, temporary housing and transportation to release sites and/or to a wildlife carer or veterinarian, guidelines set out in the Code of Practice and QFC's Animal Ethics Permit will be followed.

Dependent on the species of animal and condition of the animal, temporary storage and housing of animals will be as follows:

**Calico bags:** Calico bags will be used to temporarily house fauna such as snakes, lizards and small mammals (including microbats), Bags will range in size from 200mm x 200mm to 600mm x 1800mm. Bag selection will vary according to the size of animals to be placed in them. In the case of snakes, a "hoop bag" may be used to facilitate capture. The hoop is approximately 500mm in diameter attached to a handle. The bag is placed around the hoop ensuring a greater area in which to pass the snake through into the bag.

**Plastic holding tubs/containers/animal crate:** Plastic holding tubs/containers/crates will be used to temporarily house fauna such as snakes, lizards, frogs, small mammals and birds (Plastic holding tubs/containers/crates will range in size from 150mm x 150mm x 120mm to 500mm x 400mm x

400mm. Plastic holding tubs/containers/crates selection will vary according to the size and number of animals to be placed in them.

In addition to this, material is used to line the tub/crate to ensure the animals won't lose its footing. This may include folded towels on the bottom of the crate or a fitted pad. These items are washed between each use to reduce the spread of disease/parasites.

Section 9 of the Code relates to how transportation of wildlife should be undertaken. The following will be adhered to when transporting wildlife to the vet and/or carer:

- Additional pain or distress of the animal is to be avoided;
- Wildlife should only be transported when necessary;
- Transport containers must be appropriate for the species (size, strength and behaviour of species being moved);
- Transport containers must be designed and maintained in a way as to:
  - Prevent injury;
  - Prevent escape;
  - Prevent rolling/tipping during transit;
  - Prevent damage to plumage (feathers);
  - Be hygienic;
  - Minimise stress and
  - Be suitably ventilated.



- Non-compatible species must not be transported in a manner which allows for visual or physical contact;
- Containers must be secured to prevent movement and provide protection from direct sunlight, wind and rain;

Venomous, dangerous or potentially disease transmitting animals must be clearly marked with warning labels (i.e. Caution – ‘venomous snake’ or ‘live bat’) and be locked and secured.

---

## 6. Wildlife Release & Disposal Plan

Retained bushland marked as Fauna Safe Zones are located south and north of the clearing area and contain similar habitat types suitable for species likely to be encountered when clearing.

With the exception of highly mobile species such as birds and macropods where natural relocation may occur, it will be necessary for the fauna spotter/catcher to translocate the majority of fauna found into suitable habitat within these areas. A map of the intended release site can be viewed in Appendix B.

In regard to all fauna capture and disposal activities conducted on the project the following records will be made:

- a. species;
- b. identification name or number;
- c. sex (M, F, or unknown);
- d. approximate age or age class (neonate, juvenile, sub-adult, adult);
- e. time and date of capture;
- f. method of capture;
- g. exact point of capture (GPS point);
- h. state of health;
- i. incidents associated with capture likely to affect the animal;
- j. veterinary intervention or treatments;
- k. time held in captivity;
- l. disposal (euthanasia, re-release, translocation etc);
- m. date and time of disposal;
- n. details of disposal (if released, exact point of release GPS);
- o. for released animals: distance in metres from point of capture to point of release.

## **7. Post Works Impact Minimisation**

As the project area will be cleared of all vegetation, post works impact monitoring and/or impact minimisation is deemed not necessary.

In the event that fauna is found on site post-works, it is recommended personnel contact QFC and a licensed and experienced wildlife consultant can be dispatched to remove and relocate the animal should it be necessary. QFC wildlife consultants are available 24/7 for fauna related call-outs in relation to this project.

It is recommended that if any fauna, such as Kangaroos and Wallabies, are noted in the wider area and appear distressed post-works that QFC be contacted to further assess the situation.

## **8. Assessment, Conclusion and Fauna Management Recommendations**

A number of conclusions and recommendations are presented, with the specific intention of providing a comprehensive management structure to facilitate minimal impact to fauna during the clearing of vegetation and subsequent disturbance of habitats. The directives given by Fauna Spotter Catchers should embrace a “best practice” approach which includes implementation of proven specific management techniques for identified habitat types and compliance with legislation relevant to the activity.

Fauna management is presented here specific to EVNT & SLC fauna, general terrestrial and arboreal fauna and aquatic fauna. Although each is treated separately, overlap does occur within target techniques providing a comprehensive approach for target species of all conservation significance.

---

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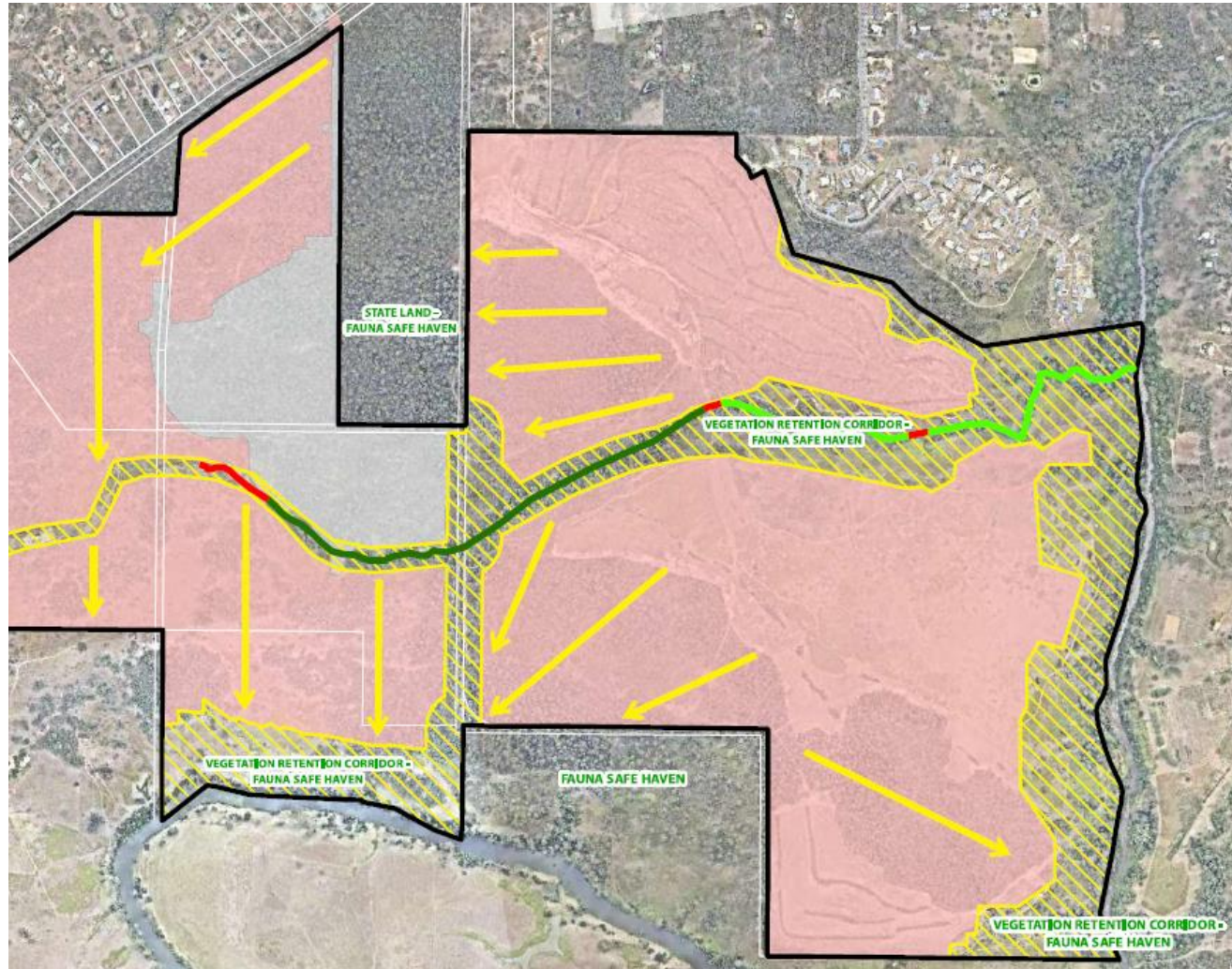
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## 10. Appendix A: Intended Direction of Clearing



Source: Saunders Havill Group – Vegetation Clearing & Fauna Management Plan – Summary of Clearing (2021)

## 11. Appendix B: Intended Release Sites for Wildlife





October 2022

# Fauna Spotter Catcher Pre-clearance Survey and Wildlife Protection & Management Plan

Separable Portions 4-7 – Riverbend, Teviot Road  
Jimboomba, Queensland  
Report prepared for CCA Winslow Pty Ltd



Report prepared by  
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Date:	02/10/22
Title:	Fauna Spotter Catcher Pre-clearance Survey and Wildlife Protection & Management Plan Separable Portions 4-7 – Riverbend, Teviot Road, Jimboomba
Author/s:	Bryan Robinson, Jasmine Zeleny
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## 1. Introduction

### 1.1 Project Background

Queensland Fauna Consultancy Pty Ltd has been engaged by CCA Winslow Pty Ltd to conduct a Fauna Spotter Catcher Pre-clearance and Habitat Values Survey and present a subsequent report for Separable Portions 4-7 Riverbend, Jimboomba, Queensland. The site location is presented in Map 1.

The objective of this report is to summarise the existing fauna values present and assign mitigatory strategies applicable to probable species likely to be encountered during the clearing of identified habitats throughout or within specific localities of the site. Fauna species both common and of elevated conservation value have been considered within the parameters of onsite investigations and, where provided to QFC, include review of current fauna and floristic reports that may influence the assemblages expected to utilise the micro habitats evident within the site.

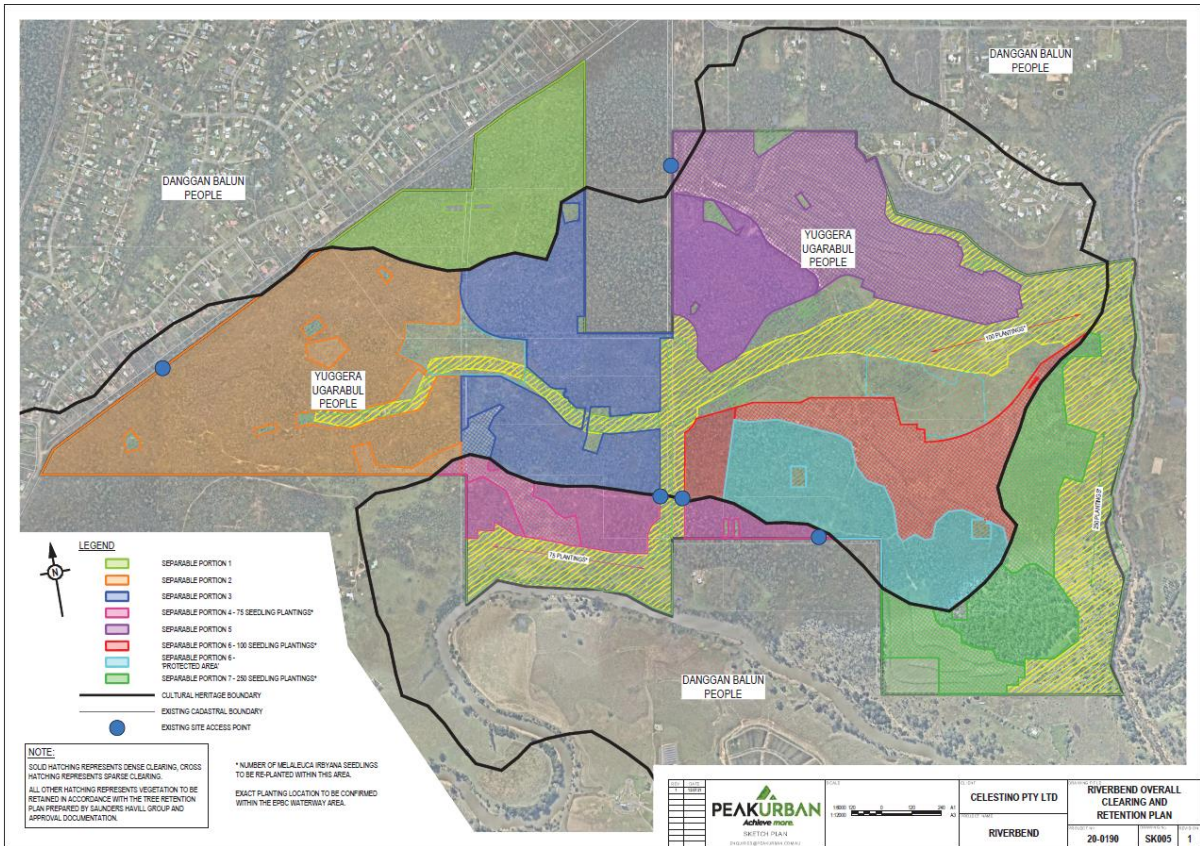
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance identified under commonwealth, state or local planning instruments aimed at the persistence of biodiversity values within the area.

### 1.2 Project Location and Site Description

Riverbend is located at the end of Teviot Road, Jimboomba, north of the Cedar Grove Environmental Centre and south of Flagstone State School.

Existing features exhibit a remnant woodland vegetative complex on undulating topography with drainage features and rock outcrops. Dominant trees species include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, and *C. intermedia*. Understorey vegetation consists of grass, scattered shrubs and weeds and dense leaf litter.

**Map 1: Locality Plan**



Source: Extracted from Riverbend Site Staging (CCA Winslow, 2022)

### 1.3 Current Permits and Authorities

All activities conducted during the site investigations were implemented under the provisions of several permits issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), formerly the Department of Environment and Heritage Protection (DEHP), and the Department of Employment, Economic Development and Innovation (DEEDI). These permits and additional authorities are listed in Table 1.

**Table 1: Current Permits and authorities issued to QFC**

Permit/Authorisation	Permit Number	Expiry Date
Damage Mitigation Permit	WA0018804	10 <sup>th</sup> November 2022
Rehabilitation Permit	WA0026789	16 <sup>th</sup> September 2023
Scientific Purposes Permit	WA0032325	3 <sup>rd</sup> March 2026
Scientific User Registration	Registration Number 589	27 <sup>th</sup> February 2025
Animal Ethics	CA 2022/01/1569	27 <sup>th</sup> February 2025
General Fisheries Permit	207015	16 <sup>th</sup> April 2023

These permits and approvals enable QFC to conduct the investigation, observation and relocation of protected animals exposed to disturbance due to infrastructure expansion resulting in the destruction of natural and artificial habitats.

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## 2. Methodology

Eight site inspections were carried out between the 18<sup>th</sup> of March and the 14<sup>th</sup> of June 2022 by Qld Fauna Consultancy. A standard set of observational techniques aimed at maximising the detection of fauna and the probable habitats they may occupy were employed to ascertain and identify the current fauna values throughout the project area. Where species of elevated conservation significance were foreseen as potentially present targeted searches were instigated to further evaluate individual species habitat.

Due to the habitat variability expressed across the development site the composition of investigations may include a range of features that entail specific components indicative of the presence of particular species or faunal groups. This may include where evident, observation of activity or signs of both historical and current use.

These may include but are not limited to the following:

- Identification of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, stands of heavy vegetation, fallen branches and bark exfoliations;
- Identification of arboreal micro habitats including basal, trunk and limb hollows, tree fissures, bark exfoliates and arboreal termitaria;
- Identification of constructed arboreal micro habitats including bird nests and Ringtail Possum dreys;
- Artificial habitats including but not limited to ornamental gardens, discarded rubbish, human dwellings and other infrastructure;
- Observation and investigation of aquatic habitats including dams, soaks, creeks, rivers and seasonally inundated vegetation communities. Artificial aquatic habitats may include constructed drains and culverts. Further components of interest include bank profiles and undercuts, submerged and/or exposed timber and rock, immediate aquatic and riparian vegetation, surfacing animals, nesting and/or feeding birds;
- Direct observation of active or exposed fauna within terrestrial, aquatic and arboreal habitats;
- Identification of scats, tracks and scratchings to determine fauna potentially present or to have historically utilised the site for either transient or longer-term life history purposes.

### 2.1 Specific methodology for Koalas *Phascolarctos cinereus*

Due to specific requirements and the cryptic nature of the Koala the following techniques were employed to assist in ascertaining the current and historical presence/absence status of the species at the site:

- Use of binoculars to inspect the crown, forks and trunk of trees for individuals currently occupying the site;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

---

### 3. Findings

The findings endeavor to demarcate the existing habitat profiles and the features present into three distinct groups: terrestrial, arboreal and aquatic. All habitat features present onsite are noted, however it is probable additional features will be present with these being accounted for during the Fauna Spotter Catcher process to be applied to all vegetation clearing across the site.

#### 3.1 Terrestrial Habitat Features

The terrestrial fauna values of the site consist of a variety of different components and microhabitat features. This includes an open low-level understorey of Eucalypt and *Acacia* regrowth (Figure 1 and Figure 2), with sections exhibiting dense cover provided by dense grass (Figure 3 and Figure 4) and weed species such as Lantana *Lantana camara* (Figure 5 and Figure 6). These features represent a moderate terrestrial fauna habitat value for numerous common reptile, amphibian and small mammal species.

Dense leaf litter and bark exfoliations also feature on site being present in abundance and at variable depths (Figure 7 to Figure 9), providing both refugial opportunities and microhabitat connectivity that can be exploited by a number of different native terrestrial vertebrate and invertebrate species. Further the site exhibits woody debris (Figure 10 to Figure 12), hollow logs (Figure 13 to Figure 15), scattered rocks (Figure 16) and artificial debris (Figure 17 and Figure 18) that may provide habitat opportunities for reptiles and small mammals.

Terrestrial termite mounds of various sizes and condition are common across the site, with a number of mounds exhibiting excavations (Figure 19 to Figure 23). Some mounds exhibited excavations that are likely indicative of Short-beaked Echidna *Tachyglossus aculeatus* foraging activities. These mounds may also provide refugial opportunities for reptile and mammal species. A number of Fire Ant nests were also identified during the inspection and were reported to CCA Winslow by QFC personnel (Figure 24 and Figure 25).

Mammal assemblages may comprise both native and introduced species. Macropod species sighted during the inspection include the Eastern Grey Kangaroo *Macropus giganteus* and Red-necked Wallaby. Macropod presence within the clearance zone was also indicated by scat (Figure 26). Other native mammals which may occur on site include the Northern Brown Bandicoot *Isodon macrourus* which may be present in localities with significant vegetative ground cover.

These features collectively contribute to the potential presence of a wide variety of native fauna species utilising the area for refugial, foraging and other resources. Probable species include the Robust Velvet Gecko *Nebulifera robusta*, Dubious Dtella *Gehyra dubia*, Wall Skink *Cryptoblepharus pulcher*, Dark-flecked Garden Sunskink *Lampropholis delicata*, Eastern Blue-tongued Lizard *Tiliqua scincoides*, Common Tree Snake *Dendrelaphis punctulatus*, Coastal Carpet Python *Morelia spilota mcdowelli*, Eastern Bearded Dragon *Pogona barbata*, and the Striped Marsh Frog *Limnodynastes peronii*.

GPS coordinates for identified terrestrial habitat features are shown in Appendix A.



Figure 1: Understorey



Figure 2: Understorey



Figure 3: Dense grass



Figure 4: Dense grass



Figure 5: Lantana *Lantana camara*



Figure 6: Lantana *Lantana camara*





**Figure 7: Dense leaf litter**



**Figure 8: Bark exfoliations**



**Figure 9: Bark exfoliations**



**Figure 10: Woody debris**



**Figure 11: Woody debris**



**Figure 12: Woody debris**



Figure 13: Hollow log



Figure 14: Hollow log



Figure 15: Hollow log



Figure 16: Scattered rocks



Figure 17: Artificial debris



Figure 18: Artificial debris



Figure 19: Terrestrial termitaria



Figure 20: Terrestrial termitaria



Figure 21: Terrestrial termitaria with excavation



Figure 22: Terrestrial termitaria with excavation



Figure 23: Terrestrial termitaria with excavation



Figure 24: Fire Ant nest



**Figure 25: Fire Ant nest**



**Figure 26: Macropod scat**

### 3.2 Arboreal Habitat Features

The clearance site consists predominantly of regrowth dry sclerophyll forest with the dominant trees being *Eucalyptus*, *Corymbia* and *Acacia* species. (Figure 27 to Figure 35). Onsite trees exhibit potential feeding and nesting resources for a number of bird and mammal species. The intermittent contiguous canopy structure (Figure 36) within some of the vegetation represented may be facilitative of arboreal progression for species such as Common Brushtail Possum *Trichosurus vulpecula* and Common Ringtail Possum *Pseudocheirus peregrinus*.

Hollow-bearing trees (Figure 37 to Figure 39), stag trees (Figure 40 to Figure 42), fissures (Figure 43 and Figure 44), and hollow stumps (Figure 45 and Figure 46) are present in the clearance area, which may provide habitat opportunities for arboreal mammals, reptiles, and birds. Exfoliating bark on tree trunks may provide refugial opportunities for reptile species including skinks and geckos.

Arboreal termite mounds are also common across the site (Figure 47 and Figure 48), with numerous mounds exhibiting excavations (Figure 49 to Figure 52). A number of suitable mounds were located with the potential for use as egg deposition and incubation sites by species such as the Lace Monitor *Varanus varius*, Laughing Kookaburra *Dacelo novaeguineae*, and Sacred Kingfisher *Todiramphus sanctus*. Common Brushtail Possums *Trichosurus vulpecula*, Squirrel Gliders *Petaurus norfolcensis*, and Sugar Gliders *Petaurus breviceps* may also utilise these features for shelter where hollows are not readily available

Two native stingless beehives *Tetragonula sp.* were identified within separate tree trunks during the inspection (Figure 53 and Figure 54), with recommendations made to salvage and relocate the hive during the clearing process where practicable. Two native Paper Wasp *Ropalidia romandi* nests and two European Honey Bee hives *Apis mellifera* were also identified during the inspection and will require mitigation during clearing activities.

Nineteen avian stick nests were located during the inspection, however no nests appeared active at the time of the inspection (Figure 55 to Figure 61). Further inspections are recommended immediately prior to clearing commencement. A number of avian species were observed utilising the site at the time of the inspection (foraging or perching) these species are presented in Table 2.

No possum dreys were located during the inspection, however, the dense vegetation structure in some areas may have concealed visibility and further inspections are recommended immediately prior to clearing commencement. Possum activity was evident in the form of scat and scratchings on several tree trunks (Figure 62 and Figure 63). Suitable vegetation communities containing both feeding and roosting resources for the Grey-headed Flying-Fox *Pteropus poliocephalus* occur on and adjacent to the clearance site.

Koala food trees located in the clearance area include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. microcorys*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, *C. intermedia*, *C. gummifera*, and *Lophosetemon suaveolens*. Recent Koala activity within the clearing area was identified in the form of fresh scat (Figure 64). A Koala habitat values map for the clearance area is presented in Appendix K.

GPS coordinates for identified arboreal habitat features are shown in Appendix B.



Figure 27: Site overview



Figure 28: Site overview



Figure 29: Site overview



Figure 30: Site overview



Figure 31: Site overview



Figure 32: Site overview



**Figure 33: Site overview**



**Figure 34: Site overview**



**Figure 35: Intermittently contiguous canopy**



**Figure 36: Intermittently contiguous canopy**



**Figure 37: Hollow bearing tree**



**Figure 38: Hollow bearing tree**



**Figure 39: Hollow bearing tree**



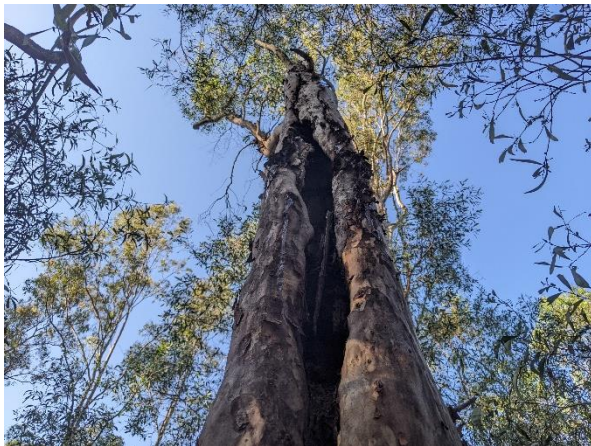
**Figure 40: Stag tree**



**Figure 41: Stag tree**



**Figure 42: Stag tree**



**Figure 43: Fissure**



**Figure 44: Fissure**





**Figure 45: Hollow stump**



**Figure 46: Hollow stump**



**Figure 47: Arboreal termitaria**



**Figure 48: Arboreal termitaria**



**Figure 49: Arboreal termitaria with excavation**



**Figure 50: Arboreal termitaria with excavation**



Figure 51: Arboreal termitaria with excavation



Figure 52: Arboreal termitaria with excavation



Figure 53: Native Bee Hive *Tetragonula* sp.



Figure 54: Native Bee Hive *Tetragonula* sp.



Figure 55: Bird nest



Figure 56: Bird nest



**Figure 57: Bird nest**



**Figure 58: Bird nest**



**Figure 59: Bird nest**



**Figure 60: Bird nest**



**Figure 61: Bird nest**



**Figure 62: Possum scat**



**Figure 63: Possum scratches**



**Figure 64: Koala scat**

**Table 2: Arboreal Fauna Species Observed**

Number	Common Name and <i>Scientific Name</i>
1	Laughing Kookaburra <i>Dacelo novaeguineae</i>
2	Noisy Friarbird <i>Philemon corniculatus</i>
3	Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>
4	Fan-tailed Cuckoo <i>Cacomantis flabelliformis</i>
5	Sacred Kingfisher <i>Todiramphus sanctus</i>
6	Torresian Crow <i>Corvus orru</i>
7	Australian Magpie <i>Cracticus tibicen</i>
8	Rainbow Bee-eater <i>Merops ornatus</i>
9	Red-browed Finch <i>Neochmia temporalis</i>
10	Red-backed Fairy-wren <i>Malurus melanocephalus</i>
11	Eastern Yellow Robin <i>Eopsaltria australis</i>
12	Noisy Miner <i>Manorina melanocephala</i>
13	Weebill <i>Smicrornis brevirostris</i>
14	Brown Quail <i>Coturnix ypsilophora</i>
15	Pied Butcherbird <i>Cracticus nigrogularis</i>
16	Pheasant Coucal <i>Centropus phasianinus</i>
17	Superb Fairy-wren <i>Malurus cyaneus</i>
18	Spangled Drongo <i>Dicrurus bracteatus</i>
19	Double-barred Finch <i>Taeniopygia bichenovii</i>
20	Magpie-lark <i>Grallina cyanoleuca</i>
21	Lewin's Honeyeater <i>Meliphaga lewinii</i>
22	Golden Whistler <i>Pachycephala pectoralis</i>
23	Scarlet Honeyeater <i>Myzomela sanguinolenta</i>
24	White-throated Gerygone <i>Gerygone olivacea</i>
25	White-throated Nightjar <i>Eurostopodus mystacalis</i>
26	Rainbow Lorikeet <i>Trichoglossus haematodus</i>

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27	Striated Pardalote <i>Pardalotus striatus</i>
28	White-browed Scrubwren <i>Sericornis frontalis</i>
29	Eastern Whipbird <i>Psophodes olivaceus</i>
30	Grey Fantail <i>Rhipidura albiscapa</i>
31	Willie Wagtail <i>Rhipidura leucophrys</i>
32	Tawny Frogmouth <i>Podargus strigoides</i>
33	Rufous Whistler <i>Pachycephala rufiventris</i>
34	Grey Goshawk <i>Accipiter novaehollandiae</i>
36	Rufous Faintail <i>Rhipidura rufifrons</i>
35	Golden-headed Cisticola <i>Cisticola exilis</i>

### 3.3 Aquatic Habitat Features

One small dam with a moderate level of aquatic vegetation is located within the clearing area (Figure 65 and Figure 66). The dam was retaining water at the time of the inspection. Two ephemeral pools were also identified at the time of the inspection due to recent rainfall. A number of native species may exploit the various microhabitats presented by such environmental features including Longfin Eel *Anguilla reinhardtii*, Eastern Long-necked Turtle *Chelodina longicollis*, Tusked Frog *Adelotus brevis*, Ornate Burrowing Frog *Platyplectrum ornatum*, Eastern Sedge Frog *Litoria fallax*, and Graceful Treefrog *Litoria gracilentata*.

GPS coordinates for identified aquatic habitat features are shown in Appendix C.



Figure 65: Dam



Figure 66: Dam

### 3.4 Endangered, Vulnerable and Near Threatened (EVNT) & Special Least Concern (SLC) Species

It is not envisaged that any EVNT or SLC fauna species will be detrimentally impacted by the proposed works. However, eight species identified within the Online EPBC Protected Matters Report (Appendix B) and the Queensland Government Wildlife Online Search Tool (Appendix C) were considered possible to occur within the site and will require further mitigation during clearing activities.

Evidence of recent Koala use was identified in the form of fresh scat during the site inspection, and the species is well-documented in the area. The site contains habitat identified as Core Koala Habitat under the Koala Habitat in South East Queensland mapping sourced from the Queensland Globe online search tool (see Appendix A).

It is advised that dedicated methodologies be employed by a qualified Fauna Spotter specific to the detection of these identified species prior to vegetation clearing activities.

**Table 5: Significant species deemed possible to occur within the clearance survey area**

Common Name Scientific Name	Species Information	Likelihood of Occurrence within the Clearance Survey area
<b>Mammals</b>		
Koala <i>Phascolarctos cinereus</i>  EPBC: Endangered NCA: Endangered	Inhabits a range of open forest and woodland communities which may include any of the following noted food trees: <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Melaleuca</i> , <i>Angophora</i> and <i>Lophostemon</i> .	<b>Present</b> Known food trees for the transient Koala ( <i>Phascolarctos cinereus</i> ) occur on the clearance site and the species is well documented within the area. Evidence of recent Koala use identified in the form of scat.
Greater Glider <i>Petauroides volans</i>  EPBC: Vulnerable NCA: Endangered	The Greater Glider lives in a variety of Eucalypt-dominated habitats, feeding almost exclusively on eucalypt leaves. Dens are constructed in suitable hollow-bearing trees with the breeding season occurring from March to June (Strahan R (ed) 1995).	<b>Possible</b> Suitable vegetation communities containing both feeding and nesting resources occur on and adjacent to the clearance site.
Grey-headed Flying-fox <i>Pteropus poliocephalus</i>  EPBC: Vulnerable NCA: Least Concern	The Grey-headed Flying-Fox roosts in aggregations of various sizes on exposed branches, commonly of emergent trees. Roost sites are typically located near water, such as lakes, rivers or the coast. Habitat includes open forests, woodlands, urban parks and gardens.	<b>Possible</b> Suitable vegetation communities containing both feeding and roosting resources occur on and adjacent to the clearance site.



<p>Short-beaked Echidna <i>Tachyglossus aculeatus</i></p> <p>EPBC: Not Listed NCA: Special Least Concern</p>	<p>Inhabits a broad range of habitat types across Australia where there is a supply of ants or termites. Echidnas will shelter within hollow logs, under bushes and debris (Van Dyck &amp; Strahan 2008).</p>	<p><b>Possible</b> Suitable feeding resources occur onsite and evidence of diggings observed onsite.</p>
<p><b>Amphibians</b></p>		
<p>Tusked Frog <i>Adelotus brevis</i></p> <p>EPBC: Not Listed NCA: Vulnerable</p>	<p>Inhabits permanent ponds and streams within rainforests, wet to dry forests and farmland areas (Anstis 2013). Nests are constructed under leaf litter, vegetation or logs at the edge of ponds or stream pools in concealed locations (Anstis 2013).</p>	<p><b>Possible</b> Habitat conducive to this species is found within the survey area.</p>
<p><b>Birds</b></p>		
<p>Powerful Owl <i>Ninox strenua</i></p> <p>EPBC: Not Listed NCA: Vulnerable</p>	<p>Inhabits open forests and woodlands, favouring creek lines and gullies for roosting. Can be found in suburban areas and remnant bushland patches. Requires old growth trees with large hollows for nesting and breeds from April to September (Simpson &amp; Day 2004; BirdLife Australia n.d.)</p>	<p><b>Possible</b> Habitat conducive to this species is found within the clearance area and the species has been recorded in the area.</p>
<p>Rainbow Bee-eater <i>Merops ornatus</i></p> <p>EPBC: Migratory NCA: Special Least Concern</p>	<p>Breeds from August to January (Higgins 1999; Boland 2004). The nest is located in an enlarged chamber at the end of long burrow or tunnel (Comrie-Smith 1930; Morris 1977), in flat or sloping ground, in the banks of rivers, creeks or dams, in roadside cuttings, in the walls of gravel pits or quarries, in mounds of gravel, or in cliff faces (Forshaw and Cooper 1987; Lill 1993; Higgins 1999; Boland 2004).</p>	<p><b>Present</b> Habitat conducive to this species is found within the survey area.</p>
<p>Rufous Fantail <i>Rhipidura uniforms</i></p> <p>EPBC: Migratory NCA: Special Least Concern</p>	<p>The Rufous Fantail builds a small compact cup nest, of fine grasses bound with spider webs, that is suspended from a tree fork about 5m from the ground. The bottom of the nest is drawn out into a long stem. Both sexes share nest building, incubation and feeding of the young. One or two broods may be raised in a season (Serventy, 1982).</p>	<p><b>Present</b> Habitat conducive to this species is found within the survey area and the species was sighted during the inspection.</p>

## 4. Fauna Impacts

It is important to consider the existing and future developmental areas when investigating potential fauna impacts.

Impacts to fauna, as a result of vegetation clearance, will include the following:

- Loss of trees for foraging, roosting and nesting;
- Loss of hollow-bearing trees for nesting and refuge;
- Loss of habitat and foraging areas for terrestrial species;
- Loss of overall habitat;
- Potential loss of abundance of some local species.

Other impacts may include:

- Injury or death during felling of trees;
- Injury or death from machinery;
- Alteration of nesting, foraging and general activities due to disturbance.

## 5. Assessment and Conclusion

Overall the site contains high value refugial opportunities for arboreal and terrestrial fauna species (see Section 3.1 and 3.2). The species expected within the site are likely to primarily reflect common fauna assemblages for the region; however, provisions will be proposed directly for common fauna and species of conservation significance.

The connectivity to adjacent conservation land in the south, in conjunction with sequential clearing methodologies, will aid in the movement of medium to large size fauna such as Koala and Kangaroos. Specific methodologies for these species will be detailed within the Wildlife and Habitat Impact Mitigation Plan (WHIMP).

A number of conclusions and recommendations will be presented in the WHIMP, with the specific intention of providing a comprehensive management structure to facilitate minimal impact to fauna during the clearing of vegetation and subsequent disturbance of habitats.

It is advised that all identified fauna habitats onsite be inspected by a DES approved Fauna Spotter prior to vegetation clearing and all vegetation removal activities be supervised during the clearing process. Terrestrial load reduction activities will be conducted ahead of the clearing front where possible. Fauna captured will be relocated to adjacent habitat consistent with the life history requirements of the species requiring translocation. The directives given by Fauna Spotter Catchers should embrace a “best practice” approach which includes implementation of proven specific management techniques for identified habitat types and compliance with legislation relevant to the activity.

It is recommended that in the event any nests which contain chicks are identified during clearing be left until fledged, and those that are in a construction phase should be dismantled to prevent further nesting activity. Any fertile eggs recovered will require incubation and subsequent rearing for latter release.

## 6. References

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## 7. Appendix A: Localities for Identified Terrestrial Habitat Features

Number	Habitat Feature	GPS Coordinates	
		Latitude	Longitude
1	Artificial Debris	-27.8366768	152.9624067
2	Artificial Debris	-27.8270406	152.9715251
3	Artificial Debris	-27.8233185	152.9702823
4	Bark Exfoliations (Terrestrial)	-27.8295825	152.9643149
5	Bark Exfoliations (Terrestrial)	-27.8433848	152.9786837
6	Bark Exfoliations (Terrestrial)	-27.8424680	152.9812373
7	Dense Lantana Growth	-27.83345311	152.9685457
8	Dense Lantana Growth	-27.83345311	152.9685457
9	Fire Ant Nest	-27.8388403	152.9767579
10	Fire Ant Nest	-27.8405541	152.9795918
11	Fire Ant Nest	-27.8406124	152.9797973
12	Fire Ant Nest	-27.8406506	152.9798945
13	Fire Ant Nest	-27.8402755	152.9808393
14	Fire Ant Nest	-27.8403789	152.9807007
15	Fire Ant Nest	-27.8405122	152.9809408
16	Fire Ant Nest	-27.8407428	152.9810382
17	Fire Ant Nest	-27.8279682	152.9738477
18	Fire Ant Nest	-27.8286229	152.9735812
19	Fire Ant Nest	-27.8268748	152.9716217
20	Fire Ant Nest	-27.8259062	152.9705428
21	Fire Ant Nest	-27.82320617	152.9714452
22	Fire Ant Nest	-27.82305476	152.9715933
23	Fire Ant Nest	-27.82373978	152.9719678
24	Fire Ant Nest x 3	-27.828342	152.9742967
25	Fire Ant Nest	-27.83498864	152.9740261
26	Fire Ant Nest	-27.83498864	152.9740261

27	Hollow Log	-27.8360755	152.9659452
28	Hollow Log	-27.8364103	152.9656334
29	Hollow Log	-27.8373568	152.9641677
30	Hollow Log	-27.8368335	152.9636613
31	Hollow Log	-27.8370427	152.9632469
32	Hollow Log	-27.8346881	152.9581739
33	Hollow Log	-27.8343072	152.9585878
34	Hollow Log	-27.8359005	152.9634522
35	Hollow Log	-27.835705	152.9637714
36	Hollow Log	-27.8358966	152.9643702
37	Hollow Log	-27.8361302	152.9647965
38	Hollow Log	-27.837333	152.9717498
39	Hollow Log	-27.8371552	152.9716536
40	Hollow Log	-27.8380716	152.9723928
41	Hollow Log	-27.8379296	152.9716209
42	Hollow Log	-27.8372712	152.9706365
43	Hollow Log	-27.8371318	152.9700324
44	Hollow Log	-27.8362932	152.9678621
45	Hollow Log	-27.8371484	152.9673487
46	Hollow Log	-27.8373386	152.9676864
47	Hollow Log	-27.83746	152.968783
48	Hollow Log	-27.82963965	152.9657101
49	Hollow Log	-27.82973096	152.9663548
50	Hollow Log	-27.83666753	152.9712156
51	Hollow Log	-27.83681418	152.9722016
52	Hollow Log	-27.83613298	152.9724958
53	Hollow Log	-27.83666753	152.9712156
54	Hollow Log	-27.83681418	152.9722016
55	Hollow Log	-27.83613298	152.9724958

56	Hollow Log	-27.8396598	152.9753831
57	Hollow Log	-27.8386064	152.9758837
58	Hollow Log	-27.840366	152.9766454
59	Hollow Log	-27.8393105	152.9761813
60	Hollow Log	-27.838399	152.9782096
61	Hollow Log	-27.84250392	152.9817041
62	Rocky Outcrop	-27.8356884	152.9711937
63	Rocky Outcrop	-27.8356884	152.9711937
64	Terrestrial Termitaria	-27.8364869	152.9655322
65	Terrestrial Termitaria	-27.8373959	152.9645787
66	Terrestrial Termitaria x 5	-27.8370883	152.9633269
67	Terrestrial Termitaria	-27.8368512	152.9632022
68	Terrestrial Termitaria	-27.8364686	152.9616719
69	Terrestrial Termitaria	-27.8360006	152.9604856
70	Terrestrial Termitaria	-27.8361333	152.9601405
71	Terrestrial Termitaria x 5	-27.835654	152.95982
72	Terrestrial Termitaria	-27.8354917	152.9591539
73	Terrestrial Termitaria x 3	-27.8358878	152.9582981
74	Terrestrial Termitaria	-27.835125	152.962129
75	Terrestrial Termitaria x3	-27.8357991	152.9634318
76	Terrestrial Termitaria	-27.835783	152.9648404
77	Terrestrial Termitaria x 2	-27.8361355	152.9636789
78	Terrestrial Termitaria	-27.8360866	152.9687108
79	Terrestrial Termitaria	-27.8372538	152.9715608
80	Terrestrial Termitaria	-27.8379265	152.9716388
81	Terrestrial Termitaria	-27.8374292	152.9695722
82	Terrestrial Termitaria	-27.8375602	152.9694484
83	Terrestrial Termitaria x 3	-27.83401361	152.9679584
84	Terrestrial Termitaria	-27.83559861	152.9679969

85	Terrestrial Termitaria	-27.83515006	152.9690356
86	Terrestrial Termitaria	-27.83548874	152.970157
87	Terrestrial Termitaria	-27.83486562	152.9704037
88	Terrestrial Termitaria	-27.8369536	152.9726795
89	Terrestrial Termitaria	-27.83531056	152.9735244
90	Terrestrial Termitaria x 3	-27.83401361	152.9679584
91	Terrestrial Termitaria	-27.83559861	152.9679969
92	Terrestrial Termitaria	-27.83515006	152.9690356
93	Terrestrial Termitaria	-27.83548874	152.970157
94	Terrestrial Termitaria	-27.83486562	152.9704037
95	Terrestrial Termitaria	-27.8369536	152.9726795
96	Terrestrial Termitaria	-27.83531056	152.9735244
97	Terrestrial Termitaria	-27.8386849	152.9754689
98	Terrestrial Termitaria	-27.8381664	152.9779122
99	Terrestrial Termitaria	-27.8402765	152.979414
100	Terrestrial Termitaria	-27.8408373	152.9770499
101	Terrestrial Termitaria	-27.8404069	152.9765407
102	Terrestrial Termitaria	-27.8399182	152.975647
103	Terrestrial Termitaria	-27.8393465	152.9761686
104	Terrestrial Termitaria	-27.8394187	152.9766336
105	Terrestrial Termitaria	-27.8388001	152.9782107
106	Terrestrial Termitaria x 2	-27.8255401	152.9687051
107	Terrestrial Termitaria	-27.826844	152.968752
108	Terrestrial Termitaria	-27.8280722	152.9682049
109	Terrestrial Termitaria	-27.8307718	152.9691616
110	Terrestrial Termitaria	-27.8303567	152.9698395
111	Terrestrial Termitaria	-27.8308176	152.9699158
112	Terrestrial Termitaria	-27.8282762	152.9707883
113	Terrestrial Termitaria	-27.8282137	152.969357



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114	Terrestrial Termitaria x 2	-27.8286899	152.9691628
115	Terrestrial Termitaria	-27.82926	152.9706597
116	Terrestrial Termitaria x 2	-27.8285858	152.9729792
117	Terrestrial Termitaria	-27.8252918	152.9693941
118	Terrestrial Termitaria	-27.8299845	152.9691131
119	Terrestrial Termitaria	-27.84372515	152.9792476

## 8. Appendix B: Localities for Identified Arboreal Habitat Features

Number	Habitat Feature	GPS Coordinates	
		Latitude	Longitude
1	Arboreal Termitaria	-27.8366147	152.9647582
2	Arboreal Termitaria	-27.8366887	152.9648536
3	Arboreal Termitaria	-27.8369678	152.9641037
4	Arboreal Termitaria	-27.8367368	152.9637053
5	Arboreal Termitaria	-27.8370500	152.9634173
6	Arboreal Termitaria	-27.8368408	152.9631851
7	Arboreal Termitaria	-27.8358109	152.9600125
8	Arboreal Termitaria	-27.8358074	152.9595272
9	Arboreal Termitaria	-27.8353854	152.9592783
10	Arboreal Termitaria	-27.8354152	152.9590938
11	Arboreal Termitaria	-27.8354242	152.9588066
12	Arboreal Termitaria	-27.8354645	152.9585901
13	Arboreal Termitaria	-27.8356639	152.9583043
14	Arboreal Termitaria	-27.8355302	152.9584822
15	Arboreal Termitaria	-27.8353557	152.9588326
16	Arboreal Termitaria	-27.8354085	152.9627302
17	Arboreal Termitaria	-27.8355006	152.9632306
18	Arboreal Termitaria	-27.8359927	152.9633895
19	Arboreal Termitaria	-27.8359722	152.9643904
20	Arboreal Termitaria	-27.8356972	152.9647789
21	Arboreal Termitaria	-27.8361379	152.9647765
22	Arboreal Termitaria	-27.8355229	152.9651728
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662	Exfoliating Bark (Arboreal)	-27.8372989	152.9639201
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665	Exfoliating Bark (Arboreal)	-27.8361118	152.9636319
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701	Exfoliating Bark (Arboreal)	-27.83692528	152.9730575
702	Exfoliating Bark (Arboreal)	-27.83635808	152.9744308
703	Exfoliating Bark (Arboreal)	-27.8388938	152.9767004
704	Exfoliating Bark (Arboreal)	-27.8403805	152.9765509
705	Exfoliating Bark (Arboreal)	-27.8405004	152.9804138
706	Exfoliating Bark (Arboreal)	-27.8422643	152.9821041
707	Exfoliating Bark (Arboreal)	-27.8258184	152.9685684
708	Exfoliating Bark (Arboreal)	-27.8258083	152.9685773
709	Exfoliating Bark (Arboreal)	-27.8303582	152.9707819
710	Exfoliating Bark (Arboreal)	-27.829531	152.9716744
711	Exfoliating Bark (Arboreal)	-27.8291635	152.9716085
712	Exfoliating Bark (Arboreal)	-27.8288797	152.9711959
713	Exfoliating Bark (Arboreal)	-27.8283664	152.9702928
714	Exfoliating Bark (Arboreal)	-27.8254105	152.9691964
715	Exfoliating Bark (Arboreal)	-27.84202465	152.9794078
716	European Honey Bee Hive	-27.8350846	152.9593185
717	European Honey Bee Hive	-27.84247244	152.9790646
718	Fissure	-27.8374147	152.965282
719	Fissure	-27.83643975	152.9706785
720	Fissure	-27.83643975	152.9706785
721	Fissure	-27.8254153	152.969421
722	Fissure	-27.84240592	152.9810659

723	Hollow Bearing Tree	-27.8360496	152.9658833
724	Hollow Bearing Tree	-27.8360956	152.9659596
725	Hollow Bearing Tree	-27.8365873	152.9646698
726	Hollow Bearing Tree	-27.8370796	152.9649209
727	Hollow Bearing Tree	-27.8372082	152.9643993
728	Hollow Bearing Tree	-27.8374242	152.9641899
729	Hollow Bearing Tree	-27.8373511	152.9641625
730	Hollow Bearing Tree	-27.8372783	152.9638918
731	Hollow Bearing Tree	-27.8353571	152.9594921
732	Hollow Bearing Tree	-27.8350771	152.9582713
733	Hollow Bearing Tree	-27.834929	152.9581674
734	Hollow Bearing Tree	-27.8348695	152.9584237
735	Hollow Bearing Tree	-27.8351751	152.9586918
736	Hollow Bearing Tree	-27.835094	152.9589635
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738	Hollow Bearing Tree	-27.8362397	152.9652975
739	Hollow Bearing Tree	-27.8359479	152.9652566
740	Hollow Bearing Tree	-27.8362019	152.9644662
741	Hollow Bearing Tree	-27.8366939	152.9641318
742	Hollow Bearing Tree	-27.8361318	152.9673988
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744	Hollow Bearing Tree	-27.8380551	152.972415
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750	Hollow Bearing Tree	-27.82962636	152.9645375
751	Hollow Bearing Tree	-27.82975404	152.9646727

752	Hollow Bearing Tree	-27.82968257	152.9646973
753	Hollow Bearing Tree	-27.8296459	152.9649018
754	Hollow Bearing Tree	-27.82962969	152.9651371
755	Hollow Bearing Tree	-27.82974072	152.9653366
756	Hollow Bearing Tree	-27.82969968	152.9656446
757	Hollow Bearing Tree	-27.82982154	152.9655775
758	Hollow Bearing Tree	-27.82966295	152.9656724
759	Hollow Bearing Tree	-27.82970522	152.9658293
760	Hollow Bearing Tree	-27.82980728	152.9658332
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763	Hollow Bearing Tree	-27.829902	152.9663706
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773	Hollow Bearing Tree	-27.83448975	152.968628
774	Hollow Bearing Tree	-27.8355424	152.9681849
775	Hollow Bearing Tree	-27.8352495	152.9689888
776	Hollow Bearing Tree	-27.83476584	152.9692061
777	Hollow Bearing Tree	-27.83436085	152.969649
778	Hollow Bearing Tree	-27.83394707	152.9694811
779	Hollow Bearing Tree	-27.83420847	152.9699456
780	Hollow Bearing Tree	-27.83464622	152.9698809

781	Hollow Bearing Tree	-27.83477104	152.9697607
782	Hollow Bearing Tree	-27.83535767	152.96999
783	Hollow Bearing Tree	-27.83474807	152.97062
784	Hollow Bearing Tree	-27.83528433	152.9710611
785	Hollow Bearing Tree	-27.8363308	152.971319
786	Hollow Bearing Tree	-27.83710013	152.9711334
787	Hollow Bearing Tree	-27.83688442	152.9707581
788	Hollow Bearing Tree	-27.83693368	152.9721091
789	Hollow Bearing Tree	-27.83664116	152.9721655
790	Hollow Bearing Tree	-27.83666674	152.9727544
791	Hollow Bearing Tree	-27.83669629	152.9722715
792	Hollow Bearing Tree	-27.83648012	152.9721904
793	Hollow Bearing Tree	-27.83598573	152.9726615
794	Hollow Bearing Tree	-27.83593262	152.9723604
795	Hollow Bearing Tree	-27.83590792	152.9725424
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810	Hollow Bearing Tree	-27.8363308	152.971319
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848	Hollow Stump	-27.8371181	152.9700405
849	Hollow Stump	-27.837589	152.9698846
850	Hollow Stump	-27.8353562	152.9684885
851	Hollow Stump	-27.83537757	152.9705757
852	Hollow Stump	-27.83489517	152.9715119
853	Hollow Stump	-27.837228	152.9717061
854	Hollow Stump	-27.8353562	152.9684885
855	Hollow Stump	-27.83537757	152.9705757
856	Hollow Stump	-27.83489517	152.9715119
857	Hollow Stump	-27.837228	152.9717061
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859	Hollow Stump	-27.8407505	152.9775622
860	Hollow Stump	-27.8408072	152.9771138
861	Hollow Stump	-27.8396385	152.9754578
862	Hollow Stump	-27.8393941	152.9773873
863	Hollow Stump	-27.8384517	152.9781789
864	Hollow Stump	-27.8256065	152.9698871
865	Hollow Stump	-27.8257506	152.9690379
866	Native Bee Hive	-27.836686	152.9690135
867	Native Bee Hive	-27.8370183	152.9669519

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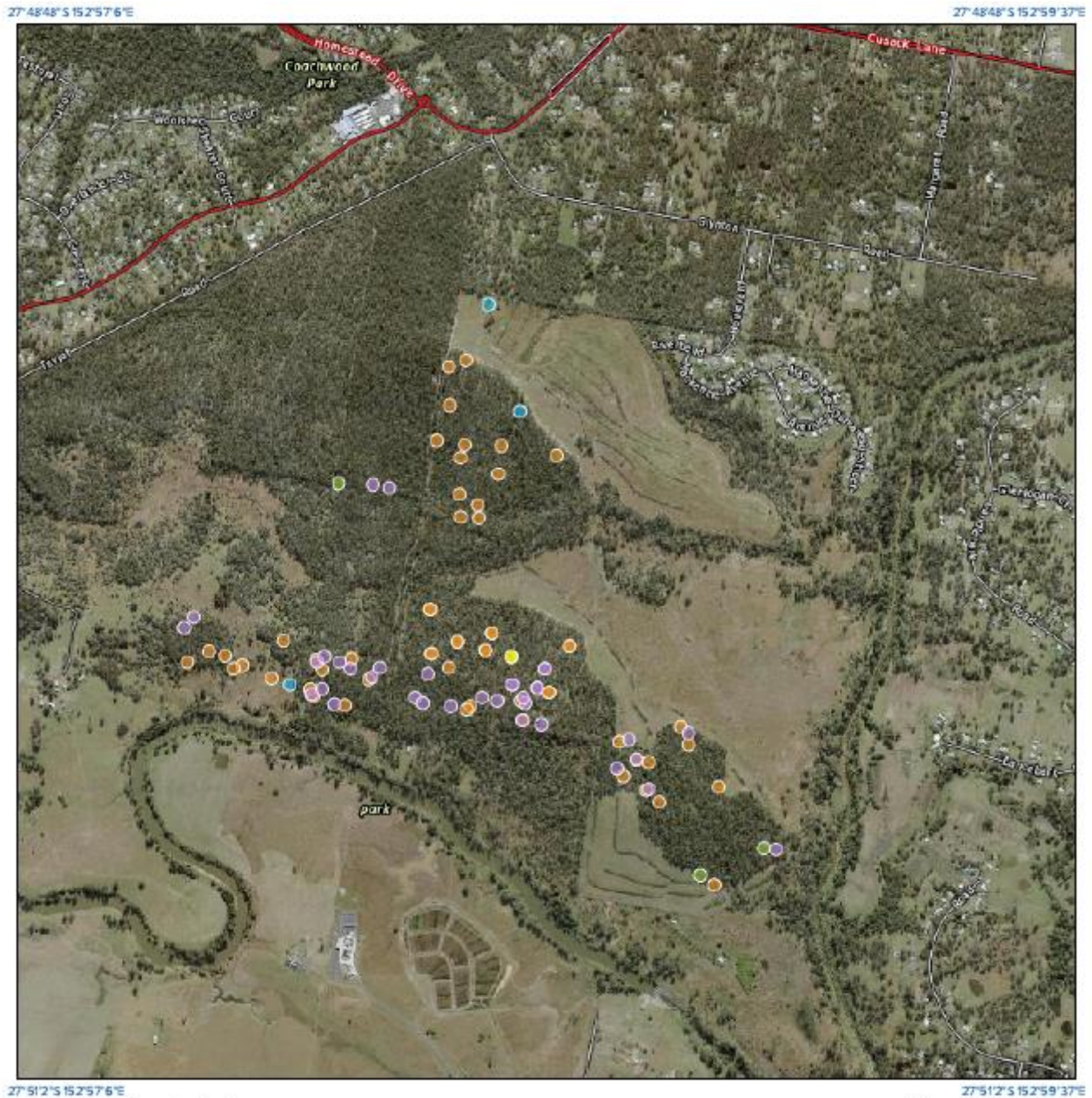
868	Paper Wasp Nest	-27.8369444	152.9649616
869	Paper Wasp Nest	-27.8415853	152.9817721
870	Koala Scat (Fresh)	-27.8285227	152.968983



## 9. Appendix C: Localities for Identified Aquatic Habitat Features

Number	Habitat Feature	GPS Coordinates	
		Latitude	Longitude
1	Dam	-27.8282838	152.974304
2	Ephemeral Pool	-27.83417457	152.9712845
3	Ephemeral Pool	-27.83484942	152.9712191

## 10. Appendix D: Artificial Debris, Bark Exfoliations, Terrestrial Termitaria, Hollow Log and Rock Locations



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 Legend

 Attribution

POINT-Terrestrial  
Termitaria.csv



POINT-Hollow Log.csv



POINT-Artificial Debris.csv



POINT-Bark Exfoliations  
(Terrestrial).csv



POINT-Rocky Outcrop.csv



Road Crossing

— Bridge  
— Tunnel

Road

— Highway  
— Main  
— Local  
— Private

Cities and Towns



Railway



Maxar

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## 11. Appendix E: Fire Ant Nest Locations



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 Legend

 Attribution

**POINT-Fire Ant Nest.csv**



**Cities and Towns**



**Railway**



**Road Crossing**

 Bridge

 Tunnel

**Road**

 Highway

 Main

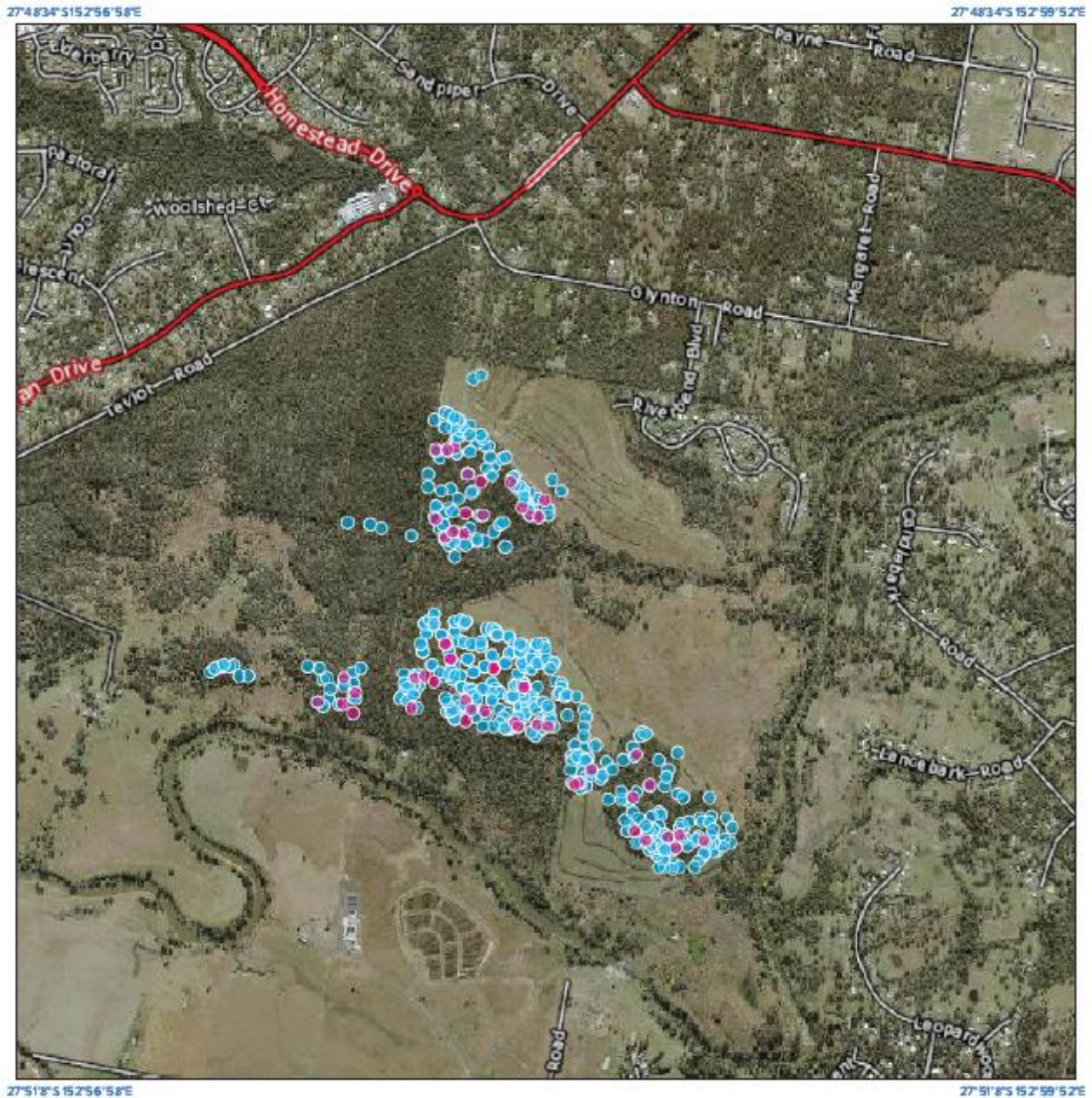
 Local

 Private

Maxar

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## 12. Appendix F: Arboreal Termitaria Locations



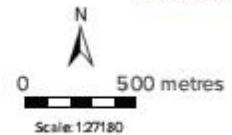
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## Legend

**POINT-Arboreal Termitaria**  
.csv



**POINT-Arboreal Termitaria**  
with excavation.csv



**Railway**



**Road crossing**

— Bridge

— Tunnel

**Cities and Towns**



**Road**

— Highway

— Main

— Local

— Private

## Attribution

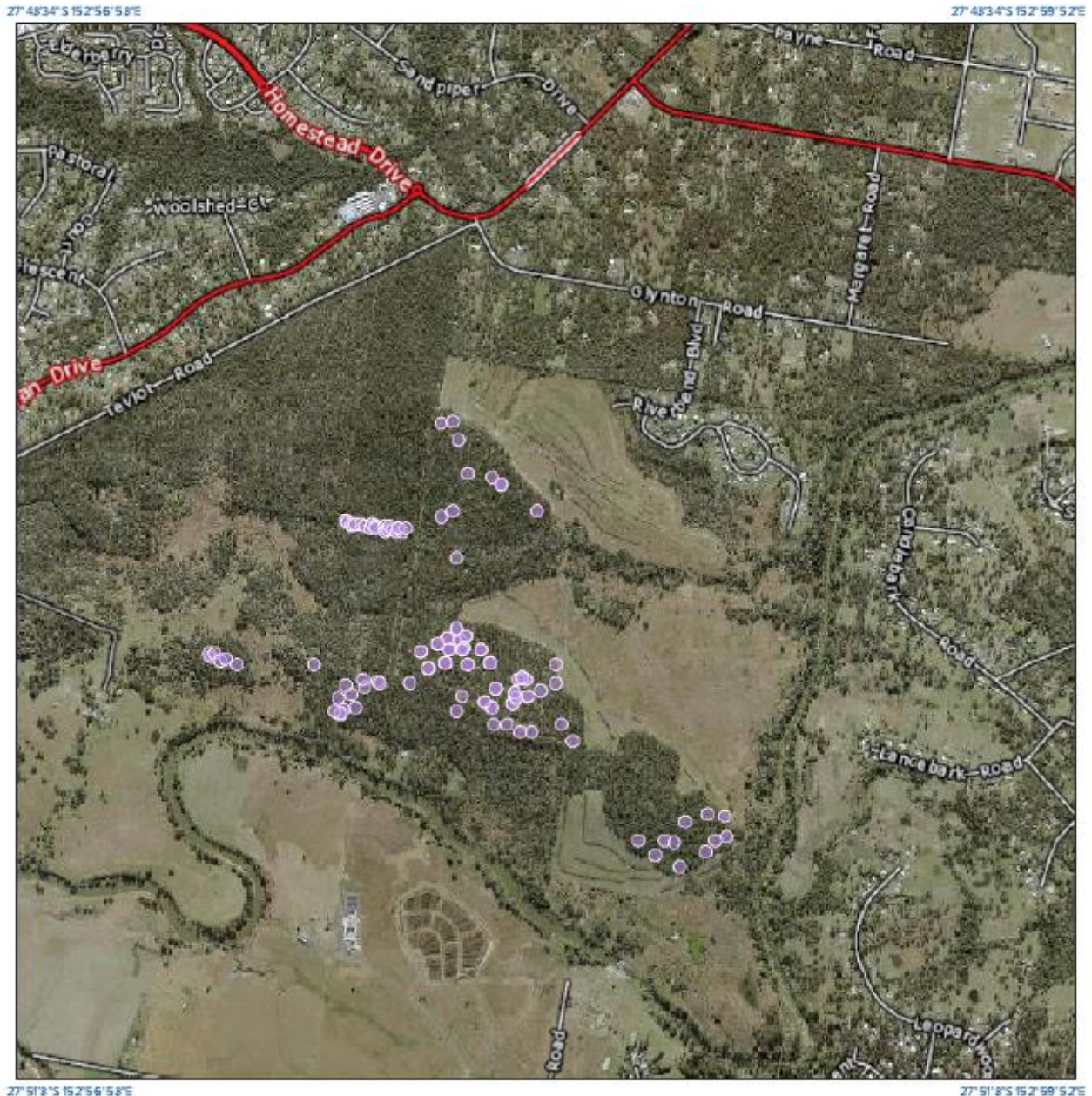
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### 13. Appendix G: Hollow Bearing Tree Locations



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 Legend

**POINT-Hollow Bearing  
Tree.csv**



**Road Crossing**

-  Bridge
-  Tunnel

**Road**

-  Highway
-  Main
-  Local
-  Private

**Cities and Towns**



**Railway**



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## 14. Appendix H: Stag Tree Locations



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 **Legend**

 **Attribution**

**POINT-Dead Stag.csv**



**Cities and Towns**



**Railway**



**Road Crossing**



Tunnel

**Road**



Main

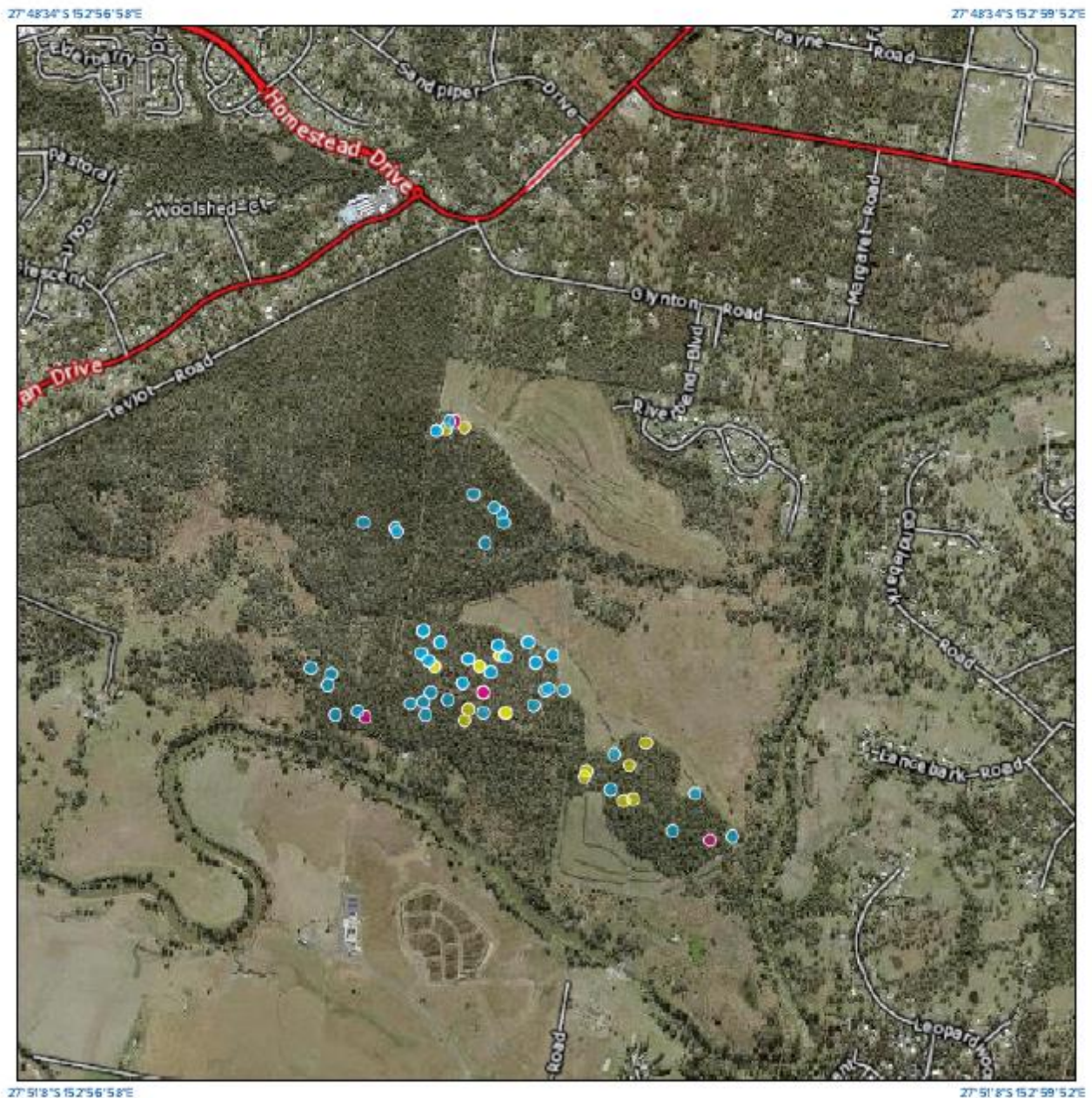


Private

Maxar

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## 15. Appendix I: Hollow Stump, Fissure, and Exfoliating Bark Locations



27°51'8\"/>

27°51'8\"/>

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Legend located on next page



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## Legend

### POINT-Hollow Stump.csv



### POINT-Fissure.csv



### POINT-Exfoliating Bark (Arboreal).csv



### Cities and Towns



### Road Crossing

— Bridge

— Tunnel

### Road

— Highway

— Main

— Local

— Private

### Railway



## Attribution

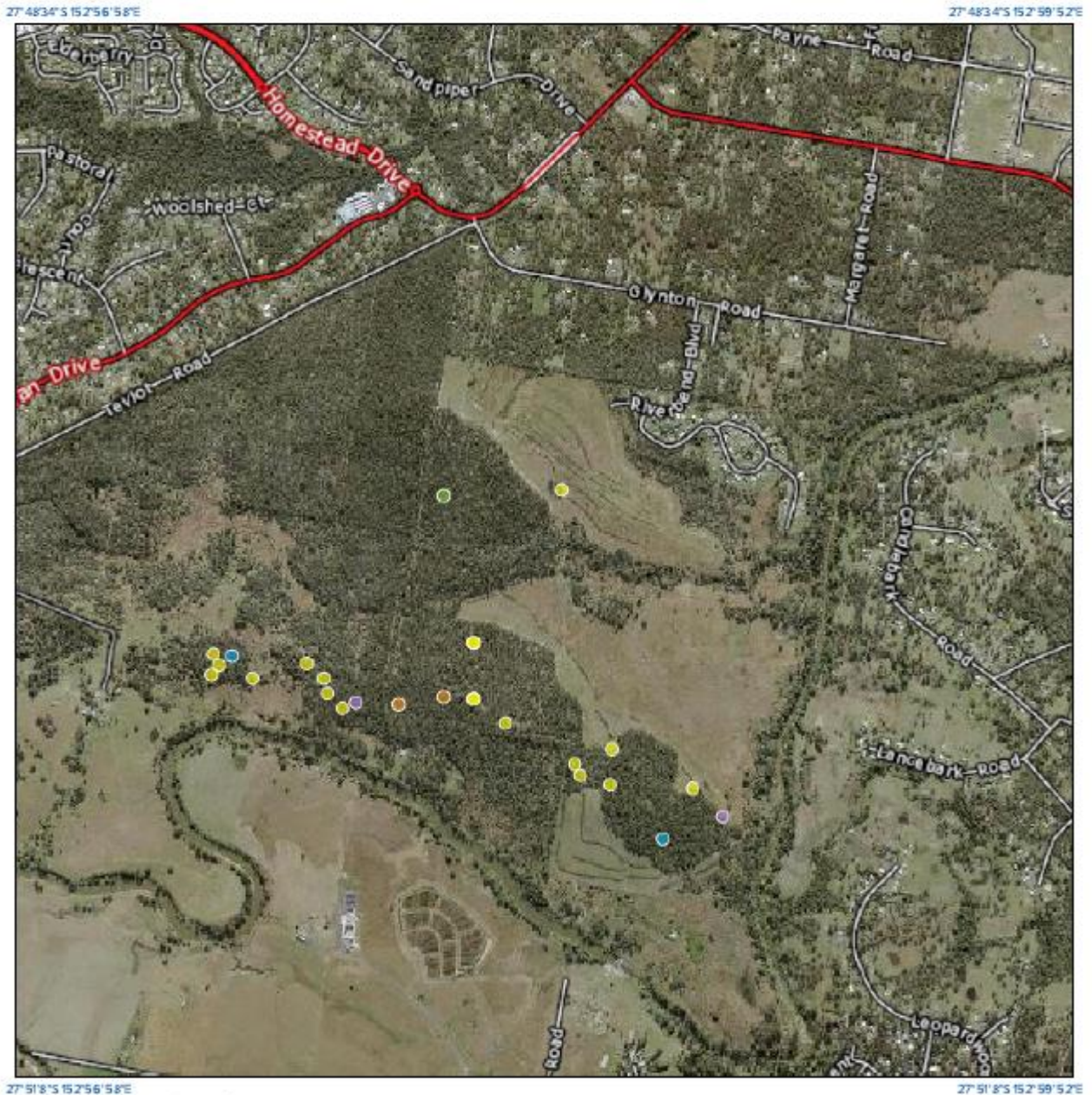
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## 16. Appendix J: Bird Nest, Koala Scat, Bee Hive and Paper Wasp Nest Locations



27°51'8\"/>

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### Legend

POINT-Bird Nest.csv



Road



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## 17. Appendix J: Aquatic Habitat Feature Locations



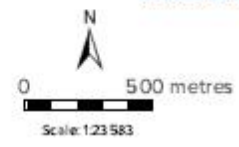
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## Legend

### POINT-Ephemeral Pool.csv



### POINT-Dam.csv



### Road Crossing

- Bridge
- Tunnel

### Road

- Highway
- Main
- Local
- Private

### Cities and Towns



### Railway



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## 18. Appendix K: Koala Habitat Values



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 Legend

Koala priority area



Core koala habitat area



Identified koala broad-  
hectare area



Locally refined koala habitat  
area



Road crossing

— Bridge

— Tunnel

Cities and Towns



Road

 Highway

 Main

 Local

 Private

Railway



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## 19. Appendix L: EPBC Act Protected Matters Report



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# EPBC Act Protected Matters Report

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

Report created: 02-Oct-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

## Summary

### Matters of National Environment Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	1
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	7
<a href="#">Listed Threatened Species:</a>	46
<a href="#">Listed Migratory Species:</a>	16

### 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

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.

<a href="#">Commonwealth Lands:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	21
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	None

### Extra Information

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

<a href="#">State and Territory Reserves:</a>	1
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">EPBC Act Referrals:</a>	27
<a href="#">Key Ecological Features (Marine):</a>	None
<a href="#">Biologically Important Areas:</a>	None
<a href="#">Bioregional Assessments:</a>	1
<a href="#">Geological and Bioregional Assessments:</a>	None

## Details

### Matters of National Environmental Significance

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

Ramsar Site Name	Proximity	Buffer Status
<a href="#">Moreton bay</a>	20 - 30km upstream from Ramsar site	In feature area

#### Listed Threatened Ecological Communities [ Resource Information ]

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

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community</a>	Endangered	Community may occur within area	In feature area
<a href="#">Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland</a>	Endangered	Community likely to occur within area	In feature area
<a href="#">Grey box-grey gum wet forest of subtropical eastern Australia</a>	Endangered	Community likely to occur within area	In buffer area only
<a href="#">Lowland Rainforest of Subtropical Australia</a>	Critically Endangered	Community may occur within area	In feature area
<a href="#">Poplar Box Grassy Woodland on Alluvial Plains</a>	Endangered	Community may occur within area	In feature area
<a href="#">Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland</a>	Critically Endangered	Community likely to occur within area	In buffer area only
<a href="#">White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</a>	Critically Endangered	Community likely to occur within area	In feature area

#### Listed Threatened Species [ Resource Information ]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Anthochaera phrygia</a> Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
<a href="#">Botaurus poiciloptilus</a> Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Calyptorhynchus lathami lathami</a> South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Cyclopsitta diophthalma coxeni</a> Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Erythrotriorchis radiatus</a> Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Geophaps scripta scripta</a> Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Grantiella picta</a> Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Turnix melanogaster</a> Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<b>FISH</b>			
<a href="#">Maccullocheilla mariensis</a> Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In feature area
<b>FROG</b>			
<a href="#">Mixophyes fleayi</a> Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area	In buffer area only
<b>INSECT</b>			
<a href="#">Argynnis hyperbius inconstans</a> Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Phyllodes imperialis smithersi</a> Pink Underwing Moth [86084]	Endangered	Species or species habitat may occur within area	In buffer area only
<b>MAMMAL</b>			
<a href="#">Chalinolobus dwyeri</a> Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Dasyurus maculatus maculatus (SE mainland population)</a> Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Macroderma gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Petauroides volans</a> Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Petaurus australis australis</a> Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Petrogale penicillata</a> Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</a> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Potorous tridactylus tridactylus</a> Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Pteropus poliocephalus</a> Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
<b>PLANT</b>			
<a href="#">Arthraxon hispidus</a> Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Bosistoa transversa</a> Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Cryptostylis hunteriana</a> Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Cupaniopsis shirleyana</a> Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Cupaniopsis tomentella</a> Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Dichanthium setosum</a> bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Fontainea venosa</a> [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Macadamia integrifolia</a> Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Macadamia tetraphylla</a> Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Notelaea ipsyiciensis</a> Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Notelaea lloydii</a> Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<a href="#">Rhodamnia rubescens</a> Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Rhodomyrtus psidioides</a> Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Samadera bidwillii</a> Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Thesium australe</a> Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<b>REPTILE</b>			

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Coeranoscincus reticulatus</a> Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Delma torquata</a> Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Furina dunmali</a> Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area

**Listed Migratory Species** [ Resource Information ]

Scientific Name	Threatened Category	Presence Text	Buffer Status
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**Migratory Marine Birds**

<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
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**Migratory Terrestrial Species**

<a href="#">Cuculus optatus</a> Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Monarcha melanopsis</a> Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Symposiachrus trivirgatus</a> as <a href="#">Monarcha trivirgatus</a> Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In feature area
<b>Migratory Wetlands Species</b>			
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

#### Other Matters Protected by the EPBC Act

Listed Marine Species			[ Resource Information ]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
<a href="#">Anseranas semipalmata</a> Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Bubulcus ibis as Ardea ibis</a> Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Monarcha melanopsis</a> Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Symposiachrus trivirgatus</a> as <a href="#">Monarcha trivirgatus</a> Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

## Extra Information

State and Territory Reserves			[ Resource Information ]
Protected Area Name	Reserve Type	State	Buffer Status
Henderson Reserve	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals					[ Resource Information ]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status	
<b>Controlled action</b>					
<a href="#">Bushman Drive Residential Development, Jimboomba, Qld</a>	2018/8376	Controlled Action	Further Information Request	In feature area	
<a href="#">Casino Ipswich Pipeline</a>	2007/3877	Controlled Action	Completed	In feature area	
<a href="#">Cedar Grove Connector Pipeline</a>	2011/6013	Controlled Action	Completed	In feature area	
<a href="#">Flagstone West Urban Development Project, QLD</a>	2014/7206	Controlled Action	Post-Approval	In feature area	
<a href="#">Greater Flagstone master planned residential development, Undullah, Qld</a>	2015/7530	Controlled Action	Post-Approval	In feature area	
<a href="#">Inland Rail Calvert to Kagaru Project</a>	2017/7944	Controlled Action	Assessment Approach	In buffer area only	
<a href="#">Recreation Fields and Ancillary Sporting Facilities for Emmaus College</a>	2009/5187	Controlled Action	Post-Approval	In buffer area only	
<a href="#">Residential Development, Lot 4 RP45728, New Beith, Qld</a>	2019/8398	Controlled Action	Further Information Request	In buffer area only	
<a href="#">Residential development, Lots 3, 200 and 1, approx 6.5km SW Undullah, Qld</a>	2016/7772	Controlled Action	Further Information Request	In buffer area only	

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<b>Controlled action</b>				
<a href="#">Residential development, Teviot Road, north Beaudesert, Qld</a>	2016/7724	Controlled Action	Post-Approval	In feature area
<a href="#">Residential Development (Lot30, SP309195) Mountain Ridge Rd, South Maclean, Qld</a>	2019/8408	Controlled Action	Post-Approval	In buffer area only
<a href="#">Rural Residential Development &amp; Associated Infrastructure</a>	2009/4890	Controlled Action	Post-Approval	In buffer area only
<a href="#">Southern Regional Water Pipeline</a>	2006/2593	Controlled Action	Post-Approval	In buffer area only
<a href="#">Tambrae Greater Flagstone Residential Development, New Beith, QLD</a>	2019/8412	Controlled Action	Further Information Request	In buffer area only
<a href="#">Wyaralong Dam</a>	2006/3157	Controlled Action	Post-Approval	In buffer area only
<b>Not controlled action</b>				
<a href="#">Cedar Grove Weir</a>	2006/2731	Not Controlled Action	Completed	In feature area
<a href="#">Construction and Operation of Sport and Recreation Fields Emmaus College</a>	2012/6389	Not Controlled Action	Completed	In buffer area only
<a href="#">Construction and upgrade of approximately 7km of external road corridor, Flagstone, Qld</a>	2014/7319	Not Controlled Action	Completed	In feature area
<a href="#">Construction of a new water main (pipeline), Jimboomba, QLD</a>	2010/5576	Not Controlled Action	Completed	In buffer area only
<a href="#">Flagstone Central to Cedar Grove WWTP Conveyance Pipeline</a>	2018/8190	Not Controlled Action	Completed	In feature area
<a href="#">Greenbank to Flagstone Central Conveyance Pipeline Project, Qld</a>	2018/8344	Not Controlled Action	Completed	In buffer area only
<a href="#">Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia</a>	2015/7522	Not Controlled Action	Completed	In feature area
<a href="#">South West Pipeline and Wyaralong Tanks Project, Qld</a>	2018/8320	Not Controlled Action	Completed	In feature area
<a href="#">Upgraded sewerage infrastructure in the Helensvale/Coombah catchment</a>	2004/1427	Not Controlled Action	Completed	In buffer area only
<b>Not controlled action (particular manner)</b>				
<a href="#">Construction &amp; Operation 275/330kV Transmission Line</a>	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval	In feature area



Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<b>Not controlled action (particular manner)</b>				
<a href="#">Residential subdivision 348-434 Cusack Lane, Jimboomba, Qld</a>	2015/7617	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
<b>Referral decision</b>				
<a href="#">Kagaru to Acacia Ridge and Bromelton Inland Rail Project</a>	2021/8927	Referral Decision	Referral Publication	In feature area
<b>Bioregional Assessments</b>				
SubRegion	BioRegion	Website	Buffer Status	
Clarence-Moreton	Clarence-Moreton	<a href="#">BA website</a>	In feature area	

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# Caveat

## 1 PURPOSE

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

The report contains the mapped locations of:

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

## 2 DISCLAIMER

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

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

## 3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

## 4 LIMITATIONS

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

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

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

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

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

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

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## Acknowledgements

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

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

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

Please feel free to provide feedback via the [Contact Us](#) page.

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## 20. Appendix M: WildNet Species List



**Queensland  
Government**

### WildNet species list

Search Criteria: Species List for a Specified Point  
Species: Animals  
Type: Native  
Queensland status: All  
Records: All  
Date: Since 1980  
Latitude: -27.8293  
Longitude: 152.9552  
Distance: 5  
Email: jasmine@qfc.com.au  
Date submitted: Sunday 02 Oct 2022 15:26:05  
Date extracted: Sunday 02 Oct 2022 15:30:03

The number of records retrieved = 198

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Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	<i>Litoria balatus</i>	slender bleating tree frog		C		3
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		20
animals	amphibians	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog		C		12
animals	amphibians	Hylidae	<i>Litoria gracilentia</i>	graceful treefrog		C		5
animals	amphibians	Hylidae	<i>Litoria latopalmata</i>	broad palmed rocketfrog		C		3
animals	amphibians	Hylidae	<i>Litoria nasuta</i>	striped rocketfrog		C		4
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		6
animals	amphibians	Limnodynastidae	<i>Limnodynastes peronii</i>	striped marshfrog		C		6
animals	amphibians	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog		C		2
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		3
animals	amphibians	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog		C		9
animals	amphibians	Myobatrachidae	<i>Crinia parinsignifera</i>	beeping froglet		C		9
animals	amphibians	Myobatrachidae	<i>Mixophyes fasciolatus</i>	great barred frog		C		2
animals	amphibians	Myobatrachidae	<i>Uperoleia rugosa</i>	chubby gungan		C		1
animals	birds	Acanthizidae	<i>Acanthiza chrysorrhoa</i>	yellow-rumped thornbill		C		1
animals	birds	Acanthizidae	<i>Acanthiza nana</i>	yellow thornbill		C		3
animals	birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		C		1
animals	birds	Acanthizidae	<i>Acanthiza reguloides</i>	buff-rumped thornbill		C		11
animals	birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		C		9
animals	birds	Acanthizidae	<i>Pyrrholaemus sagittatus</i>	speckled warbler		C		9
animals	birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		C		5
animals	birds	Acanthizidae	<i>Smicornis brevirostris</i>	weebill		C		7
animals	birds	Accipitridae	<i>Accipiter novaehollandiae</i>	grey goshawk		C		1
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		1
animals	birds	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza		C		3
animals	birds	Accipitridae	<i>Circus assimilis</i>	spotted harrier		C		1
animals	birds	Accipitridae	<i>Elanus axillaris</i>	black-shouldered kite		C		1
animals	birds	Alaudidae	<i>Mirafra javanica</i>	Horsfield's bushlark		C		1
animals	birds	Alcedinidae	<i>Ceyx azureus</i>	azure kingfisher		C		4
animals	birds	Anatidae	<i>Anas gracilis</i>	grey teal		C		1
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		24
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		10
animals	birds	Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail		V	V	1
animals	birds	Ardeidae	<i>Ardea alba modesta</i>	eastern great egret		C		3
animals	birds	Ardeidae	<i>Bubulcus ibis</i>	cattle egret		C		10
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		5
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird		C		20
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		16
animals	birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		C		45
animals	birds	Artamidae	<i>Strepera graculina</i>	pied currawong		C		3
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		16
animals	birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		C		2
animals	birds	Cacatuidae	<i>Eolophus roseicapilla</i>	galah		C		22
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		26
animals	birds	Campephagidae	<i>Edolisoma tenuirostre</i>	common cicadabird		C		1
animals	birds	Charadriidae	<i>Elseyornis melanops</i>	black-fronted dotterel		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		C		4
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		6
animals	birds	Charadriidae	<i>Vanellus tricolor</i>	banded lapwing		C		2
animals	birds	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black-necked stork		C		1
animals	birds	Cisticolidae	<i>Cisticola exilis</i>	golden-headed cisticola		C		6
animals	birds	Climacteridae	<i>Cormobates leucophaea</i>	white-throated treecreeper		C		1
animals	birds	Climacteridae	<i>Cormobates leucophaea metastasis</i>	white-throated treecreeper (southern)		C		2
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		14
animals	birds	Columbidae	<i>Geopelia placida</i>	peaceful dove		C		3
animals	birds	Columbidae	<i>Lopholaimus antarcticus</i>	topknot pigeon		C		1
animals	birds	Columbidae	<i>Macropygia amboinensis</i>	brown cuckoo-dove		C		1
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		17
animals	birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		C		3
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		16
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		39
animals	birds	Cuculidae	<i>Cacomantis flabelliformis</i>	fan-tailed cuckoo		C		1
animals	birds	Cuculidae	<i>Cacomantis variolosus</i>	brush cuckoo		C		1
animals	birds	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal		C		7
animals	birds	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo		C		1
animals	birds	Cuculidae	<i>Eudynamys orientalis</i>	eastern koel		C		2
animals	birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		C		4
animals	birds	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		1
animals	birds	Estrildidae	<i>Lonchura castaneothorax</i>	chestnut-breasted mannikin		C		4
animals	birds	Estrildidae	<i>Neochmia modesta</i>	plum-headed finch		C		1
animals	birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		C		12
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		6
animals	birds	Falconidae	<i>Falco berigora</i>	brown falcon		C		1
animals	birds	Falconidae	<i>Falco longipennis</i>	Australian hobby		C		2
animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		24
animals	birds	Halcyonidae	<i>Todiramphus macleayii</i>	forest kingfisher		C		6
animals	birds	Halcyonidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		14
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		9
animals	birds	Hirundinidae	<i>Petrochelidon ariel</i>	fairy martin		C		2
animals	birds	Hirundinidae	<i>Petrochelidon nigricans</i>	tree martin		C		1
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		17
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		4
animals	birds	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		15
animals	birds	Megaluridae	<i>Cincloramphus timoriensis</i>	tawny grassbird		C		6
animals	birds	Meliphagidae	<i>Acanthorhynchus tenuirostris</i>	eastern spinebill		C		2
animals	birds	Meliphagidae	<i>Caligavis chrysops</i>	yellow-faced honeyeater		C		20
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		25
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		13
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		24
animals	birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		C		17
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		22
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		7

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		5
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		15
animals	birds	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater		C		7
animals	birds	Meliphagidae	<i>Ptilotula fusca</i>	fuscous honeyeater		C		6
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		14
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		25
animals	birds	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher		C		1
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		3
animals	birds	Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian pipit		C		1
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		4
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		5
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		2
animals	birds	Oriolidae	<i>Sphecotheres vieilloti</i>	Australasian figbird		C		5
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		10
animals	birds	Pachycephalidae	<i>Colluricincla megarhyncha</i>	little shrike-thrush		C		1
animals	birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		C		10
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		15
animals	birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		C		5
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		28
animals	birds	Petroicidae	<i>Eopsaltria australis</i>	eastern yellow robin		C		2
animals	birds	Petroicidae	<i>Microeca fascinans</i>	jacky winter		C		4
animals	birds	Petroicidae	<i>Petroica boodang</i>	scarlet robin		C		1
animals	birds	Petroicidae	<i>Petroica rosea</i>	rose robin		C		11
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		3
animals	birds	Phasianidae	<i>Synoicus ypsilophorus</i>	brown quail		C		3
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		7
animals	birds	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler		C		4
animals	birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		C		14
animals	birds	Psittacidae	<i>Parvipsitta pusilla</i>	little lorikeet		C		6
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		26
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		23
animals	birds	Psittacidae	<i>Trichoglossus moluccanus</i>	rainbow lorikeet		C		33
animals	birds	Psophodidae	<i>Cinclosoma punctatum</i>	spotted quail-thrush		C		2
animals	birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		C		1
animals	birds	Ptilonorhynchidae	<i>Ailuroedus crassirostris</i>	green catbird		C		1
animals	birds	Rallidae	<i>Gallirallus philippensis</i>	buff-banded rail		C		1
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		22
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		20
animals	birds	Rhipiduridae	<i>Rhipidura rufifrons</i>	rufous fantail		SL		2
animals	birds	Strigidae	<i>Ninox boobook</i>	southern boobook		C		3
animals	birds	Strigidae	<i>Ninox strenua</i>	powerful owl		V		1
animals	birds	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill		C		3
animals	birds	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill		C		1
animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		6
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		10
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silveryeye		C		16

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Dasyuridae	<i>Antechinus flavipes flavipes</i>	yellow-footed antechinus (south-east Queensland)		C		24
animals	mammals	Dasyuridae	<i>Phascogale tapoatafa tapoatafa</i>	brush-tailed phascogale		C		1
animals	mammals	Dasyuridae	<i>Sminthopsis murina</i>	common dunnart		C		10
animals	mammals	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo		C		20
animals	mammals	Macropodidae	<i>Notamacropus rufogriseus</i>	red-necked wallaby		C		15
animals	mammals	Muridae	<i>Rattus fuscipes</i>	bush rat		C		2
animals	mammals	Muridae	<i>Rattus tunneyi</i>	pale field-rat		C		2
animals	mammals	Peramelidae	<i>Isoodon macrourus</i>	northern brown bandicoot		C		1
animals	mammals	Peramelidae	<i>Isoodon sp.</i>			C		1
animals	mammals	Petauridae	<i>Petaurus australis australis</i>	yellow-bellied glider (southern subspecies)		V	V	1
animals	mammals	Petauridae	<i>Petaurus breviceps sensu lato</i>	sugar glider		C		7
animals	mammals	Petauridae	<i>Petaurus norfolcensis</i>	squirrel glider		C		1
animals	mammals	Phalangeridae	<i>Trichosurus sp.</i>			C		1
animals	mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		C		13
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		E	E	25
animals	mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		C		1
animals	mammals	Pteropodidae	<i>Pteropus alecto</i>	black flying-fox		C		29
animals	mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox		C	V	15
animals	mammals	Pteropodidae	<i>Pteropus scapulatus</i>	little red flying-fox		C		4
animals	mammals	Pteropodidae	<i>Pteropus sp.</i>			C		1
animals	mammals	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna		SL		2
animals	mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		C		1
animals	ray-finned fishes	Ambassidae	<i>Ambassis agassizii</i>	Agassiz's glassfish				14
animals	ray-finned fishes	Anguillidae	<i>Anguilla australis</i>	southern shortfin eel				7
animals	ray-finned fishes	Anguillidae	<i>Anguilla reinhardtii</i>	longfin eel				39
animals	ray-finned fishes	Anguillidae	<i>Anguilla sp.</i>					1
animals	ray-finned fishes	Atherinidae	<i>Craterocephalus stercusmuscarum</i>	flyspecked hardyhead				4
animals	ray-finned fishes	Eleotridae	<i>Gobiomorphus australis</i>	striped gudgeon				36
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris compressa</i>	empire gudgeon				22
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris galii</i>	firetail gudgeon				38
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris klunzingeri</i>	western carp gudgeon				30
animals	ray-finned fishes	Eleotridae	<i>Hypseleotris sp.</i>					1
animals	ray-finned fishes	Eleotridae	<i>Mogurnda adspersa</i>	southern purplespotted gudgeon				1
animals	ray-finned fishes	Eleotridae	<i>Philypnodon grandiceps</i>	flathead gudgeon				20
animals	ray-finned fishes	Eleotridae	<i>Philypnodon macrostomus</i>	dwarf flathead gudgeon				6
animals	ray-finned fishes	Melanotaeniidae	<i>Melanotaenia duboulayi</i>	crimsonspotted rainbowfish				38
animals	ray-finned fishes	Mugilidae	<i>Mugil cephalus</i>	sea mullet				28
animals	ray-finned fishes	Mugilidae	<i>Trachystoma petardi</i>	pinkeye mullet				8
animals	ray-finned fishes	Percichthyidae	<i>Macquaria novemaculeata</i>	Australian bass				3
animals	ray-finned fishes	Plotosidae	<i>Tandanus tandanus</i>	freshwater catfish				6
animals	ray-finned fishes	Pseudomugilidae	<i>Pseudomugil signifer</i>	Pacific blue eye				17
animals	ray-finned fishes	Retropinnidae	<i>Retropinna semoni</i>	Australian smelt				14
animals	ray-finned fishes	Scorpaenidae	<i>Notesthes robusta</i>	bullrout				2
animals	ray-finned fishes	Terapontidae	<i>Leiopotherapon unicolor</i>	spangled perch				24



Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Agamidae	<i>Amphibolurus muricatus</i>	jacky lizard		C		1
animals	reptiles	Agamidae	<i>Chlamydosaurus kingii</i>	frilled lizard		C		1
animals	reptiles	Agamidae	<i>Intellagama lesueurii</i>	eastern water dragon		C		3
animals	reptiles	Agamidae	<i>Pogona barbata</i>	bearded dragon		C		14
animals	reptiles	Boidae	<i>Morelia spilota</i>	carpet python		C		2
animals	reptiles	Chelidae	<i>Chelodina longicollis</i>	eastern snake-necked turtle		C		1
animals	reptiles	Colubridae	<i>Tropidonophis mairii</i>	freshwater snake		C		1
animals	reptiles	Diplodactylidae	<i>Nebulifera robusta</i>	robust velvet gecko		C		2
animals	reptiles	Elapidae	<i>Cryptophis nigrescens</i>	eastern small-eyed snake		C		1
animals	reptiles	Scincidae	<i>Carlia munda</i>	shaded-litter rainbow-skink		C		2
animals	reptiles	Scincidae	<i>Carlia vivax</i>	tussock rainbow-skink		C		2
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink		C		3
animals	reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		C		2
animals	reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water skink		C		1
animals	reptiles	Varanidae	<i>Varanus varius</i>	lace monitor		C		2
animals	uncertain	Indeterminate	<i>Indeterminate</i>	Unknown or Code Pending				1

#### CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*.

The codes are Extinct (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*.

The values of EPBC are Extinct (EX), Extinct in the Wild (XW), Critically Endangered (CE), Endangered (E), Vulnerable (V) and Conservation Dependent (CD).

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).

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

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

# Appendix D

## Fauna Management and Spotter/Catcher Services Reports

# Fauna Management and Spotter/Catcher Services Report

Riverbend  
Teviot Road, Flagstone  
Report prepared for CCA Winslow Pty Ltd



Date:	04/07/2022
Title:	Fauna Management and Spotter/Catcher Services Report Riverbend – Teviot Road, Flagstone
Author/s:	Bryan Robinson, Jasmine Zeleny
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## 1 Introduction

Qld Fauna Consultancy Pty Ltd has been engaged by CCA Winslow Pty Ltd to conduct Fauna Spotter/Catcher and Fauna Management activities for works at Riverbend - Teviot Road, Flagstone.

All activities were conducted under the provisions of Rehabilitation Permit (WA0026789) issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), approving the observation and relocation of protected animals.

This report covers clearance activities undertaken in June 2022.

## 2 Methodology

### 2.1 Clearance Investigations

A standard set of observational and active searching techniques were employed each day of clearance to ascertain and identify existing fauna values for each location. These include:

- Assessment of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, fallen branches and bark exfoliations,
- Observation and assessment of occupancy of arboreal microhabitats such as tree hollows, fissures and exfoliations,
- Direct observation of active or exposed fauna,
- Identification of scats, tracks and scratchings to determine fauna present on the site.

All microhabitats were identified and subsequently inspected during clearance.

### 2.2 Specific methodology for Koalas *Phascolarctos cinereus*

Due to the specific requirements relating to the Koala the following techniques were employed at the clearance site to ascertain presence/absence status:

- Use of binoculars to inspect the crown, forks and trunk of trees;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

Recent changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees.

Further provisions include the restriction of all clearance that may directly interfere with the tree a Koala is residing in. Koalas are to leave via their own volition and may not be interfered with by any means. Only when Koalas have vacated a tree can clearance operations include the host tree and surrounding vegetation.

## 2.3 Felling Procedures

Trees identified as having potential fauna values (such as hollows, fissures and exfoliating bark) were clearly marked for supervision during felling and inspected once felled. Efforts were made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks). Where no signs were found or occupant species undeterminable, machinery operators were instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

Limbs were inspected and the direction of felling determined with regards to safety of both machinery and operators. Considerations to potentially occupant fauna were assessed and felling procedures formulated. Felling procedures may have included the following techniques:

- Machinery blades were utilised to shake the tree in an attempt to disturb fauna out of hollows or fissures to determine species present.
- If fauna were present, the tree was either left standing overnight to allow the occupant animal(s) time to leave via their own volition, or if species detected were able to be encouraged from the tree by shaking or direct capture by a wildlife spotter(s). The tree was felled with considerations to potentially undetected fauna.
- Where possible potentially occupied trees were felled with the identified microhabitat receiving minimal contact on impact.
- Adjacent felled trees were utilised to absorb the impact of potential fauna bearing trees.

## 2.4 Communications during Clearance

Each spotter/catcher was equipped with a hand held radio to make positive communications with machinery operators. Communications by radio and positive hand signals were utilised to indicate intentions to machinery operators.

### 3 Results

The following daily inventory details fauna based investigation results for the clearing area. Inspection activities, location, habitat values and fauna found are documented where required. Refer to Appendix A for fauna photos.

#### Thursday 16<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- 0 trees flagged
- One personnel in attendance

<p><b>Arboreal Microhabitats:</b> No. flagged tree/s felled: 1 Nest (N) <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Hollows (H) <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Arboreal termitaria (ATM) <input checked="" type="checkbox"/>Y <input type="checkbox"/>N No. &amp; size of hollow/s (mm): 0</p>
<p><b>Terrestrial Microhabitats:</b> Hollow logs <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Woody debris <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Rock piles <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Burrows <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Other: Dense leaf flitter, bark exfoliations</p>
<p><b>Aquatic habitat/s:</b> Dam <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Creek <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Wetland <input type="checkbox"/>Y <input checked="" type="checkbox"/>N</p>
<p><b>No Fauna Found</b></p>

#### Friday 17<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- 1 trees flagged
- One personnel in attendance

<p><b>Arboreal Microhabitats:</b> No. flagged tree/s felled: 11 Nest (N) <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Hollows (H) <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Arboreal termitaria (ATM) <input checked="" type="checkbox"/>Y <input type="checkbox"/>N Other: Exfoliating bark No. &amp; size of hollow/s (mm): 0</p>
<p><b>Terrestrial Microhabitats:</b> Hollow logs <input checked="" type="checkbox"/>Y <input type="checkbox"/>N Woody debris <input checked="" type="checkbox"/>Y <input type="checkbox"/>N Rock piles <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Burrows <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Other: Dense leaf flitter, bark exfoliations</p>
<p><b>Aquatic habitat/s:</b> Dam <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Creek <input type="checkbox"/>Y <input checked="" type="checkbox"/>N Wetland <input type="checkbox"/>Y <input checked="" type="checkbox"/>N</p>
<p><b>No Fauna Found</b></p>



## Monday 20<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 2 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 12

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 2, 100-149: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Tuesday 21<sup>st</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 6 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 17

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 1, 50-99: 2, 100-149: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Wednesday 22<sup>nd</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 7 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 21

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 1, 50-99: 2, 100-149: 1, 150-199: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Thursday 23<sup>rd</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 10 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 19

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 3, 50-99: 3, 100-149: 6, 150-199: 2, 200-249: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Friday 24<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 2 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 2

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 1, 100-149: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Saturday 25<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- 3 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 2

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, fissure

No. & size of hollow/s (mm): 0

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

**No Fauna Found**

## Monday 27<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 11 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 16

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 2, 100-149: 2, 150-199: 1, 200-249: 4

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Tuesday 28<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 14 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 19

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 5, 100-149: 3, 150-199: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Wednesday 29<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 9 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 18

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 1, 50-99: 1, 100-149: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N Gully (Dry)

### Thursday 30<sup>th</sup> June 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 8 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 13

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 100-149: 1, 150-199: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## 4 Fauna Register

Collectors Name	Date	Time	Capture Location	Capture Location		Count Type	Status	Common Name - Scientific Name	Count	Release Details			Actions				Release Location Description	Comments	
				Latitude	Longitude					Date	Latitude	Longitude	R1	R2	D	I			
John Bolton	20/06/2022	11:05	Riverbend – Teviot Road, Flagstone	-27.8265	152.9697	Alive	Least Concern	Sugar Glider <i>Petaurus breviceps</i>	1	20/06/2022	-27.8237	152.9672	X					Into hollow log	Found in 50-99mm hollow
John Bolton	20/06/2022	11:16	Riverbend – Teviot Road, Flagstone	-27.8266	152.9698	Alive	Least Concern	Rainbow Lorikeet <i>Trichoglossus haematodus</i>	2	20/06/2022	NA	NA		C					2x eggs taken to carer. Jessica – Rosia Road, Park Ridge 0431 330 664
John Bolton	20/06/2022	14:15	Riverbend – Teviot Road, Flagstone	-27.8266	152.9710	Alive	Least Concern	Eastern Small-eyed Snake <i>Cryptophis nigrescens</i>	2	20/06/2022	-27.8239	152.9681	X					Into hollow logs	

John Bolton	20/06/2022	07:50	Riverbend – Teviot Road, Flagstone	-27.8260	152.9692	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	1	20/06/2022	NA	NA				X	Exclusion zone was established and flagged off, and operators alerted to its presence. Exclusion zone had immediate connectivity to vegetation marked for retention as well as connectivity to state forest. Koala was monitored for signs of disturbance and was left overnight for self-relocation.
Rebecca Coller	21/06/2022	11:17	Riverbend – Teviot Road, Flagstone	-27.8270	152.9717	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	1	21/06/2022	-27.8271	152.9718	X				Self-relocated into adjacent habitat and into hollow log

Rebecca Coller	22/06/2022	14:08	Riverbend – Teviot Road, Flagstone	-27.8261	152.9688	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	22/06/2022	-27.8253	152.9675	X					Released into old pile of felled tree stumps in retained vegetation
John Bolton	23/06/2022	11:46	Riverbend – Teviot Road, Flagstone	-27.8278	152.9704	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	23/06/2022	-27.8237	152.9681	X					Onto hollow-bearing tree with dense canopy
John Bolton	23/06/2022	15:42	Riverbend – Teviot Road, Flagstone	-27.8286	152.9709	Alive	Least Concern	Eastern Small-eyed Snake <i>Cryptophis nigrescens</i>	1	23/06/2022	-27.8254	152.9677	X					Under log
John Bolton	23/06/2022	15:56	Riverbend – Teviot Road, Flagstone	-27.8289	152.9712	Alive	Least Concern	Sugar Glider <i>Petaurus breviceps</i>	1	23/06/2022	-27.8252	152.9672	X					Into hollow log
John Bolton	23/06/2022	15:56	Riverbend – Teviot Road, Flagstone	-27.8289	152.9712	Alive	Euthanised	Sugar Glider <i>Petaurus breviceps</i>	1	NA	NA	NA				X		Humanely euthanised by FSC due to fatal injuries



Rebecca Coller	23/06/2022	09:01	Riverbend – Teviot Road, Flagstone	-27.8275	152.9702	Alive	Least Concern	Sugar Glider <i>Petaurus breviceps</i>	1	23/06/2022	-27.8251	152.9673	X				Released into hollow log.	One of two gliders in 50-99mm hollow. The hollow limb containing the gliders hit another tree while being felled and the hollow broke apart on the ground. Surviving glider had full capabilities and was released into a hollow log within the state forest.
Rebecca Coller	23/06/2022	09:01	Riverbend – Teviot Road, Flagstone	-27.8275	152.9702	Alive	Least Concern	Sugar Glider <i>Petaurus breviceps</i>	1	NA	NA	NA			X			The second of the two gliders (see above) which did not survive the impact from felling.

Rebecca Coller	23/06/2022	12:37	Riverbend – Teviot Road, Flagstone	-27.8275	152.9705	Alive	Least Concern	Sugar Glider <i>Petaurus breviceps</i>	1	23/06/2022	-27.8255	152.9674	X				Within hollow of dead, fallen tree in state forest
Rebecca Coller	23/06/2022	14:34	Riverbend – Teviot Road, Flagstone	-27.8283	152.9714	Alive	Least Concern	Common Tree Snake <i>Dendrelaphis punctulatus</i>	1	23/06/2022	-27.8246	152.9672	X				Into dense understorey at base of eucalypts
Rebecca Coller	23/06/2022	14:46	Riverbend – Teviot Road, Flagstone	-27.8278	152.9713	Alive	Least Concern	Graceful Tree Frog <i>Litoria gracilentia</i>	1	23/06/2022	-27.8248	152.9673	X				Into dense leaf litter at base of <i>Acacia</i>
Rebecca Coller	23/06/2022	15:02	Riverbend – Teviot Road, Flagstone	-27.8266	152.9698	Injured	Least Concern	Rainbow Lorikeet <i>Trichoglossus haematodus</i>	2	NA	NA	NA			X	Visible cracks with fluid leaking, deemed unviable.	
Holly Morecroft	24/06/2022	14:55	Riverbend – Teviot Road, Flagstone	-27.8273	152.9694	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	23/06/2022	-27.8239	152.9681	X				Onto hollow-bearing tree with dense canopy

John Bolton	27/06/2022	15:04	Riverbend – Teviot Road, Flagstone	-27.8291	152.9687	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	27/06/2022	-27.8274	152.9678	X					Into hollow stump
John Bolton	27/06/2022	15:59	Riverbend – Teviot Road, Flagstone	-27.8292	152.9686	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	2	27/06/2022	-27.8283	152.9671	X					Into hollow log
Rebecca Collier	27/06/2022	15:49	Riverbend – Teviot Road, Flagstone	-27.8292	152.9687	Alive	Least Concern	Dubious Dtella <i>Gehyra dubia</i>	1	27/06/2022	-27.8283	152.9667	X					Under bark of dead tree
Rebecca Collier	27/06/2022	16:24	Riverbend – Teviot Road, Flagstone	-27.8296	152.9702	Injured	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	NA	NA	NA			X			1x adult. captured from dead tree, appeared stunned with blood coming from ear. Died on the way to the vet.

John Bolton	28/06/2022	09:23	Riverbend – Teviot Road, Flagstone	-27.8290	152.9701	Alive	Least Concern	Common Tree Snake <i>Dendrelaphis punctulatus</i>	3	28/06/2022	-27.8281	152.9657	X	X	Into hollow log	Found in 100-149mm hollow.  2x released, 1x euthanised due to injury.
Rebecca Coller	28/06/2022	09:37	Riverbend – Teviot Road, Flagstone	-27.8287	152.9689	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	3	28/06/2022	-27.8289	152.9668	X		Under bark on tree	
John Bolton	28/06/2022	16:17	Riverbend – Teviot Road, Flagstone	-27.8309	152.9687	Alive	Least Concern	Sugar Glider <i>Petaurus breviceps</i>	2	28/06/2022	-27.8275	152.9666	X		Into hollow log	Found in 150-199mm hollow
Rebecca Coller	29/06/2022	11:24	Riverbend – Teviot Road, Flagstone	-27.8289	152.9717	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	2	29/06/2022	-27.8253	152.9678	X		Under bark on tree	1x adult, 1x juvenile.

Rebecca Collier	29/06/2022	06:47	Riverbend – Teviot Road, Flagstone	-27.8266	152.9717	Deceased	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	NA	NA	NA			X		1x adult. Found deceased on track, run over by machine.
Rebecca Collier	29/06/2022	07:10	Riverbend – Teviot Road, Flagstone	-27.8289	152.8300	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	1	29/06/2022	-27.8253	152.9678				X	Exclusion zone was established and flagged off, and operators alerted to its presence. Exclusion zone had immediate connectivity to vegetation marked for retention as well as connectivity to state forest. Koala was monitored for signs of disturbance and was left overnight for self-relocation.

Rebecca Coller	30/06/2022	10:56	Riverbend – Teviot Road, Flagstone	-27.8301	152.9699	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	30/06/2022	-27.8281	152.9664	X					Into stag tree	1x adult
Rebecca Coller	30/06/2022	11:48	Riverbend – Teviot Road, Flagstone	-27.8296	152.9708	Injured	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	30/06/2022	-27.8318	152.9684	X						Captured from debris on ground, noticed bleeding and investigated - was superficial abrasion. Deemed fit to release, placed into bag and relocated and released into retained habitat.
Rebecca Coller	30/06/2022	15:06	Riverbend – Teviot Road, Flagstone	-27.8296	152.9711	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	3	30/06/2022	-27.8275	152.9667	X					Under bark on tree	3x adults

Rebecca Coller	30/06/2022	15:06	Riverbend – Teviot Road, Flagstone	-27.8296	152.9710	Alive	Least Concern	Dubious Dtella <i>Gehyra dubia</i>	1	30/06/2022	-27.8274	152.9667	X				Under bark on tree	1x adult
Rebecca Coller	30/06/2022	15:06	Riverbend – Teviot Road, Flagstone	-27.8296	152.9710	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	2	30/06/2022	-27.8274	152.9666	X		X		Into dead tree with hollows	2x adults. One alive, one deceased.
Rebecca Coller	30/06/2022	15:37	Riverbend – Teviot Road, Flagstone	-27.8296	152.9710	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	30/06/2022	-27.8296	152.9710	X				Left to self-relocate overnight	Unable to retrieve from hollow, was left inside felled tree with entrance of hollow facing retained habitat to allow the possum to self-relocate overnight.

## 5 Conclusion

All vegetation clearance was supervised as requested by CCA Winslow Pty Ltd and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

Two Koalas were observed during clearance. An exclusion zone was established, and the Koalas was left to self-relocate via their own volition before clearing activities were resumed. Other fauna found during clearance works were relocated (or self-relocated) to adjacent localities comprising suitable refugia and feeding resources consistent with individual species requirements. Young were taken to a certified wildlife carer or veterinary clinic.

All supervised clearance activities were conducted with the full co-operation of onsite personnel and machinery operator/s.



## 6 References

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### References for nomenclature

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Vanderduys, E. (2012) *Field Guide to the Frogs of Queensland*. Collingwood: CSIRO Publishing.

Wilson, S. (2015) *A Field Guide to Reptiles of Queensland*. 2<sup>nd</sup> edn, Sydney: New Holland Publishers.

## 7 Appendix A: Fauna Photos



Sugar Glider  
*Petaurus breviceps*



Eastern Small-eyed Snake  
*Cryptophis nigrescens*



Koala in tree  
*Phascolarctos cinereus*



Rainbow Lorikeet Eggs  
*Trichoglossus haematodus*



Eastern Bearded Dragon  
*Pogona barbata*



Eastern Small-eyed Snake  
*Cryptophis nigrescens*



Sugar Glider  
*Petaurus breviceps*



Common Brushtail Possum  
*Trichosurus vulpecula*



Sugar Glider  
*Petaurus breviceps*



Common Tree Snake  
*Dendrelaphis punctulatus*



Graceful Tree Frog  
*Litoria gracilentia*



Common Brushtail Possum  
*Trichosurus vulpecula*



Robust Velvet Gecko  
*Nebulifera robusta*



Dubious Dtella  
*Gehyra dubia*



Yellow-footed Antechinus  
*Antechinus flavipes*



Koala in tree  
*Phascolarctos cinereus*



Eastern Bearded Dragon  
*Pogona barbata*



Yellow-footed Antechinus  
*Antechinus flavipes*



Robust Velvet Gecko  
*Nebulifera robusta*



Dubious Dtella  
*Gehyra dubia*



September  
2022

# Fauna Management and Spotter/Catcher Services Report

Riverbend  
Teviot Road, Flagstone  
Report prepared for CCA Winslow



Report prepared by  
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Title:	Fauna Management and Spotter/Catcher Services Report Riverbend – Teviot Road, Flagstone
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## 1 Introduction

Qld Fauna Consultancy Pty Ltd has been engaged by CCA Winslow to conduct Fauna Spotter/Catcher and Fauna Management activities for works at Riverbend – Teviot Road, Flagstone.

All activities were conducted under the provisions of Rehabilitation Permit (WA0026789) issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), approving the observation and relocation of protected animals.

This report covers clearance activities undertaken in September 2022.

## 2 Methodology

### 2.1 Clearance Investigations

A standard set of observational and active searching techniques were employed each day of clearance to ascertain and identify existing fauna values for each location. These include:

- Assessment of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, fallen branches and bark exfoliations,
- Observation and assessment of occupancy of arboreal microhabitats such as tree hollows, fissures and exfoliations,
- Direct observation of active or exposed fauna,
- Identification of scats, tracks and scratchings to determine fauna present on the site.

All microhabitats were identified and subsequently inspected during clearance.

### 2.2 Specific methodology for Koalas *Phascolarctos cinereus*

Due to the specific requirements relating to the Koala the following techniques were employed at the clearance site to ascertain presence/absence status:

- Use of binoculars to inspect the crown, forks and trunk of trees;
- ‘Drip zone’ searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

Recent changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees.

Further provisions include the restriction of all clearance that may directly interfere with the tree a Koala is residing in. Koalas are to leave via their own volition and may not be interfered with by any means. Only when Koalas have vacated a tree can clearance operations include the host tree and surrounding vegetation.

## 2.3 Felling Procedures

Trees identified as having potential fauna values (such as hollows, fissures and exfoliating bark) were clearly marked for supervision during felling and inspected once felled. Efforts were made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks). Where no signs were found or occupant species undeterminable, machinery operators were instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

Limbs were inspected and the direction of felling determined with regards to safety of both machinery and operators. Considerations to potentially occupant fauna were assessed and felling procedures formulated. Felling procedures may have included the following techniques:

- Machinery blades were utilised to shake the tree in an attempt to disturb fauna out of hollows or fissures to determine species present.
- If fauna were present, the tree was either left standing overnight to allow the occupant animal(s) time to leave via their own volition, or if species detected were able to be encouraged from the tree by shaking or direct capture by a wildlife spotter(s). The tree was felled with considerations to potentially undetected fauna.
- Where possible potentially occupied trees were felled with the identified microhabitat receiving minimal contact on impact.
- Adjacent felled trees were utilised to absorb the impact of potential fauna bearing trees.

## 2.4 Communications during Clearance

Each spotter/catcher was equipped with a hand held radio to make positive communications with machinery operators. Communications by radio and positive hand signals were utilised to indicate intentions to machinery operators.

### 3 Results

The following daily inventory details fauna based investigation results for the clearing area. Inspection activities, location, habitat values and fauna found are documented where required. Refer to Appendix A for fauna photos.

#### Thursday 1<sup>st</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 4 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 10

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, drey

No. & size of hollow/s (mm): 100-149: 2, 150-199: 1, 200-249: 1, 300+: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, dense grass

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Friday 2<sup>nd</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 1 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 13

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 3, 50-99: 3, 100-149: 2, 200-249: 1, 300+: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, dense lantana

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Monday 5<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 2 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 23

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, drey

No. & size of hollow/s (mm): 100-149: 2, 50-99: 5, 100-149: 2, 150-199: 2, 200-249: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, timber stockpiles

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N Other: Gully

## Tuesday 6<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 1 tree flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 24

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 3, 100-149: 4, 150-199: 2, 200-249: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, dense grass

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Wednesday 7<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 7 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 15

Nest - inactive (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 1, 100-149: 3, 250-299: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Thursday 8<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 2 trees flagged
- Three personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 14

Nest - inactive (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 4, 100-149: 2, 150-199: 3, 200-249: 3, 250-299: 3, 300+: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Tuesday 13<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 2 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 32

Nest - inactive (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, fissure

No. & size of hollow/s (mm): 50-99: 5, 100-149: 4, 150-199: 2, 200-249: 4, 250-299: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Wednesday 14<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 1 tree flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 11

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, drey

No. & size of hollow/s (mm): 100-149: 3, 150-199: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Thursday 15<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- 2 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 2

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 100-149: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

**No Fauna Found**

## Monday 19<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 3 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 15

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 4, 100-149: 3, 150-199: 2, 200-249: 3, 250-299: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Tuesday 20<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 1 tree flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 21

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 4, 150-199: 6, 200-249: 2, 250-299: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N



### Wednesday 21<sup>st</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 0 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 15

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 100-149: 2, 200-249: 1, 250-299: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Monday 26<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 20 trees flagged
- Four personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 31

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, fissure

No. & size of hollow/s (mm): 50-99: 2, 100-149: 3, 150-199: 2, 200-249: 3, 250-299: 2, 300+: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Tuesday 27<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 21 trees flagged
- Three personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 31

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Fissure, exfoliating bark

No. & size of hollow/s (mm): 50-99: 2, 100-149: 3, 150-199: 3, 200-249: 3, 300+: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Wednesday 28<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 10 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 18

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

No. & size of hollow/s (mm): 50-99: 1, 200-249: 2, 250-199: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Thursday 29<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 10 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 29

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 1, 100-149: 1, 150-199: 2, 200-249: 1, 250-299: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Friday 30<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at Riverbend - Teviot Road, Flagstone
- Vegetation clearance carried out at Riverbend - Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 7 trees flagged
- Three personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 24

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 4, 50-99: 3, 100-149: 1, 150-199: 1, 250-299: 3, 300+: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N Other: Gully

## 4 Fauna Register

Collectors Name	Date	Time	Capture Location	Capture Location		Count Type	Status	Common Name - Scientific Name	Count	Release Details			Actions				Release Location Description	Comments	
				Latitude	Longitude					Date	Latitude	Longitude	R1	R2	D	I			
John Bolton	01/09/22	09:14	Riverbend – Teviot Road, Flagstone	-27.8348	152.9638	Alive	Least Concern	Small-eyed Snake <i>Cryptophis nigrescens</i>	1	01/09/22	-27.8326	152.9641	X					Under log	
John Bolton	01/09/22	10:19	Riverbend – Teviot Road, Flagstone	-27.8352	152.9659	Alive	Least Concern	Green-thighed Frog <i>Litoria brevipalmata</i>	1	01/09/22	-27.8323	152.9632	X					Into vegetation near stream	
John Bolton	01/09/22	16:20	Riverbend – Teviot Road, Flagstone	-27.8334	152.9604	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	01/09/22	NA	NA	X					Self-relocated into adjacent vegetation	Found in 300mm+ hollow
John Bolton	01/09/22	16:24	Riverbend – Teviot Road, Flagstone	-27.8333	152.9604	Deceased	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	NA	NA	NA			X			Instant death in impact of tree felling	Found in 300mm+ hollow

John Bolton	01/09/22	16:39	Riverbend – Teviot Road, Flagstone	-27.8336	152.9604	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	01/09/22	-27.8239	152.9680	X					Into dense vegetation	
John Bolton	02/09/22	09:38	Riverbend – Teviot Road, Flagstone	-27.8318	152.9605	Alive	Least Concern	Common Ringtail Possum <i>Pseudocheirus peregrinus</i>	2	02/09/22	-27.8317	152.9626	X					Into cavity at base of tree	Adult female and juvenile
John Bolton	02/09/22	10:08	Riverbend – Teviot Road, Flagstone	-27.8319	152.9603	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	1	02/09/22	-27.8322	152.9630	X					Into hollow log surrounded by vegetation	Found in 50-99mm hollow
John Bolton	02/09/22	12:11	Riverbend – Teviot Road, Flagstone	-27.8308	152.9593	Alive	Least Concern	Northern Brown Bandicoot <i>Isodon macrourus</i>	1	02/09/22	-27.8302	152.9599	X					Into dense grass	
John Bolton	02/09/22	13:21	Riverbend – Teviot Road, Flagstone	-27.8303	152.9588	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	02/09/22	-27.8236	152.9677	X					Into hollow log	Found in 100-149mm hollow
John Bolton	02/09/22	13:11	Riverbend – Teviot Road, Flagstone	-27.8303	152.9589	Alive	Least Concern	Common Ringtail Possum <i>Pseudocheirus peregrinus</i>	1	02/09/22	-27.8298	152.9590	X					Into dense cover	

John Bolton	02/09/22	14:31	Riverbend – Teviot Road, Flagstone	-27.8343	152.9604	Alive	Least Concern	Brown-snouted Blind Snake <i>Anilius wiedii</i>	1	02/09/22	-27.8236	152.9678	X					Under log	
John Bolton	02/09/22	16:11	Riverbend – Teviot Road, Flagstone	-27.8370	152.9605	Alive	Least Concern	Small-eyed Snake <i>Cryptophis nigrescens</i>	1	02/09/22	-27.8376	152.9627	X					Into pile of woody debris	
John Bolton	05/09/22	09:32	Riverbend – Teviot Road, Flagstone	-27.8347	152.9625	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	05/09/22	-27.8348	152.9582	X					Into hollow log	Found in 50-99mm hollow
John Bolton	05/09/22	10:30	Riverbend – Teviot Road, Flagstone	-27.8291	152.9625	Alive	Least Concern	Coastal Carpet Python <i>Morelia spilota mcdowelli</i>	1	05/09/22	-27.8194	152.9667	X					Into pile of woody debris	
John Bolton	06/09/22	07:41	Riverbend – Teviot Road, Flagstone	-27.8342	152.9586	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	3	06/09/22	-27.8356	152.9580	X					Under bark of logs	
Darcy Brady	07/09/22	14:43	Riverbend – Teviot Road, Flagstone	-27.8308	152.9420	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	07/09/22	-27.8318	152.9417	X					Onto tree trunk	

John Bolton	07/09/22	09:30	Riverbend – Teviot Road, Flagstone	-27.8348	152.9599	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	07/09/22	-27.8328	152.9654	X				Base of tree with nest box	Found in 150-199mm hollow
Darcy Brady	08/09/22	12:27	Riverbend – Teviot Road, Flagstone	-27.8348	152.9620	Alive	Least Concern	Brush-tailed Phascogale <i>Phascogale tapoatafa</i>	1	08/09/22	-27.8318	152.9417		C			Taken to carer. Jessica – Rosia Road, Park Ridge 0431 330 664	Found in 100-149mm hollow.
Darcy Brady	08/09/22	12:51	Riverbend – Teviot Road, Flagstone	-27.8354	152.9633	Deceased	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	NA	NA	NA			X		Died shortly after capture, before release	Found in 150-199mm hollow.
John Bolton	08/09/22	08:30	Riverbend – Teviot Road, Flagstone	-27.8347	152.9619	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	08/09/22	-27.8237	152.9680	X	C			Adult escaped at release and was unable to reunite with juvenile. Juvenile taken to carer. Jessica – Rosia Road, Park Ridge 0431 330 664	1x adult, 1x juvenile. Found in 250-299mm hollow.
John Bolton	08/09/22	13:15	Riverbend – Teviot Road, Flagstone	-27.8359	152.9637	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	08/09/22	-27.8234	152.9676	X				Onto tree trunk	

John Bolton	08/09/22	14:25	Riverbend – Teviot Road, Flagstone	-27.8364	152.9646	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	7	08/09/22	-27.8237	152.9675	X				Into hollow log	Found in 300mm+ hollow
John Bolton	13/09/22	09:26	Riverbend – Teviot Road, Flagstone	-27.8368	152.9634	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	13/09/22	-27.8238	152.9682	X				Onto tree trunk	
John Bolton	13/09/22	10:26	Riverbend – Teviot Road, Flagstone	-27.8368	152.9634	Alive	Least Concern	Lace Monitor <i>Varanus varius</i>	1	13/09/22	-27.8238	152.9681	X				Onto trunk of hollow-bearing tree	
John Bolton	13/09/22	10:45	Riverbend – Teviot Road, Flagstone	-27.8368	152.9652	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	13/09/22	-27.8370	152.9654	X				Onto tree trunk	
John Bolton	13/09/22	11:28	Riverbend – Teviot Road, Flagstone	-27.8368	152.9639	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	2	13/09/22	-27.8380	152.9637	X				Into hollow log	
John Bolton	13/09/22	12:39	Riverbend – Teviot Road, Flagstone	-27.8368	152.9632	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	13/09/22	-27.8376	152.9645	X				Under bark of tree	



John Bolton	13/09/22	13:09	Riverbend – Teviot Road, Flagstone	-27.8371	152.9642	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	3	13/09/22	NA	NA	X				Self-relocated into retained vegetation	Found in 250-299mm hollow
John Bolton	14/09/22	13:09	Riverbend – Teviot Road, Flagstone	-27.8346	152.9638	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	1	14/09/22	-27.8286	152.9673	X				Into hollow log	
John Bolton	19/09/22	11:34	Riverbend – Teviot Road, Flagstone	-27.8349	152.9678	Alive	Least Concern	Coastal Carpet Python <i>Morelia spilota mcdowelli</i>	1	19/09/22	-27.8329	152.9675	X				Into dense undergrowth	
John Bolton	19/09/22	13:58	Riverbend – Teviot Road, Flagstone	-27.8356	152.9679	Alive	Least Concern	Small-eyed Snake <i>Cryptophis nigrescens</i>	1	19/09/22	-27.8182	152.9692	X				Into hollow log	
Stefan Szwedzinski	19/09/22	08:21	Riverbend – Teviot Road, Flagstone	-27.7990	152.0256	Deceased	Least Concern	Northern Brown Bandicoot <i>Isodon macrourus</i>	1	NA	NA	NA			X			Found deceased – dead for several days
Stefan Szwedzinski	19/09/22	13:58	Riverbend – Teviot Road, Flagstone	-27.8390	152.9757	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	19/09/22	-27.8386	152.9742	X				Into tree hollow	Found in 250-299mm hollow

Stefan Szwedzinski	19/09/22	10:56	Riverbend – Teviot Road, Flagstone	-27.8390	152.9756	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	19/09/22	-27.8392	152.9757	X				Under bark of tree	Found in 200-249mm hollow
John Bolton	20/09/22	08:55	Riverbend – Teviot Road, Flagstone	-27.8351	152.9692	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	20/09/22	-27.8327	152.9681	X				Onto tree trunk	
John Bolton	20/09/22	09:30	Riverbend – Teviot Road, Flagstone	-27.8346	152.9685	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	20/09/22	-27.8348	152.9671	X				Onto tree with nest box	Found in 250-299mm hollow
Stefan Szwedzinski	20/09/22	09:27	Riverbend – Teviot Road, Flagstone	-27.8387	152.9749	Deceased	Least Concern	Northern Brown Bandicoot <i>Isoodon macrourus</i>	1	20/09/22	NA	NA	X				Self-relocated into adjacent habitat	
John Bolton	21/09/22	09:30	Riverbend – Teviot Road, Flagstone	-27.8358	152.9674	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	21/09/22	-27.8354	152.9669	X				Onto tree with nest box and contiguous canopy	Found in 250-299mm hollow
Stefan Szwedzinski	21/09/22	11:18	Riverbend – Teviot Road, Flagstone	-27.8358	152.9674	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	21/09/22	-27.8396	152.9747	X				Under bark of tree	

Stefan Szwedzinski	21/09/22	12:03	Riverbend – Teviot Road, Flagstone	-27.8396	152.9748	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	21/09/22	NA	NA	X				Self-relocated into adjacent habitat	
Darcy Brady	26/09/22	07:21	Riverbend – Teviot Road, Flagstone	-27.8403	152.9766	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	26/09/22	-27.8402	152.9744	X				Into dense understorey at base of hollow-bearing stag tree,	1x adult, 1x juvenile. Found in 100-149mm hollow
John Bolton	26/09/22	14:36	Riverbend – Teviot Road, Flagstone	-27.8368	152.9697	Alive	Least Concern	Brush-tailed Phascogale <i>Phascogale tapoatafa</i>	6	26/09/22	NA	NA		C			Taken to carer. Jessica – Rosia Road, Park Ridge 0431 330 664	6x juveniles. Found in 100-149mm hollow.
John Bolton	26/09/22	14:57	Riverbend – Teviot Road, Flagstone	-27.8367	152.9695	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	26/09/22	-27.8185	152.9693	X				Into hollow log	
John Bolton	26/09/22	14:57	Riverbend – Teviot Road, Flagstone	-27.8367	152.9695	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	26/09/22	-27.8185	152.9691	X				Under bark of tree	
John Bolton	26/09/22	15:13	Riverbend – Teviot Road, Flagstone	-27.8371	152.9691	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	26/09/22	NA	NA		C			Taken to carer. Jessica – Rosia Road, Park Ridge 0431 330 664	Juvenile. Found in 250-299mm hollow.

Tyler Naumann	26/09/22	16:40	Riverbend – Teviot Road, Flagstone	-27.8309	152.9689	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	26/09/22	-27.8235	152.9684	X				Released at base of hollow-bearing tree	Found in 150-199mm Hollow
Tyler Naumann	26/09/22	16:38	Riverbend – Teviot Road, Flagstone	-27.8309	152.9689	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	2	26/09/22	-27.8235	152.9684	X				Into log	
Diamantina Ward	27/09/22	12:18	Riverbend – Teviot Road, Flagstone	-27.8379	152.9741	Alive	Least Concern	Northern Brown Bandicoot <i>Isodon macrourus</i>	1	27/09/22	NA	NA	X				Self-relocated into timber stockpile. Stockpile left undisturbed to allow animal to self-relocated overnight.	
John Bolton	27/09/22	07:43	Riverbend – Teviot Road, Flagstone	-27.8378	152.9700	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	27/09/22	-27.8284	152.9672	X				Under bark of tree	
John Bolton	27/09/22	07:52	Riverbend – Teviot Road, Flagstone	-27.8377	152.9696	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	27/09/22	-27.8284	152.9669	X				Into hollow stump	

John Bolton	27/09/22	10:54	Riverbend – Teviot Road, Flagstone	-27.8341	152.9775	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	27/09/22	-27.8412	152.9774	X					Onto tree trunk	
Darcy Brady	27/09/22	09:19	Riverbend – Teviot Road, Flagstone	-27.8405	152.9793	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	2	27/09/22	NA	NA				X		Exclusion zone was established and flagged off. Operators and other fauna spotters on site alerted to their presence. Koalas were monitored for signs of disturbance and were left overnight for self-relocation.	Female with older joey
Darcy Brady	28/09/22	09:51	Riverbend – Teviot Road, Flagstone	-27.8393	152.9769	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	27/09/22	-27.8387	152.9744	X					Onto hollow-bearing tree	Male. Found in 50-99mm hollow
John Bolton	29/09/22	11:39	Riverbend – Teviot Road, Flagstone	-27.8435	152.9788	Alive	Least Concern	Long-nosed Bandicoot <i>Perameles nasuta</i>	1	29/09/22	-27.8426	152.9735	X					Into dense ground cover	

John Bolton	29/09/22	12:52	Riverbend – Teviot Road, Flagstone	-27.8429	152.9785	Alive	Least Concern	Common Ringtail Possum <i>Pseudocheirus peregrinus</i>	1	29/09/22	-27.8436	152.9738	X				Into dense vegetation	
Diamantina Ward	30/09/22	08:43	Riverbend – Teviot Road, Flagstone	-27.8388	152.9781	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	30/09/22	-27.8388	152.9787	X				Into hollow log	1x adult, 1x juvenile. Found in 250-299mm hollow

## 5 Conclusion

All vegetation clearance was supervised as requested by CCA Winslow and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

An adult female koala with an older joey was observed during clearance. An exclusion zone was established, and the koalas were left to self-relocate via their own volition before clearing activities were resumed in that area of the site. Other fauna found during clearance works were relocated (or self-relocated) to adjacent localities comprising suitable refugia and feeding resources consistent with individual species requirements. Young were taken to a certified wildlife carer or veterinary clinic.

All supervised clearance activities were conducted with the full co-operation of onsite personnel and machinery operator/s.

## 6 References

Department of Environment and Heritage Protection (2017) *Nature Conservation (Koala) Conservation Plan 2017*. Queensland Government.

### References for nomenclature

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Vanderduys, E. (2012) *Field Guide to the Frogs of Queensland*. Collingwood: CSIRO Publishing.

Wilson, S. (2015) *A Field Guide to Reptiles of Queensland*. 2<sup>nd</sup> edn, Sydney: New Holland Publishers.



## 7 Appendix A: Fauna Photos



Common Ringtail Possum  
*Pseudocheirus peregrinus*



Eastern Small-eyed Snake  
*Cryptophis nigrescens*



Green-thighed Frog  
*Litoria brevipalmata*



Yellow-footed Antechinus  
*Antechinus flavipes*



Coastal Carpet Python  
*Morelia spilota mcdowelli*



Squirrel Glider  
*Petaurus norfolcensis*



Eastern Bearded Dragon  
*Pogona barbata*



Brush-tailed Phascogale  
*Phascogale tapoatafa*



Common Brushtail Possum  
*Trichosurus vulpecula*



Squirrel Gliders  
*Petaurus norfolcensis*



Robust Velvet Gecko  
*Nebulifera robusta*



Eastern Bearded Dragon  
*Pogona barbata*



Brush-tailed Phascogale  
*Phascogale tapoatafa*



Brush-tailed Phascogales  
*Phascogale tapoatafa*



Koala with joey  
*Phascolarctos cinereus*



Eastern Bearded Dragon  
*Pogona barbata*



Long-nosed Bandicoot  
*Perameles nasuta*

# Fauna Management and Spotter/Catcher Services Report

Riverbend  
Teviot Road, Flagstone  
Report prepared for CCA Winslow



Report prepared by  
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Title:	Fauna Management and Spotter/Catcher Services Report Riverbend – Teviot Road, Flagstone
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## 1 Introduction

Qld Fauna Consultancy Pty Ltd has been engaged by CCA Winslow to conduct Fauna Spotter/Catcher and Fauna Management activities for works at Riverbend – Teviot Road, Flagstone.

All activities were conducted under the provisions of Rehabilitation Permit (WA0026789) issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), approving the observation and relocation of protected animals.

This report covers clearance activities undertaken in October 2022.

## 2 Methodology

### 2.1 Clearance Investigations

A standard set of observational and active searching techniques were employed each day of clearance to ascertain and identify existing fauna values for each location. These include:

- Assessment of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, fallen branches and bark exfoliations,
- Observation and assessment of occupancy of arboreal microhabitats such as tree hollows, fissures and exfoliations,
- Direct observation of active or exposed fauna,
- Identification of scats, tracks and scratchings to determine fauna present on the site.

All microhabitats were identified and subsequently inspected during clearance.

### 2.2 Specific methodology for Koalas *Phascolarctos cinereus*

Due to the specific requirements relating to the Koala the following techniques were employed at the clearance site to ascertain presence/absence status:

- Use of binoculars to inspect the crown, forks and trunk of trees;
- ‘Drip zone’ searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

Recent changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees.

Further provisions include the restriction of all clearance that may directly interfere with the tree a Koala is residing in. Koalas are to leave via their own volition and may not be interfered with by any means. Only when Koalas have vacated a tree can clearance operations include the host tree and surrounding vegetation.

## 2.3 Felling Procedures

Trees identified as having potential fauna values (such as hollows, fissures and exfoliating bark) were clearly marked for supervision during felling and inspected once felled. Efforts were made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks). Where no signs were found or occupant species undeterminable, machinery operators were instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

Limbs were inspected and the direction of felling determined with regards to safety of both machinery and operators. Considerations to potentially occupant fauna were assessed and felling procedures formulated. Felling procedures may have included the following techniques:

- Machinery blades were utilised to shake the tree in an attempt to disturb fauna out of hollows or fissures to determine species present.
- If fauna were present, the tree was either left standing overnight to allow the occupant animal(s) time to leave via their own volition, or if species detected were able to be encouraged from the tree by shaking or direct capture by a wildlife spotter(s). The tree was felled with considerations to potentially undetected fauna.
- Where possible potentially occupied trees were felled with the identified microhabitat receiving minimal contact on impact.
- Adjacent felled trees were utilised to absorb the impact of potential fauna bearing trees.

## 2.4 Communications during Clearance

Each spotter/catcher was equipped with a hand held radio to make positive communications with machinery operators. Communications by radio and positive hand signals were utilised to indicate intentions to machinery operators.



### 3 Results

The following daily inventory details fauna based investigation results for the clearing area. Inspection activities, location, habitat values and fauna found are documented where required. Refer to Appendix A for fauna photos.

#### Tuesday 4<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 0 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 5

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

No. & size of hollow/s (mm): 100-149: 1, 250-299: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

#### Wednesday 5<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 3 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 14

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 100-149: 2, 150-199: 1, 200-249: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Thursday 6<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 6 trees flagged
- Three personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 21

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Nest box, exfoliating bark

No. & size of hollow/s (mm): 50-99: 1, 100-149: 1, 200-249: 1, 250-299: 3

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Friday 7<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 10 trees flagged
- Three personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 28

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, fissure

No. & size of hollow/s (mm): 0-49: 2, 50-99: 1, 100-149: 2, 150-199: 1, 200-249: 1, 300+: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, timber stockpiles

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Saturday 8<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 4 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 4

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 0

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Monday 10<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 5 trees flagged
- Two personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 18

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 0-49: 2, 100-149: 3, 200-249: 2, 250-299: 1, 300+: 2

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, timber stockpiles

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Tuesday 11<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 10 trees flagged
- Four personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 27

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, nest box

No. & size of hollow/s (mm): 100-149: 3, 150-199: 1, 300+: 4

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria, timber stockpiles

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## Wednesday 12<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 7 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 7

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, nest box

No. & size of hollow/s (mm): 100-149: 1, 200-249: 2, 250-299: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Thursday 13<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 11 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 14

Nest (N) - inactive Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 3, 100-149: 3, 200-249: 2, 250-299: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

### Tuesday 18<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 2 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 2

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark

No. & size of hollow/s (mm): 100-149: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N Other: Gully

## Thursday 20<sup>th</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 3 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 4

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, fissure, nest box

No. & size of hollow/s (mm): 0-49: 1, 150-199: 2, 200-249: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, timber stockpiles, artificial debris, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N Other: Gully

## Friday 21<sup>st</sup> October 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 3 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 3

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

Other: Exfoliating bark, fissure, nest box

No. & size of hollow/s (mm): 0-49: 1, 150-199: 2, 200-249: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Dense leaf litter, bark exfoliations, timber stockpiles, terrestrial termitaria

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## 4 Fauna Register

Collectors Name	Date	Time	Capture Location	Capture Location		Count Type	Status	Common Name - Scientific Name	Count	Release Details			Actions				Release Location Description	Comments	
				Latitude	Longitude					Date	Latitude	Longitude	R1	R2	D	I			
John Bolton	04/10/2022	08:28	Riverbend – Teviot Road, Flagstone	-27.8397	152.9775	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	04/10/2022	-27.8388	152.9746	X					Onto tree trunk	
John Bolton	04/10/2022	08:29	Riverbend – Teviot Road, Flagstone	-27.8398	152.9776	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	04/10/2022	-27.8389	152.9746	X					Into dense vegetation	
John Bolton	05/10/2022	08:17	Riverbend – Teviot Road, Flagstone	-27.8416	152.9793	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	2	05/10/2022	NA	NA				X		Exclusion zone was established and flagged off. Operators and other fauna spotter on site alerted to their presence. Koalas were monitored for signs of disturbance and were left overnight for self-relocation.	Same female with older joey seen the week prior

John Bolton	05/10/2022	10:02	Riverbend – Teviot Road, Flagstone	-27.8434	152.9801	Alive	Least Concern	Lace Monitor <i>Varanus varius</i>	1	05/10/2022	-27.8228	152.9687	X					Into dense vegetation
John Bolton	05/10/2022	11:29	Riverbend – Teviot Road, Flagstone	-27.8434	152.9804	Alive	Least Concern	Common Tree Snake <i>Dendrelaphis punctulatus</i>	1	05/10/2022	-27.8441	152.9803	X					Into dense vegetation
Holly Morecroft	06/10/2022	07:07	Riverbend – Teviot Road, Flagstone	-27.8424	152.9804	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	2	06/10/2022	NA	NA				X	Exclusion zone was established and flagged off. Operators and other fauna spotters on site alerted to their presence. Koalas were monitored for signs of disturbance and were left overnight for self-relocation.	Same female with older joey seen on 5/10
Holly Morecroft	06/10/2022	14:47	Riverbend – Teviot Road, Flagstone	-27.8393	152.9792	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	06/10/2022	-27.8186	152.9691	X					Released at base of habitat tree in area with contiguous canopy structure



John Bolton	06/10/2022	09:40	Riverbend – Teviot Road, Flagstone	-27.8430	152.9816	Alive	Least Concern	Lace Monitor <i>Varanus varius</i>	1	06/10/2022	-27.8441	152.9802	X				Onto tree trunk	
John Bolton	06/10/2022	13:58	Riverbend – Teviot Road, Flagstone	-27.8418	152.9798	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	06/10/2022	NA	NA		C	X		1x adult female died on impact; 1x juvenile taken to carer. Jessica – Rosia Road, Park Ridge South 0431 330 664	Found in 200-249mm hollow
John Bolton	06/10/2022	14:06	Riverbend – Teviot Road, Flagstone	-27.8419	152.9799	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	06/10/2022	-27.8186	152.9690	X				Into hollow log	Found in 200-249mm hollow
John Bolton	06/10/2022	16:03	Riverbend – Teviot Road, Flagstone	-27.8411	152.9790	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	4	06/10/2022	-27.8186	152.9692	X				Into hollow log	Found in 200-249mm hollow
Diamantina Ward	07/10/2022	13:58	Riverbend – Teviot Road, Flagstone	-27.8418	152.9798	Alive	Least Concern	Common Ringtail Possum <i>Pseudocheirus peregrinus</i>	1	07/10/2022	NA	NA		C			1x juvenile taken to carer. Jessica – Rosia Road, Park Ridge South 0431 330 664	

Holly Morecroft	07/10/2022	09:14	Riverbend – Teviot Road, Flagstone	-27.8412	152.9777	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	07/10/2022	-27.8185	152.9691	X				Released at base of habitat tree
Holly Morecroft	07/10/2022	13:02	Riverbend – Teviot Road, Flagstone	-27.8390	152.9795	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	07/10/2022	-27.8186	152.9691	X				Released into dense vegetation with contiguous canopy cover
Darcy Brady	08/10/2022	13:02	Riverbend – Teviot Road, Flagstone	-27.8385	152.9747	Deceased	Least Concern	Brown-snouted Blind Snake <i>Anilius wiedii</i>	1	08/10/2022	NA	NA			X		Found deceased on track away from clearing area
Diamantina Ward	10/10/2022	12:06	Riverbend – Teviot Road, Flagstone	-27.8410	152.9793	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	1	10/10/2022	-27.8383	152.9730	X				Into tree hollow Found in 300mm+ hollow
Diamantina Ward	10/10/2022	12:25	Riverbend – Teviot Road, Flagstone	-27.8412	152.9799	Injured	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	10/10/2022	NA	NA		V			Taken to VetLove Flagstone – (07) 5546 0315

John Bolton	10/10/2022	08:29	Riverbend – Teviot Road, Flagstone	-27.8409	152.9808	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	10/10/2022	-27.8432	152.9820	X					Released into dense vegetation with contiguous canopy cover	
John Bolton	10/10/2022	12:54	Riverbend – Teviot Road, Flagstone	-27.8414	152.9806	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	1	10/10/2022	NA	NA				X		Exclusion zone was established and flagged off. Operators and other fauna spotter on site alerted to its presence. Koala was monitored for signs of disturbance and was left overnight for self-relocation.	Single adult male
John Bolton	10/10/2022	14:16	Riverbend – Teviot Road, Flagstone	-27.8415	152.9810	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	10/10/2022	-27.8185	152.9692	X					Into hollow log	

Diamantina Ward	11/10/2022	08:02	Riverbend – Teviot Road, Flagstone	-27.8416	152.9812	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	11/10/2022	NA	NA	C			1x juvenile taken to carer. Jessica – Rosia Road, Park Ridge South 0431 330 664	Found in 300mm+ hollow
Diamantina Ward	11/10/2022	09:19	Riverbend – Teviot Road, Flagstone	-27.8418	152.9810	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	11/10/2022	-27.8428	152.9826	X			Into hollow stump	Found in 300mm+ hollow
John Bolton	11/10/2022	08:37	Riverbend – Teviot Road, Flagstone	-27.8418	152.9809	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	1	11/10/2022	-27.8429	152.9830	X			Into tree hollow	
Diamantina Ward	11/10/2022	08:48	Riverbend – Teviot Road, Flagstone	-27.8424	152.9818	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	11/10/2022	-27.8430	152.9825	X			Under exfoliating bark of tree	
John Bolton	11/10/2022	08:58	Riverbend – Teviot Road, Flagstone	-27.8425	152.9809	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	11/10/2022	-27.8435	152.9827	X			Onto tree trunk	

John Bolton	11/10/2022	09:19	Riverbend – Teviot Road, Flagstone	-27.8425	152.9813	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	11/10/2022	-27.8429	152.9828	X					Onto tree trunk	
John Bolton	11/10/2022	07:29	Riverbend – Teviot Road, Flagstone	-27.8426	152.9810	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	1	11/10/2022	NA	NA					X	Exclusion zone was established and flagged off. Operators and other fauna spotter on site alerted to its presence. Koala was monitored for signs of disturbance and was left overnight for self-relocation.	Individual previously recorded
John Bolton	11/10/2022	08:03	Riverbend – Teviot Road, Flagstone	-27.8423	152.9816	Alive	Least Concern	Lace Monitor <i>Varanus varius</i>	1	11/10/2022	-27.8426	152.9829	X					Onto hollow-bearing tree	Found in 150-99mm hollow
Stefan Szwedzinski	11/10/2022	08:43	Riverbend – Teviot Road, Flagstone	-27.8306	152.9692	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	11/10/2022	-27.8485	152.9673	X					Onto hollow-bearing stag	

Stefan Szwedzinski	11/10/2022	09:00	Riverbend – Teviot Road, Flagstone	-27.8307	152.9691	Alive	Least Concern	Eastern Bearded Dragon <i>Pogona barbata</i>	1	11/10/2022	-27.8296	152.9690	X				Onto trunk of tree	
Stefan Szwedzinski	11/10/2022	12:03	Riverbend – Teviot Road, Flagstone	-27.8249	152.0153	Alive	Least Concern	Robust Velvet Gecko <i>Nebulifera robusta</i>	1	11/10/2022	-27.8285	152.9672	X				Under exfoliating bark of tree	
John Bolton	12/10/2022	14:15	Riverbend – Teviot Road, Flagstone	-27.8273	152.9531	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	12/10/2022	NA	NA		C			1x juvenile taken to carer. Ann De Jong – Gailles (07) 3736 1967	Found in 250-299mm+ hollow
John Bolton	13/10/2022	10:39	Riverbend – Teviot Road, Flagstone	-27.8276	152.9533	Alive	Least Concern	Gould's Wattled Bat <i>Chalinolobus gouldii</i>	1	13/10/2022	-27.8186	152.9691	X				Into hollow log	

John Bolton	13/10/2022	07:30	Riverbend – Teviot Road, Flagstone	-27.8409	152.9803	Alive	Endangered	Koala <i>Phascolarctos cinereus</i>	1	13/10/2022	NA	NA				X	Exclusion zone was established and flagged off. Operators and other fauna spotter on site alerted to its presence. Koala was monitored for signs of disturbance and was left overnight for self-relocation.
John Bolton	18/10/2022	09:52	Riverbend – Teviot Road, Flagstone	-27.8304	152.9544	Deceased	Least Concern	Tawny Frogmouth <i>Podargus strigoides</i>	2	18/10/2022	NA	NA				X	2x eggs in nest. Tried to fell tree slowly and delicately, however eggs cracked during felling.
Holly Morecroft	20/10/2022	09:21	Riverbend – Teviot Road, Flagstone	-27.8248	152.9766	Alive	Least Concern	Graceful Tree Frog <i>Litoria gracilentia</i>	1	20/10/2022	-27.8249	152.9766	X				Onto tree

Holly Morecroft	20/10/2022	09:28	Riverbend – Teviot Road, Flagstone	-27.8250	152.9765	Alive	Least Concern	Graceful Tree Frog <i>Litoria gracilentia</i>	1	20/10/2022	-27.8248	152.9763	X					Onto tree	
Holly Morecroft	20/10/2022	14:15	Riverbend – Teviot Road, Flagstone	-27.8339	152.9815	Alive	Least Concern	Unidentified bird egg (likely Pale-headed Rosella)	1	20/10/2022	NA	NA		C				1x juvenile taken to carer. Ann De Jong – Gales (07) 3736 1967	Found in nest box
Holly Morecroft	21/10/2022	12:06	Riverbend – Teviot Road, Flagstone	-27.8332	152.9827	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	2	21/10/2022	-27.8330	152.9820	X					Relocated within nest box	Found in nest box
Holly Morecroft	21/10/2022	12:27	Riverbend – Teviot Road, Flagstone	-27.8333	152.9821	Alive	Least Concern	Eastern Brown Snake <i>Pseudonaja textilis</i>	1	21/10/2022	NA	NA	X					Self-relocated into adjacent dense ground cover	



## 5 Conclusion

All vegetation clearance was supervised as requested by CCA Winslow and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

Several koalas were observed during clearance. Exclusion zones were established, and the koalas were left to self-relocate via their own volition before clearing activities were resumed in that area of the site. Other fauna found during clearance works were relocated (or self-relocated) to adjacent localities comprising suitable refugia and feeding resources consistent with individual species requirements. Young were taken to a certified wildlife carer or veterinary clinic.

All supervised clearance activities were conducted with the full co-operation of onsite personnel and machinery operator/s.

## 6 References

Department of Environment and Heritage Protection (2017) *Nature Conservation (Koala) Conservation Plan 2017*. Queensland Government.

### References for nomenclature

Anstis, M. (2013) *Tadpoles and Frogs of Australia*, Sydney: New Holland Publishers.

Menkhorst, K. & Knight, F. (2011) *A Field Guide to the Mammals of Australia*. 3<sup>rd</sup> edn. Oxford University Press, South Melbourne.

Simpson, K. & Day, N. (2004) *Field Guide to the Birds of Australia*. Penguin Group, Australia

Strahan, R. And Van Dyck, S. (2008) *The Mammals of Australia*, 3<sup>rd</sup> edn Sydney: New Holland Publishers.

Vanderduys, E. (2012) *Field Guide to the Frogs of Queensland*. Collingwood: CSIRO Publishing.

Wilson, S. (2015) *A Field Guide to Reptiles of Queensland*. 2<sup>nd</sup> edn, Sydney: New Holland Publishers.

## 7 Appendix A: Fauna Photos



Common Brushtail Possum  
*Trichosurus vulpecula*



Common Tree Snake  
*Dendrelaphis punctulatus*



Koala with joey  
*Phascolarctos cinereus*



Squirrel Gliders  
*Petaurus norfolcensis*



Robust Velvet Gecko  
*Nebulifera robusta*



Common Ringtail Possum  
*Pseudocheirus peregrinus*



Yellow-footed Antechinus  
*Antechinus flavipes*



Lace Monitor  
*Varanus varius*



Eastern Bearded Dragon  
*Pogona barbata*



Squirrel Glider  
*Petaurus norfolcensis*



Common Brushtail Possum  
*Trichosurus vulpecula*



Graceful Tree Frog  
*Litoria gracilent*

# Appendix E

## Unauthorised clearing incident – Letter



## ServiceStream

17 February 2023

Reference No: NOT-249

Matthew Scard  
Chief Executive Officer  
Celestino Pty Limited

Pendle Hill NSW 2145

Dear Matthew

### **RE: EPBC Ref: 2016/7724 – Lot 800 on SP247625 – Tree Removal**

Service Stream provides this notice in relation to the unauthorised removal of trees at Lot 800 on SP247625.

#### **TREE REMOVAL**

1. Service Stream acknowledges that it executed works on 6 February 2023, which involved the removal of a tree which was partially located on LOT800 SP247625 (**the Property**).
2. Service Stream encloses a survey model image of the Property boundary showing the boundary passing through one of the two removed trees. Service Stream confirm that a Cadastral survey has been conducted by Veris via Goodrock, which confirms the location of the boundary in line with the enclosed survey image.
3. As part of our work along Bushland Road in progressing the South West Pipeline project, it was identified that the two trees in question posed a genuine and significant safety risk to the workers undertaking the installation of the water carriage pipeline along the road corridor.
4. Prior to proceeding with the works or removal of the trees, Service Stream engaged an independent arborist to review the relevant trees to determine if the trees would pose a health and safety risk to the public, Service Stream's team, and/or the progress of the works.
5. Pursuant to the arborist's recommendation, a decision was made to remove the encroaching tress as an appropriate health and safety risk mitigation action.

#### **FORMAL NOTIFICATIONS**

6. Please note that Service Stream will provide notice to the Queensland Department of Environment and Science (**DES**) in accordance with the enclosed draft notification.
7. Service Stream understands that Celestino will provide notification of the clearing to the relevant authority (**Authority**).

**ServiceStream Limited** ABN 46 072 369 870

HEAD OFFICE Level 4, 357 Collins Street, Melbourne VIC 3000 | Mailing Address: PO Box 14570, Melbourne VIC 8001  
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## ServiceStream

8. From Celestino's communication with the Authority, Service Stream understands that there may be a requirement for revegetation of the area.
9. In respect of revegetation, Service Stream's client, Seqwater, offers to replace the two trees in the offset revegetation process that Seqwater will undertake, pursuant to State infrastructure policy.

### NEXT STEPS

10. Service Stream wish to take this opportunity to apologise for entering the Property and undertaking the clearing. I can assure you that every action has been taken to ensure that entry to the Property by Service Stream does not occur again.
11. In terms of controls to prevent instances like this occurring in the future, Service Stream have implemented further measures to prevent access to the Property, which include:
  - a. Reassessment of the boundary between the Property and the works; Re-pegging of the boundary between the 2 properties
  - b. A wholistic review of the remaining alignment to ensure that the boundary is clearly delineated; and
  - c. Further education and training of Service Stream's construction team to increase awareness of boundary restrictions.

I trust this correspondence will convey our apologies for the unauthorised clearing and demonstrates Service Stream's commitment to ensure compliance with the property boundaries going forward. Should any clarifications or further information be required, please let me know.

Yours sincerely,

**Damian Barlow**

Contractor's Representative

Project Director

**For and on behalf of Service Stream Utilities Pty Ltd**

References to clauses and capitalised or italicised terms used in this notice have the meaning given to them in the Contract, unless the context requires otherwise.

**Enclosed:** Attachment A: Survey Image  
Attachment B: Notification – Department of Environment and Science  
Attachment C: Arborist report

[ServiceStream Limited ABN 46 072 369 870](#)

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T +61 3 9677 8888 | F +61 3 9677 8877 | E [info@servicestream.com.au](mailto:info@servicestream.com.au) | [www.servicestream.com.au](http://www.servicestream.com.au)

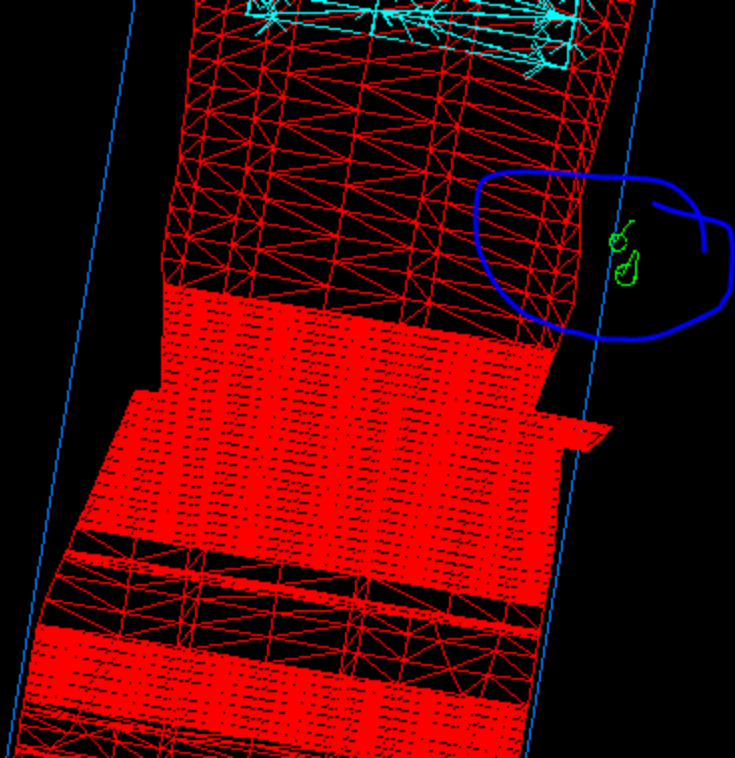


**ServiceStream**

## **ATTACHMENT A: SURVEY IMAGE**

The following page contains the survey image and the location of the relevant trees.







# Notification

1.1.1.1.1.1 Environmental Protection Act 1994

## Duty to notify of environmental harm

This form is to be used for notifying the administering authority about events or changes in condition of land causing or threatening serious or material environmental harm, in accordance with the duty to notify provisions contained in sections 320 to 320G, Chapter 7 Part 1 of the Environmental Protection Act 1994 (the EP Act).

This Notice should be completed having regard to the guidance in:

- Guideline: [The duty to notify of environmental harm \(ESR/2016/2271\)](#)

The details provided should address the nature of the event or change in condition as relevant. The notice should be completed as fully as practicable in the circumstances. Indicate any sections of the notice that are not applicable or for which information is not currently available.

Circumstances could arise in which you are also obligated to provide a notice to the administering authority of a Notifiable Activity that has been, or is being carried out under Schedule 3 of the EP Act. If the Notifiable Activity has not been notified to the administering authority previously, please use the template for giving written notice about a notifiable activity, available by going to [Queensland Government \(www.qld.gov.au\)](#) and searching "ESR/2015/1845".

If the notification is in relation to meeting notification requirements for non-mining resource activities, including petroleum and gas, greenhouse gas storage and geothermal activities use the template Incident notification (resource activities other than mining), available by going to [Queensland Government \(www.qld.gov.au\)](#) and searching "ESR/2015/1753".

Circumstances could also arise in which notice of a related event or change in condition of the land relating to contaminated land needs to be provided under the EP Act. This information is available by going to [Queensland Government \(www.qld.gov.au\)](#) and searching for "ESR/2015/1762".

### Office use only

Date entered in Dynamics:	Click here to enter text.	Relevant regional manager:	Click here to enter text.
Dynamics reference #:	Click here to enter text.	Date sent to regional manager:	Click here to enter text.
Relevant regional area:	Click here to enter text.	Officer actioning this item:	Click here to enter text.

## 1. Person giving notice

NAME Damian Barlow	TELEPHONE (BUSINESS HOURS ) [REDACTED]
	TELEPHONE (AFTER HOURS ) Click or tap here to enter text.
COMPANY/ORGANISATION NAME (IF APPLICABLE) INCLUDE THE ACN NUMBER Service Stream Utilities Pty Ltd (formerly Comdain Infrastructure Pty Ltd) 092 035 419	
POSITION IN COMPANY/ORGANISATION (IF APPLICABLE) CLICK OR TAP HERE TO ENTER TEXT.	

POSTAL ADDRESS Level 7, 2 King Street Fortitude Valley, QLD 4006	
EMAIL <div style="background-color: black; height: 15px; width: 100%;"></div>	FACSIMILE Click or tap here to enter text.

## 2. Who is giving notice about an event or change of condition

### 2.1. In what capacity are you giving notice?

Tick relevant box

- I am the owner of the land
- I am an occupier (e.g. lessor or tenant) of the land
- I am a representative of a local government
- I am an auditor performing an auditor's function under EP Act
- I am an employer
- I am an employer of someone carrying out an activity
- I am an employee carrying out an activity and have not been able to contact my employer
- Other (specify) Principal Contractor undertaking works on behalf of SeqWater

### 2.2. Please provide details of your involvement

For example, what is your involvement as an employee or employer or as a representative of a local government?

ServiceStream (formerly Comdain) is the Principal Contractor undertaking works on the South West Pipeline project. The works are being undertaken on behalf of the project owner, Seqwater.

## 3. Details of the affected land where the event or change in condition has occurred

### 3.1. Please provide details of the lot and plan description at which the event or change in condition has taken place (and full street address if available).

NAME BY WHICH THE PROPERTY IS KNOWN CELESTINO DEVELOPMENT	
FULL STREET ADDRESS OF THE SITE 72 RIVERBEND BOULEVARD, RIVERBEND QLD 4280	
ANY OTHER INFORMATION THAT WILL ASSIST IN QUICKLY LOCATING THE LOCATION WHERE AN EVENT OR ACTIVITY HAS OCCURED APPROX CH1750 ON BUSHLAND ROAD	
LOT(S) 800	PLAN(S) SP247625
GRID REFERENCES NORTHING <a href="#">CLICK OR TAP HERE TO ENTER TEXT.</a> EASTING <a href="#">CLICK OR TAP HERE TO ENTER TEXT.</a>	
LOCAL GOVERNMENT AUTHORITY LOGAN CITY COUNCIL	

### 3.2. Is a map or locality plan attached to this notification?

No       Yes

A map or locality plan that shows the affected land may greatly assist the processing of this notification.

**3.3. Is the affected land the origin of contamination or area harmed or both?**

Is the affected land (as described above) the land on which the contamination originated, caused harm (impacts) or both?  Origin  Harmed  Both

**4. Activity that has led to the event or change in condition**

**4.1. Nature of activity**

- Is the activity a Notifiable Activity listed under Schedule 3 of the EP Act?
  - Yes  No - Unsure

If it is a notifiable activity that you are undertaking you are obligated to provide more information by going to [Queensland Government \(www.qld.gov.au\)](http://www.qld.gov.au) and searching (ESR/2015/1845).

- Can you provide more information about the notifiable activity?  
 No  Yes – Please provide more information here.

- Is the activity another activity that has caused or may cause serious or material environmental harm?  
 No  Yes – Please provide more information here.

We have stopped works and are investigating the incident to determine further details

- Is the change in the land due to it being affected by a hazardous contaminant?  
 Yes  No
- Is the activity a resource activity?  Yes  No
- Is the activity currently occurring or did it occur previously?  Current  Previous

**4.2. Describe the nature of the activity**

If you require additional space attach the information on a separate sheet and make reference to that sheet here.

Damage to the structural root zone (and subsequent removal) of mature vegetation has occurred near the construction boundaries of Bushland Road during Bushland Road upgrade works: A Northern Grey Ironbark - Eucalyptus siderophloia (KHT) and a Forest Red Gum - Eucalyptus tereticornis (KHT). This has occurred due to excavation activities within the SRZ of the two trees deemed to be Category B native remnant vegetation. The TPZ and SRZ both encroached on the construction area. All roots severed within the structural root zone on the construction side of tree. As a result, our arborist has recommended removal due to safety reasons, which occurred without formal approval on 6 Feb.

**4.3. State whether the primary activity that led to the event was being carried out under:**

- an environmental protection policy  Yes
- a transitional environmental program  Yes
- an environmental protection order  Yes
- an environmental authority (  Yes
- a development condition of a development approval  Yes – in Flagstone PDA Area
- a prescribed condition for carrying out a small scale mining activity  Yes
- an emergency direction  Yes
- an accredited environmental risk management plan  Yes

**4.4. Please provide the identifying details of the relevant approval or authority for carrying out the activity (if known). If possible attach a copy of the relevant document.**

The activity is taking place within the Flagstone PDA and the laying of the pipeline and associated works has been authroised under a DA approved by EDQ. See attached DEV2019/1026.

**5. Special requirement for resource activities (petroleum and gas, geothermal and greenhouse gas storage activities but not a mining activity)**

**Does this notice relate to notification of an event that has occurred while carrying out a resource activity that has:**

- negatively affected, or is reasonably likely to negatively affect, the water quality of an aquifer; or  No  Yes
- has caused the connection of two or more aquifers  No  Yes

**6. Nature and circumstances of how event has occurred**

If it is an event involving the release of contaminants that is being notified, the following information should be provided

**6.1. When did the event occur/start?**

**Time:** Click or tap here to enter text. 6 February 2023

**Is this time and date:** accurate  approximate

**6.2. Describe the circumstances in which the event has occurred.**

Please provide details of the circumstances that led up to the event, any factors that may make the effects of the event worse, any preventive measures or cleanup up action taken and any other matters that may be relevant. If you require additional space attach the information on a separate sheet and make reference to that sheet here.

Service Stream were excavating for installation of a pipeline in the affected area. As part of the project there is a detailed CEMP. The project has Development Approval for clearing woody native vegetation in the Bushland Road road reserve.

A qualified arborist attended site and provided attached report recommending removal of both trees for safety purposes

**6.3. Provide any additional information that may be relevant to this notification of an event**

If additional space is required attach the information on a separate sheet and make reference to that sheet here.

- Trees were removed due to a safety concern
- The full extent of Bushland Road where Service Stream is conducting is overlaid with the Flagstone Priority Development Area and therefore is not subject to local planning scheme overlays

**6.4. Event type:**

- |                                |                                    |  |  |
|--------------------------------|------------------------------------|--|--|
| <input type="checkbox"/> Spill | <input type="checkbox"/> Discharge | <input type="checkbox"/> Leakage                                   | <input type="checkbox"/> Exposure/uncovering |
| <input type="checkbox"/> Fire  | <input type="checkbox"/> Fishkill  | <input checked="" type="checkbox"/> Other <u>Vegetation damage</u> |  |

**6.5. Source of release:**

- |   |  |   |   |
|---|--|---|---|
| <input type="checkbox"/> Vehicle spill    | <input type="checkbox"/> Vessel spill        | <input type="checkbox"/> Pipeline breach  | <input type="checkbox"/> Dam/pond failure |
| <input type="checkbox"/> Drain outlet     | <input type="checkbox"/> Bulk/tank           | <input type="checkbox"/> Vessel sinking   | <input type="checkbox"/> Dumping          |
| <input type="checkbox"/> Sewage discharge | <input type="checkbox"/> Industrial activity | <input type="checkbox"/> Cattle/sheep dip | <input type="checkbox"/> Horticulture     |
| <input type="checkbox"/> Excavation       | <input type="checkbox"/> Landfill            | <input type="checkbox"/> Other _____      |   |

**6.6. Contaminants (if known):**

- |   |   |                                       |  |
|---|---|---------------------------------------|--|
| <input type="checkbox"/> Solid chemicals                                  | <input type="checkbox"/> Liquid chemicals | <input type="checkbox"/> Hydrocarbons | <input type="checkbox"/> Gas/vapour      |
| <input type="checkbox"/> Pesticide/herbicide                              | <input type="checkbox"/> Nutrients        | <input type="checkbox"/> BOD/COD      | <input type="checkbox"/> Dangerous goods |
| <input type="checkbox"/> Other _____ Click or tap here to enter text.____ |   |                                       |  |

**6.7. Details of contaminants (if known):**

Substance(s): \_\_\_\_\_ Click or tap here to enter text.

Quantity: \_\_\_\_\_ Click or tap here to enter text.\_\_\_\_ Litres/Kilograms/Tonnes/<other>

Area/extent affected: \_\_\_\_\_ m by \_\_\_\_\_ m

**7. How and when did you become aware of the event or change of condition**

**7.1. What was the source of information about the event or change in condition**

- own observation
- information provided by a person with relevant competencies
- information provided by an employee

**7.2. When did you first become aware of the event or change in condition for which notice is given**

TIME 1:38pm	DATE 8/02/2023
----------------	-------------------

**8. Change in condition of land**

If it is a change in the condition of land that is being notified, the following information should be provided.

**8.1. Nature of change in the condition of the land (that has caused or is reasonably likely to cause or involve serious or material environmental harm)**

- Dispersal of contaminants in soil  No  Yes
- Dispersal of contaminants in groundwater  No  Yes
- Dispersal of contaminants in surface waters  No  Yes
- Accumulation of gases or vapour in soil or structures  No  Yes
- Change in surface features (e.g. vegetation)  No  Yes

**8.2. Details of change in the condition of the land**

Describe what the change in condition involves

Trees removed potentially outside of construction area.

If additional space is required attach the information on a separate sheet and make reference to that sheet here.

**8.3. Cause of change in condition (if known)?**

Describe the known factors that have led to the change in condition

All roots severed within the structural root zone on the construction side of tree.

If additional space is required attach the information on a separate sheet and make reference to that sheet here.



**8.4. Timeframe of change in condition**

Outline what is known of the timeframe in which the change in condition has occurred

- **31<sup>st</sup> January:** The pipeline crew undertook the initial box out in the area. Following an inspection of the area by our site team, it was identified that it was not safe to undertake the any further excavation in the area and requested an inspection from our Safety Advisor.
- **31<sup>st</sup> January:** Safety Advisor conducted inspection and requested SME (arborist to provide his opinion)
- **31<sup>st</sup> January:** Service Steam requested an arborist to come to site to inspect the trees
- **2<sup>nd</sup> Feb:** Arborist came to site recommended to remove both trees for safety
- **Prior to 6<sup>th</sup> Feb:** Service Stream instructed the subcontractor to come to site to remove trees.
- **6<sup>th</sup> Feb:** Subcontractor attended site and removed trees. NOTE: Koala Spotter was on site.

**8.5. Type of environment affected:**

What is the type of environment that has been affected by an event or change in condition?

- Waterway/drain       Marine       Estuarine       Freshwater  
 Land contamination       Urban area       Air/fallout       Vegetation  
 Protected area       Other \_\_\_ Click or tap here to enter text.

**9. Details of registered owners or occupiers of affected land to which notice has been given**

**Note:** Registered owners or occupiers of affected land do not need to be notified before notifying the administering authority.

**9.1. Have any registered owners or occupiers of affected land been notified of this incident?**

I am the sole owner/occupier of the land  Yes

- No (provide details of the occupiers and registered owners of land affected, or potentially affected, by this incident including details of how notice to those persons was given)

NAME Goodrock Property - Builder	TELEPHONE <div style="background-color: black; width: 100px; height: 15px;"></div>
POSTAL ADDRESS Level 1, 283 Given Terrace, Paddington QLD 4064	
DESCRIPTION OF HOW NOTICE WAS GIVEN Goodrock property notified Service Stream on 8 <sup>th</sup> February via email. Ongoing boundary clarifications since	

If you require additional space you may attach the information on a separate sheet.

**10. Declaration**

**Note:** If you have not told the truth in this application you may be liable for prosecution under the relevant Acts or Regulations.

I do solemnly and sincerely declare that the information provided is true and correct to the best of my knowledge. I understand that it is an offence under s. 480 of the *Environmental Protection Act 1994* to give to the administering authority or an authorised person a document containing information that I know is false, misleading or incomplete in a material particular.

I understand that all information supplied on or with this application form may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

NOTIFYING PERSON'S SIGNATURE Damian Barlow	DATE 17/025/2023
---	---------------------

## 11. Phoning the pollution hotline

In addition to providing the written notice if you become aware of a matter which has caused or threatens serious or material environmental harm you should immediately call the pollution hotline on **1300 130 372** and report the matter. Reporting the matter through the pollution hotline allows the administering authority to take necessary measures to prevent further harm and to mitigate the effects of an incident or event.

In addition to notifying the administering authority, and where that is not the relevant local government, it is good practice to notify the local government for the area where the event has occurred.

## 12. Sending the written notice

Please return the completed notice to Permit and Licence Management at the Department of Environment and Science by:

**Pollution hotline 1300 130 372**

**AND** written notification via email, or registered post:

**Email:** [pollutionhotline@des.qld.gov.au](mailto:pollutionhotline@des.qld.gov.au)

Note: Include '**Duty to notify of environmental harm**' in the subject line of the email and attach a completed copy of the template.

**Registered post:**

Permit and Licence Management  
Department of Environment and Science  
GPO Box 2454  
Brisbane QLD 4001

## 13. Further information

The latest version of this publication is available at [www.qld.gov.au](http://www.qld.gov.au) using the publication number ESR/2015/2230 as a search term or by contacting Permit and Licence Management on 13 QGOV (13 74 68).

### Privacy statement

*The Department of Environment and Science (DES) will use the personal information collected on this form in accordance with the Information Privacy Act 2009. The information will only be accessed and used by authorised employees within DES in the context of the disclosure and will not be otherwise used or disclosed*

*unless required or authorised by law. For queries about privacy matters email: [privacy@des.qld.gov.au](mailto:privacy@des.qld.gov.au) or telephone: 13 74 68.*

*Pursuant to section 540 of the Environmental Protection Act 1994 (EP Act), DES is required to maintain a register of certain documents and information authorised under the EP Act. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents or information that are required to be kept on the register are published in their entirety unless alteration is required by the EP Act. For more information on the Department's public register, follow the link or search 'public register' at [www.qld.gov.au](http://www.qld.gov.au).*

# ONSITE ARBORIST REPORT

*Prepared for:*  
**SERVICE STREAM**

*Location:*  
**SEQWater Southwest Pipeline Project**

*Author:*  
**Chad Summers**  
**Arborist**  
*(Dip of Horticulture- Arboriculture)*

*Date:*  
**FEBRUARY 2023**

Contact: Chad Summers

Mobile: 

Office: 

Email: [info@chadstreeservice.com.au](mailto:info@chadstreeservice.com.au)

ABN: 85 346 812 912 ACN: 116 107 272

This report is to document on-site Level 5 arborist observations at the request of Service Stream to assess the impact of vegetation in the construction zone due to the excavation of soil for pipe works.

Trees were not assessed in the original report as they were considered outside the scope of works.

**DATE: 6<sup>th</sup> FEBRUARY 2023**

---

**OBSERVATIONS INCLUDE:**

---

NOTE: Arborist not onsite during excavation works.

- **FIRST TREE: NORTHERN GREY IRONBARK** - *Eucalyptus siderophloia* (KHT)
- Height: 30+m Canopy Spread: 9m Coverage: 60% Health: Average
- TPZ calculated at 5.6m and SRZ at 2.7m measured from centre of trunk.
- Trench size was 5m wide x 4m deep and was located inside the SRZ at 1.6m off the tree.
  
- **SECOND TREE: FOREST RED GUM** - *Eucalyptus tereticornis* (KHT)
- Height: 35+m Canopy Spread: 16m Coverage: 65% Health: Average
- TPZ calculated at 8.2m and SRZ at 3m measured from centre of trunk.
- Trench size was 5m wide x 4m deep and was located inside the SRZ at 1.8m off the tree.
  
- Located between CH1600 – 1700.
- Deemed to be on the boundary by Service Stream representatives alongside creek crossing on Bushland Road.
- Both trees growing next to each other with canopies and root balls entwined.
- Soil was removed by excavator.
- All roots severed within the structural root zone on the construction side of tree.
- The creek has eroded soil on the opposite side of tree within the SRZ.
- Top layer of soil is soft and sandy.

**RECOMMENDATION – REMOVE BOTH TREES FOR SAFETY.**



**PHOTO 1 – Ironbark and Forest Red Gum.**



**PHOTO 2 – Roots severed during excavation works within the SRZ.**



**PHOTO 3 - Roots severed during excavation works within the SRZ.**



**PHOTO 4 – Erosion within the SRZ on the opposite side of tree.**

# Chad Summers

M [REDACTED]

Dip. Horticulture (AQF Level 5)  
Director – Chad's Tree Services Pty Ltd  
QAA Qualified Member 01566-01



# Appendix F

## “The Power of Koala Poo” – 12 Month Milestone Report



February 2023

**“The Power of Koala Poo”**

D22 19341-1 FEA

12 Month Milestone Report  
Prepared for Celestino Pty Ltd

CI A/Prof Stephen Johnston, University of Queensland

CI Prof Jenny Seddon, University of Queensland

CI Dr Tamara Keeley, University of Queensland

Post-doctoral Fellow Dr Lyndal Hulse, University of Queensland

Field Ecologist Mr Albano Mucci, Al Mucci Enterprises

Timing	Task	Actions to be completed	Progress	Comments/Response
February 2022	Commence Research Project          <b>Task 2:</b> Validate faecal hormone metabolite assays	<ul style="list-style-type: none"> <li>• Provide ██████████ project funding</li> <li>• Inform DAWE of project commencement</li> <li>• Appoint post doc fellow</li> <li>• Submit required permit applications for research work</li> <li>• Identify faecal samples for validation of endocrine analysis techniques.</li> </ul>	<p>Completed</p> <p>Completed</p> <p>Completed</p> <p>Completed</p> <p>Completed</p>	<p>Appointed Dr Lyndal Hulse (0.5 FTE)</p> <p>UQ Animal Ethics Approval Certificate #2022/AE000114</p>
November 2022	<b>Task 1:</b> Deliver a standardised suite of genetic markers for koala populations	<ul style="list-style-type: none"> <li>• DNA tissue sample collection</li> <li>• DNA extraction from at least 1,000 tissue samples<sup>1</sup></li> <li>• Assemble and map koala SNP markers</li> <li>• DNA faecal extraction validations</li> </ul>	<p>Completed</p> <p>Not commenced</p> <p>90% completed</p> <p>70% completed</p>	<p>&gt;1000 koala tissue samples have been collected from koala admissions at Currumbin Wildlife Hospital and Australia Zoo Wildlife Hospital.</p> <p>DNA extraction of koala tissue will commence early March with the assistance of a Research Assistant (15 days) to perform the extractions.</p> <p>&gt;7000 SNPs mapped to koala genome: whole genome sequences from SE QLD mapped and SNPs identified. Final SNP selection still to do.</p> <p>Isolation of DNA from koala faecal scats collected during site surveys of Jimboomba was obtained by scraping the surface of scats and using a column extraction method for purification of DNA. Koala</p>

<sup>1</sup>Our focus for TASK 1 has been on SNP assembly. By negotiating with our SNP chip provider and conducting our own bioinformatics we have been able to reduce costs so that these funds will now be directed to a Research Assistant (0.2 FTE) which will speed up DNA extraction of tissue samples (March – April).

	<p><b>Task 2:</b> Validate faecal hormone metabolite assays</p>	<ul style="list-style-type: none"> <li>Establish and validate koala SNP chip</li> <li>Faecal oestrogen, prostaglandin and testosterone assay validation</li> </ul>	<p>30% completed</p>	<p>DNA was detectable in only 35% of faecal scats. No <i>Chlamydia</i> was detected in faecal scats via molecular techniques. Genotype profiles were generated from faecal scats confirmed positive for presence of host (koala beta actin) DNA.</p> <p>Selected SNP platform with wide acceptability after broad consultation with technical providers and range of koala researchers. Australian Genome Research Facility has been engaged to build SNP array and validate.</p>
	<p><b>Task 3:</b> Apply the method to the Jimboomba koala population</p>	<ul style="list-style-type: none"> <li>Commence faecal sample collection of Jimboomba population<sup>2</sup></li> </ul>	<p>65% completed</p>	<p>Faecal testosterone and prostaglandin assays have been validated. Three different faecal oestrogen assays have been tested but found unsuitable. Quantification of plasma and faecal oestrogens and oestrogen metabolites will be undertaken in collaboration with Dr. David Handelsman, ANZAC Research Institute, University of Sydney to better target suitable assays for oestrogen validation.</p>
			<p>70% completed</p>	<p>Between 03/01/22 – 24/01/23, 124 site visits were conducted by the field ecologist, with over 100km of line survey transects assessed. Koala drone surveys occurred on 10 mornings – 2-3 drones were used on these occasions. 37 koala faecal scat samples were collected onsite between 03/01/22 – 24/01/23. 12 koala sightings observed during the survey period; 3 male koalas were heard bellowing. Extreme wet weather conditions during the survey period have been challenging for site access and safety. The high rainfall and lack of access also had an effect on the clearing schedule and on the quality of the DNA extracted from the faecal samples.</p>

<sup>2</sup> All land clearing has now been completed so that the next 3 to 5 months will involve surveying tree corridor areas of the study site and surrounding neighbouring properties including council road reserve, unallocated state land and bushland road. We have already observed koalas in these areas and will continue to collect faecal samples for analysis (DNA, Chlamydia)

December 2022	<b>Review research project progress</b>	<ul style="list-style-type: none"> <li>• Draft status report provided to stakeholders</li> <li>• Review status report and submit to DAWE for compliance</li> <li>• Provide final [REDACTED] project funding</li> </ul>	Completed	
---------------	---	--	-----------	--

**Budget variation notification**

1. To accelerate tissue DNA extraction for TASK 1 we will employ a Research Assistant (15 days) March – April 2023.
2. The computing power required for SNP assembly for TASK 1 has been greater than originally anticipated – this will require purchase of a computer with greater processing capacity (\$3-4K)

Funding for both variation items will be managed within the existing budget. Negotiation with the Australian Genome Research Facility for building the SNP array and conducting the bioinformatic analysis in house, has facilitated some minor reduction in costs that will pay for these variations.

# Appendix G

## Offset Area Management Report – Year 2



# **Aroona Station Offset Area Management Report –Year 2**

EPBC 2016/7724

V1 | January 2023

## Document Control

### Current document

Title	Aroona Station Offset Area Management Report Baseline Year 2 EPBC 2016/7724
Date	January 2023
Prepared by	Georgina Braun (GB)

### Document Issue

<i>Issue</i>	<i>Date</i>	<i>Prepared by</i>	<i>Checked by</i>
Draft	16/01/2023	GB	Dr Carly Starr – Manager, Natural Environment
Final	18/01/2023	GB	Lisa van den Berg – General Manager, Operations

## Disclaimer

This report has been prepared for Celestino Pty Ltd by the Queensland Trust for Nature. QTFN cannot accept any responsibility for any use of or reliance upon the contents of this report by any third party.

## Reports and/or Plans by Others

Reports and/or plans by others may be included within this Offset Area Management Report to support the document.

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# CHAPTER 1: INTRODUCTION

The purpose of this document is to report on the management actions and outcomes required for the provision of koala (*Phascolarctos cinereus*) habitat offset, by Approval EPBC 2016/7724 issued pursuant to sections 130 and 133 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC 1999). The focus of the plan is on the protection and enhancement of the koala habitat associated with the secured offset for the Celestino Pty Ltd Riverside Development (EPBC2016/7724). This document will report in accordance with stipulations and requirements laid out in the Offset Area Management Plan.

The structure of the document reflects the requirements of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) (previously, DAWE) and details the key threatening processes which could impact on the existing koala population. The chapters that comprise the document report on the overall health of the koala population, vegetation composition, and actions to minimise threats to Koala. The management regime put in place by the Queensland Trust for Nature (QTFN) will enhance existing koala habitat through the exclusion of land practices detrimental to the site and will track improvements and progress in the annual offset report over the active management period.

This report is the second submitted to date since the approval date for the offset (EPBC 2016/7724) on the 28<sup>th</sup> of September 2020 and commencement of the action. The past and future reporting requirements are listed below.

Milestone	Due Date	Status
Approval of EPBC 2016/7724	28 September 2020	Completed
Legal Security	4 December 2020	Completed
Year 1 Annual Report + Baseline	4 December 2021 + 3 months	Submitted January 2022
Year 2 Annual Report	4 December 2022 + 3 months	Submitted January 2023
Year 3 Annual Report		
Year 4 Annual Report		
Year 5 – Intensive Review		
Year 6 -9 Annual Report		
Year 10 – Intensive Review		
Year 11 -14 Annual Report		
Year 15 – Intensive Review		
Year 16 -19 Annual Report		
Year 20 – Intensive Review		

## 1.1 SUMMARY OF COMPLIANCE

This document stands as a compliance report for the agreed upon approval conditions (Table 1) outlined in the EPBC2016/7724 Offset Area Management Plan and final approval conditions.

It is acknowledged that any non-compliance with the conditions must be reported by no later than 48 hours after becoming aware.

*Table 1. Compliance summary of approval conditions, relevant for this reporting period.*

Approval Condition	Compliant
<b>Pest and Weed Management</b>	
8. The approval holder must demonstrate a 90% reduction in the number or abundance of non-native predators and non-native herbivores by the end of year 5, relative to the number or abundance identified during the baseline surveys, and ensure that the number or abundance of non-native predators and non-native herbivores are then maintained at, or reduced below, the year 5 number or abundance for the rest of the period of effect of the approval.	Ongoing
10. The approval holder must demonstrate the extent of weed cover across the whole Aroona Offset Site is: <ul style="list-style-type: none"> <li>a. Less than 25% by the end of year 5; and</li> <li>b. Less than 5% by the end of year 10, and then maintained for the remaining period of effect of this approval.</li> </ul>	Ongoing
<b>Stock Management</b>	
13. To facilitate the outcomes prescribed under conditions 15 -18, the approval holder must: <ul style="list-style-type: none"> <li>a. Only permit grazing at the Aroona Offset Site for the purposes of bushfire hazard reduction.</li> <li>b. Ensure that all livestock are excluded from Operational management unit 3 for a minimum of 5 years, or until a suitably qualified independent expert has determined that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.</li> <li>c. The approval holder must provide the Department with a report from the suitably qualified independent expert verifying that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.</li> <li>d. Ensure that any grazing is managed so as to prevent the risk of injury or mortality of Koalas.</li> </ul>	Ongoing
14. Before each annual anniversary of the date when the Aroona Offset Site is legally secured, until the end of year 5, and thereafter before each fifth anniversary of the date when the Aroona Offset Site is legally secured, the approval holder must submit to the Department a monitoring report in respect of the period since the period covered by the previous report or since the date when the Aroona Offset Site was legally secured, which includes: <p>An analysis of how cattle grazing at the Aroona Offset Site has facilitated and/or impacted the achievement of outcomes prescribed under conditions 15 -18;</p> <ul style="list-style-type: none"> <li>a. An analysis of how cattle grazing at the Aroona Offset Site has facilitated and/or impacted the achievement of outcomes prescribed under conditions 15 -18;</li> <li>b. Frequency, duration and location of grazing, and stock density for each grazing period;</li> <li>c. Details of any injury or mortality of individual Koalas;</li> <li>d. The timing and frequency of monitoring undertaken; and</li> <li>e. Details of corrective actions already undertaken and/or proposed to be undertaken in the event of injury or mortality of individual Koalas as a result of grazing, and/or if monitoring demonstrates the outcomes under 15-18 are not achievable.</li> </ul>	Ongoing
<b>Habitat Quality Improvement</b>	
15. The approval holder must undertake ecological work which contributes to improvement of the condition of the Regional Ecosystems and facilitates natural regeneration at the Aroona Offset Site.	Ongoing
16. The approval holder must encourage natural regeneration and achieve the listed outcomes in Operational management unit 1:	Ongoing
17. The approval holder must encourage natural regeneration and achieve the listed outcomes in Operational management unit 2:	Ongoing

Approval Condition	Compliant
<b>Habitat Creation</b>	
18. The approval holder must achieve the listed outcomes in Operational management unit 3.	Ongoing
18a. Recreate the relevant pre-clearing Regional Ecosystem as identified in the baseline survey by planting 69.16 hectares of new Koala habitat and Grey-headed Flying-fox foraging habitat.	<b>Complete.</b>
18b. Complete all planting and direct seeding of new Koala Habitat and Grey-headed Flying-fox foraging habitat by the end of year 2.	

## 1.2 SETTING AND LOCALITY

By way of Deed, Celestino Pty Ltd secured delivery of an Offset Area Management Plan and registration of a Voluntary Declaration (under the *Vegetation Management Act 1999* (QLD) (VMA) of a staged offset area imposed by EPBC Approval 2016/7724 as part of the offset for the Celestino Riverside development.

The voluntary declaration was secured on the 4<sup>th</sup> of December 2020 and reporting for EPBC 2016/7724 will include information from 2021 onwards.

### 1.2.1 Aroona Station Locality

The offset area pertaining to EPBC 2016/7724 is managed as part of a larger conservation property located on Alpers Road, Mount Mort, Queensland comprised of multiple lots; 233/CH311908, 31/CH312311, 218/CH311734, 64/CC552, 2/RP31144, 222/CH311798, 30/CH312310, 28/CH312274, 24/CH312032, 44/CC32, 45/CC32, 111/CC553, and 13/CH311894, totalling approximately 847.98 ha (Map 1). The whole site, henceforth referred to as 'Aroona Station', was gifted to the Queensland Trust for Nature (QTFN) in 2015 with the wish to see the property managed for both its production and conservation value, under a variety of income initiatives.

The tenure of the site is freehold, wholly owned by QTFN. It is included within the Ipswich City Council and Lockyer Valley Regional Council Local Government Areas. On a regional scale, the site is part of the Little Liverpool Range, providing connectivity to Main Range National Park and the Great Eastern Ranges.

The Range stretches for 90km from Laidley, through Mount Mort to Thornton and Mulgowie, and encompasses 20,400ha of land. It is an important wildlife corridor, providing habitat for a number of vulnerable species including the glossy black-cockatoo (*Calyptorhynchus lathami*), powerful owl (*Ninox strenua*), grey-headed flying-fox (*Pteropus poliocephalus*) spotted-tailed quoll (*Dasyurus maculatus maculatus*), brush-tailed rock-wallaby (*Petrogale penicillata*) and koala (*Phascolarctos cinereus*).

Climate data for the area gives a mean maximum and minimum temperature of 26.9°C and 13.1°C respectively for 2022. The annual rainfall is 1509mm up to November 2022 (BoM 2022), with the wettest month in February and the driest month in August. The site contains six Regional Ecosystems (REs):

- 12.3.3 Endangered: *Eucalyptus tereticornis* woodland on Quaternary alluvium
- 12.3.7 Least Concern: *Eucalyptus tereticornis*, *Casuarina cunninghamiana* subsp. *cunninghamiana* +/- *Melaleuca* spp. fringing woodland
- 12.8.9 Least Concern: *Lophostemon confertus* open forest on Cainozoic igneous rocks
- 12.8.16 Least Concern: *Eucalyptus crebra* +/- *E. melliodora*, *E. tereticornis* woodland on Cainozoic igneous rocks
- 12.8.17 Least Concern: *Eucalyptus melanophloia* +/- *E. crebra*, *E. tereticornis*, *Corymbia tessellaris* woodland on Cainozoic igneous rocks
- 12.9-10.17a Least concern: *Lophostemon confertus* or *L. suaveolens* dominated open forest usually with emergent *Eucalyptus* and/or *Corymbia* species on sedimentary rocks
- 12.9-10.7 Of concern: *Eucalyptus crebra* +/- *E. tereticornis*, *Corymbia tessellaris*, *Angophora* spp, *E. melanophloia* woodland on sedimentary rocks

The highest point of the site is 670m above sea level on the northern block, close to the border of lot 45 on CC32, and is one of the two peaks of Mount Beau Brummel. The Geological Survey of Queensland 1:100,000 Ipswich Geological Map (DME 2008) lists the geology as:

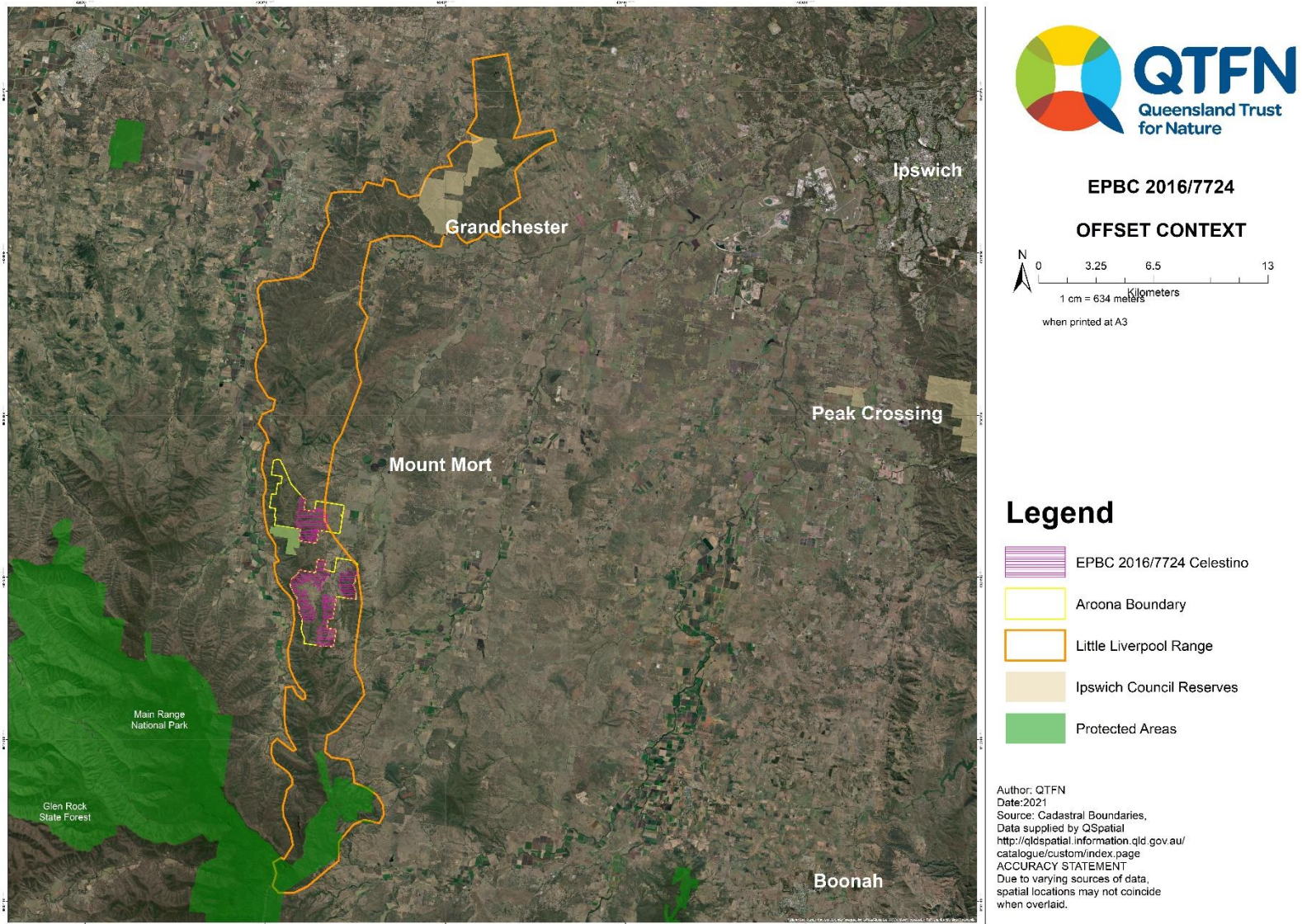
- Qa SEQ: Quaternary; clay, silt, sand, gravel, flood plain alluvium
- Tit SEQ: Tertiary: trachyte (anorthoclase and riebeckite trachyte)
- Jbmk: Jurassic; lithofeldspathic labile and sublabile to quartzose sandstone, siltstone, shale, minor coal, ferruginous oolite marker
- Jbmg: Jurassic; lithic labile and feldspathic labile sandstone

### 1.3 EPBC 2016/7724 OFFSET AREA ATTRIBUTES

The EPBC 2016/7724 offset area contains multiple parcels within the Aroona Station property, on the northern and southern land parcels (Map 1). The vegetation composition and land use history vary across the property.

The offset area contains remnant vegetation typical of eucalypt forest and dry sclerophyll (RE12.8.9). Surrounding vegetation is consistent with varying ages of mature eucalypt regrowth forest (RE12.8.16/RE12.9-10.7), previously cleared for cattle grazing purposes. The lowland offset areas are typical of alluvial blue gum and melaleuca flats (RE12.3.3/12.3.7). Vegetation remains along creek lines providing important dispersal pathways. However, the flats have been historically cleared for cattle grazing and will benefit from revegetation activities.

Map 1. Offset area in the context of Aroona Station and the Little Liverpool Range.



## CHAPTER 2: OFFSET MANAGEMENT REPORT

This chapter outlines the annual survey data and methodology in line with the Offset Area Management Plan and the final Approval Conditions set by the relevant parties, notable approval condition 18a. Management actions and reporting relevant to each condition will be discussed within this chapter.

### 2.1 HABITAT CREATION AND QUALITY IMPROVEMENT

#### Approval Conditions 15 -18

15. The approval holder must undertake ecological work which contributes to improvement of the condition of the Regional Ecosystems and facilitates natural regeneration at the Aroona Offset Site.
16. The approval holder must encourage natural regeneration and achieve the listed outcomes in Operational management unit 1:
17. The approval holder must encourage natural regeneration and achieve the listed outcomes in Operational management unit 2:
18. The approval holder must achieve the listed outcomes in Operational management unit 3.
  - a. Recreate the relevant pre-clearing Regional Ecosystem as identified in the baseline survey by planting 69.16 hectares of new Koala habitat and Grey-headed Flying-fox foraging habitat. **Completed**
  - b. Complete all planting and direct seeding of new Koala Habitat and Grey-headed Flying-fox foraging habitat by the end of year 2. **Completed**

An ecological assessment was conducted at Aroona Station in 2016 by AusEcology. The surveys were carried out using the methodology outlined in Offset Management Plan, where BioCondition plots were established and data relating to the habitat quality of the land-based offset was collected, in line with the modified version of the Queensland State Governments “*Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy*” Version 1.2 April 2017 (the Guideline). These plots, herein referred to as ‘Habitat Quality Transects’, allowed for the assessment of the offset area and were designed to determine the condition of the vegetation and its suitability as an offset for the koala and the grey-headed flying-fox.

The site was broken up into nine assessment units based on regional ecosystem (RE) and vegetation status (remnant, regrowth and cleared). Fourteen Habitat Quality Transects were established across these assessment units. The transects were distributed in such a way as to provide a representative sample of the RE, and gradient condition states of each AU present on the property.

For the purposes of managing the offset, the land was categorised into three management units, remnant (OMU- 1), regrowth (OMU-2) and cleared (OMU-3) Broadly, condition and management actions required are similar for all Res in remnant status, all Res in regrowth status and all cleared areas. As a result, it was decided to assess habitat quality and potential improvements based on OMUs. Operational management units (OMU’s) are made up of assessment units relating to the regional ecosystems and vegetation classes within the offset area. OMU’s are used to demonstrate management actions and impacts across vegetation groups.

## 2.1.1 Management Actions

### OMU 1 AND OMU 2 – Habitat Quality Improvement

All actions outlined in this document contribute to the management of OMU1 and OMU2 to improve habitat quality.

Rehabilitation actions are conducted line with the Aroona Station Weed Management Strategy and the Aroona Station Fire Management Plan, detailed in sections 2.5, and 2.8, respectively.

Monitoring transects were established, located in Appendix 1.

### OMU3 – Habitat Creation

Revegetation actions are underway to create habitat for the koala and grey-headed flying fox. All revegetation actions within the offset area have been completed and are now in maintenance phase. This includes 25.5ha of tree planting and 40ha of aerial seeding of the upland cleared pasture.

The extended wet season has proven beneficial for the tree plantings. Saplings are showing healthy growth and high survival rates.

Similar is to be said about the direct seeding event. The ecological burn followed by aerial seeding of native seeds was conducted in October 2022. The ecological burn was cool and provided a substantial ash bed for native seed to germinate (Figure 1). Rainfall fell in the days following the seeding event. Follow up monitoring will occur.



*Figure 1. Habitat creation. Top: photos of burn during direct seeding. Bottom: trees getting ready to be planted into revegetation zone (aerial of same location).*



## 2.2 GREY HEADED FLYING FOX FORAGE HABITAT

### Approval Condition 18

a. Recreate the relevant pre-clearing Regional Ecosystem as identified in the baseline survey by planting 69.16 hectares of new Koala habitat and Grey-headed Flying-fox foraging habitat. **Completed**

b. Complete all planting and direct seeding of new Koala Habitat and Grey-headed Flying-fox foraging habitat by the end of year 2. **Completed**

Proximity of grey-headed flying fox (GHFF) colonies to the offset site were determined in a desktop analysis using the National Flying-fox Monitoring viewer (DoE) and cross checked using the state mapping for flying-fox roost sites (DES 2019). Flying-fox camps within 30 km of the site are listed in Table 2.

Table 2. Grey-headed Flying-fox Camps.

Camp name	Level	Proximity to site
Boonah, Bicentennial Park	3	23.5km
Laidley, Laidley Plainlands road	2	24.5km
Gatton, Tenthill creek	2	26.3km

### 2.2.1 Management actions and species occurrence

*Flowering grey-headed flying fox forage trees were GPS located and recorded throughout the reporting year*

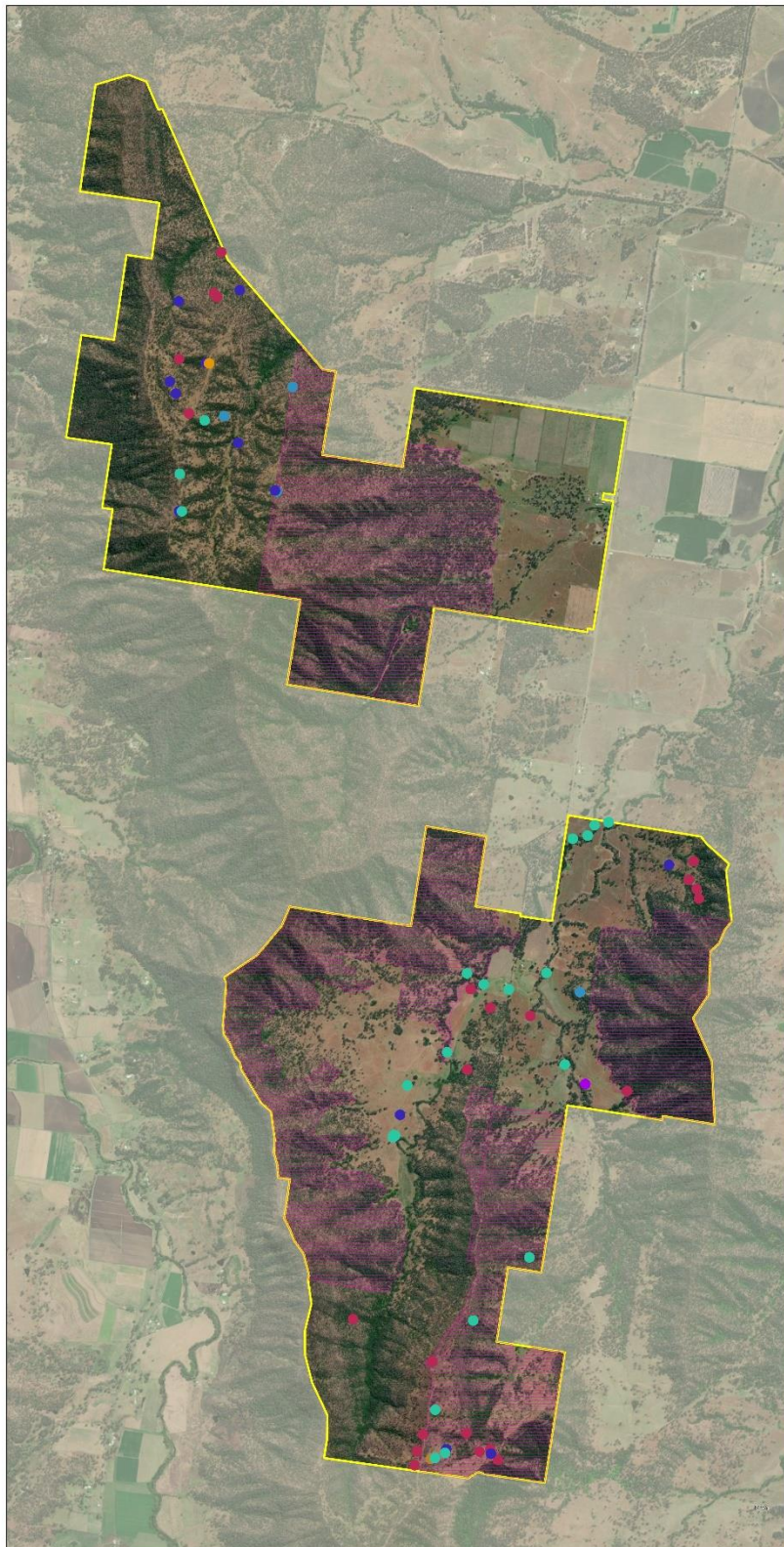
Map 2. This allowed for a spatial and seasonal representation of food availability in between milestone reporting years (5 yearly).

*Corymbia intermedia* and *Eucalyptus tereticornis* were the most dominant flowering forage tree. Due to an unpredictable weather season and multiple La Nina events, the flowering duration of *Eucalyptus tereticornis* was notably later and longer in 2022. This provides year-round coverage as they are a summer and winter forage species respectively.

Table 3. GHFF Forage Species Calendar (blue shading = literature based flowering times, X = observed flowering in offset area).

Species	OMU 1	OMU 2	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Angophora floribunda</i>	Y	Y												
<i>Lophostemon confertus</i>	Y	Y												
<i>Melia azedarach</i>	Y	Y												
<i>Corymbia intermedia</i>	Y	-	X		X									
<i>Corymbia tessellaris</i>	Y	Y	X											
<i>Eucalyptus crebra</i>	Y	Y								X	X			
<i>Eucalyptus melanophloia</i>	Y	Y									X			
<i>Eucalyptus melliodora</i>	-	Y									X			
<i>Eucalyptus tereticornis</i>	Y	Y								X	X			
<i>Ficus coronata</i>	-	Y									X			
<i>Ficus opposita</i>	Y	Y												

Map 2. GHFF forage trees in flower across offset area.



## AROONA GHFF Monitoring

1:14,961  
Kilometers  
0 0.1 0.35 0.7 1.05 1.4



### Legend

- GHFF Forage Food Tree
- Corymbia intermedia
- Eucalyptus crebra
- Eucalyptus melanophloia
- Eucalyptus melliodora
- Eucalyptus tereticornis
- Angophora floribunda
- Ficus sp.
- Aroona Boundary
- EPBC2016/7724

Author: QTFN  
Date: 2022  
Source: Cadastral Boundaries,  
Data supplied by QSpatial  
<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>  
**ACCURACY STATEMENT**  
Due to varying sources of data,  
spatial locations may not coincide  
when overlaid.

## 2.3 SPECIES STOCKING RATE

### Approval Condition 6

#### d) The Species Stocking Rate;

Baseline data was collected from 2016 to 2019 across the offset site using multiple survey methodologies, summarised in Table 4. These surveys will be carried out across the offset area though the lifetime of the offset to report on the effectiveness of management actions and the increase in koala abundance and activity.

*Table 4. Koala monitoring methods.*

Methodology	Frequency	Characteristic monitored	Result
SAT surveys (Phillips and Callaghan 2011)	Annually	SAT monitoring, recording the presence of koala scats under food and habitat trees. Survey will record activity and abundance of koalas.	Demonstrated increase in koala density and abundance through an increase in scats recorded during SAT
Intensive population surveys using methodology modified from Ellis et al (2015) Method involves capturing, conducting health assessments by a wildlife vet including age, body mass, reproductive health and signs of koala disease. In addition to capturing individuals, surveying will include nocturnal spotlighting, acoustic listening for male bellowing and camera trapping.	At years 5, 10, 15 and 20	Surveys are designed to detect koala breeding within the offset area. Data collected will show evidence of breeding through back/pouch young, used pouches and male bellowing records.	Demonstrated use of the offset site for breeding purposes.

### 2.3.1 Management actions and species occurrence

Opportunistic scat surveys were conducted across the reporting period (Map 3).

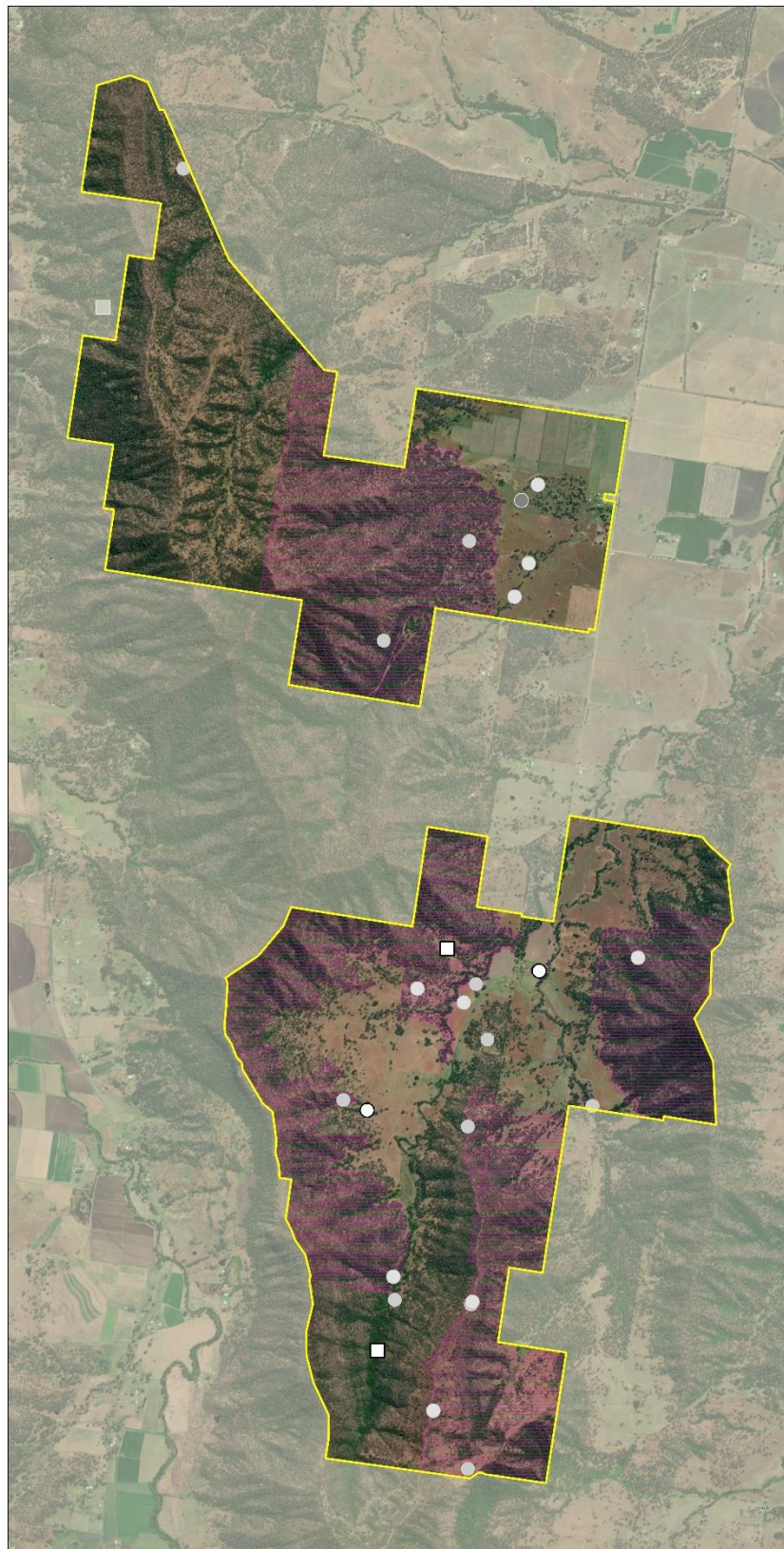
Koala scat was observed through all of the offset management units, including individual large trees on cleared land. This further demonstrates the importance of these areas within the landscape and the high potential of OMU-3 cleared areas to restore connectivity.

Two koalas were observed across Aroona Station, one visual observation in a revegetation zone within the EPBC2016/7724 offset area and the second via motion sensor camera trap within bushland adjacent to the offset area (Figure 2).



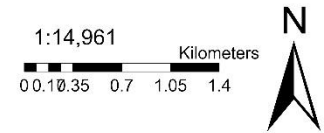
Figure 2. Koalas observed on Aroona Station, top – within revegetation zone, bottom – camera trap.

Map 3. Koala occurrence.



## AROONA

### Koala Monitoring



- Legend
- Aroona Boundary
  - Koala sighting 2022
  - Koala Scat Observation 2022
  - Koala Scat Observation 2021
  - Koala Scat Observation 2019
  - Koala sighting neighbour 2021
  - Historic koala records <2000
  - EPBC2016/7724

Author: QTFN  
Date: 2022  
Source: Cadastral Boundaries,  
Data supplied by QSpatial  
<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>  
ACCURACY STATEMENT  
Due to varying sources of data,  
spatial locations may not coincide  
when overlaid.

## 2.4 EXTENT OF WEED COVER

### Approval Condition 6

e. The extent of weed cover;

### Approval Condition 10

10. The approval holder must demonstrate the extent of weed cover across the whole Aroona Offset Site is:

- a. Less than 25% by the end of year 5; and
- b. Less than 5% by the end of year 10, and then maintained for the remaining period of effect of this approval.

At the commencement of site management, weed extent will be mapped across the property. This will form the basis for the targeted areas for treatment. Monitoring will occur on an annual basis and the extent and abundance of weed cover in OMU-01, OMU-02 and OMU-03 will be measured through the improvement in non-native plant cover, measured through quadrats in Habitat Quality Transects assessments. Milestone surveys in the form of Habitat Quality Transects assessment will measure the success of the weed treatment every 5 years.

Baseline weed assessments were conducted in 2021 and will be conducted annually for the duration of the offset management plan. Permanently marked transects were surveyed according to Nelder *et al* 2015 in a 50 x 10m transect (Map 4). Photo points were recorded at each transect to ensure that the progress of the site could be monitored (Appendix 3).

### 2.4.1 Monitoring in this period

Weed assessments continue to be conducted annually and compared to results from the baseline survey of 2021. Permanently marked transects were surveyed according to Nelder *et al* 2015 in a 50 x 10m transect. Photo points were recorded at each transect so that the progress of the site could be monitored (Appendix 2). The target weed species identified as a threatening process to koalas is *Lantana camara*. Whilst other weeds were measured for overall ecological health, the focus of the weed management is the control and eradication of *L. camara*, as it has the capacity to prevent koala movement and access to food and shelter trees.

The target weed species identified as a threatening process to koalas are lantana (*Lantana camara*), broad-leaved pepper (*Schinus terebinthifolius*) and cat's claw creeper (*Macfadyena unguis-cati*). Whilst other weeds were measured for overall ecological health, the focus of the weed management is the control and eradication of these woody weeds, as they have the capacity to prevent koala movement and access to food and shelter trees, particularly in riparian corridors.

#### 2.4.1.1 Results

##### Property wide trends

Across the Aroona Station property, woody weed cover remains stable (Figure 3). Due to an above average rainfall attributed to the extensive La Nina season, woody weed growth has benefited. Coverage and extent of the four species remains at or slightly above the baseline level. However, this is expected at the early stage of intensive management and wet season.

##### Offset specific trends

A decline in lantana extent (60%) and coverage (80%) within the offset area can be attributed to the ecological burn conducted as part of the direct seeding event. While the burn provided a 50% coverage mosaic, dense patches of lantana remain the gullies adjacent to survey transects. All species remain at or below the property maximum.

### 2.4.2 Management outcomes

The Weed Strategy 2020-2025 outlines the principles and approach to weed management at a property wide scale. Results from this survey have informed the approach for the next five years. A contractor has been engaged to complete weed control in high priority areas targeting lantana, broad leaved pepper and cats' claw in the endangered blue gum alluvial flats (RE12.3.3), and into the foothills.

Another wet season associated with a continued La Nina seasons has promoted weed growth and restricted weed control actions across the property. Weed management was conducted in areas of accessible in wet weather and where treatments methods were compatible with wet weather (hand pulling, stem injection). This occurred predominately along Gehrke Creek within the offset area. This will also complement revegetation work in the flats adjacent the creek. Follow up selective chemical or hand removal of lantana will occur in the burn area to target emergence post fire.

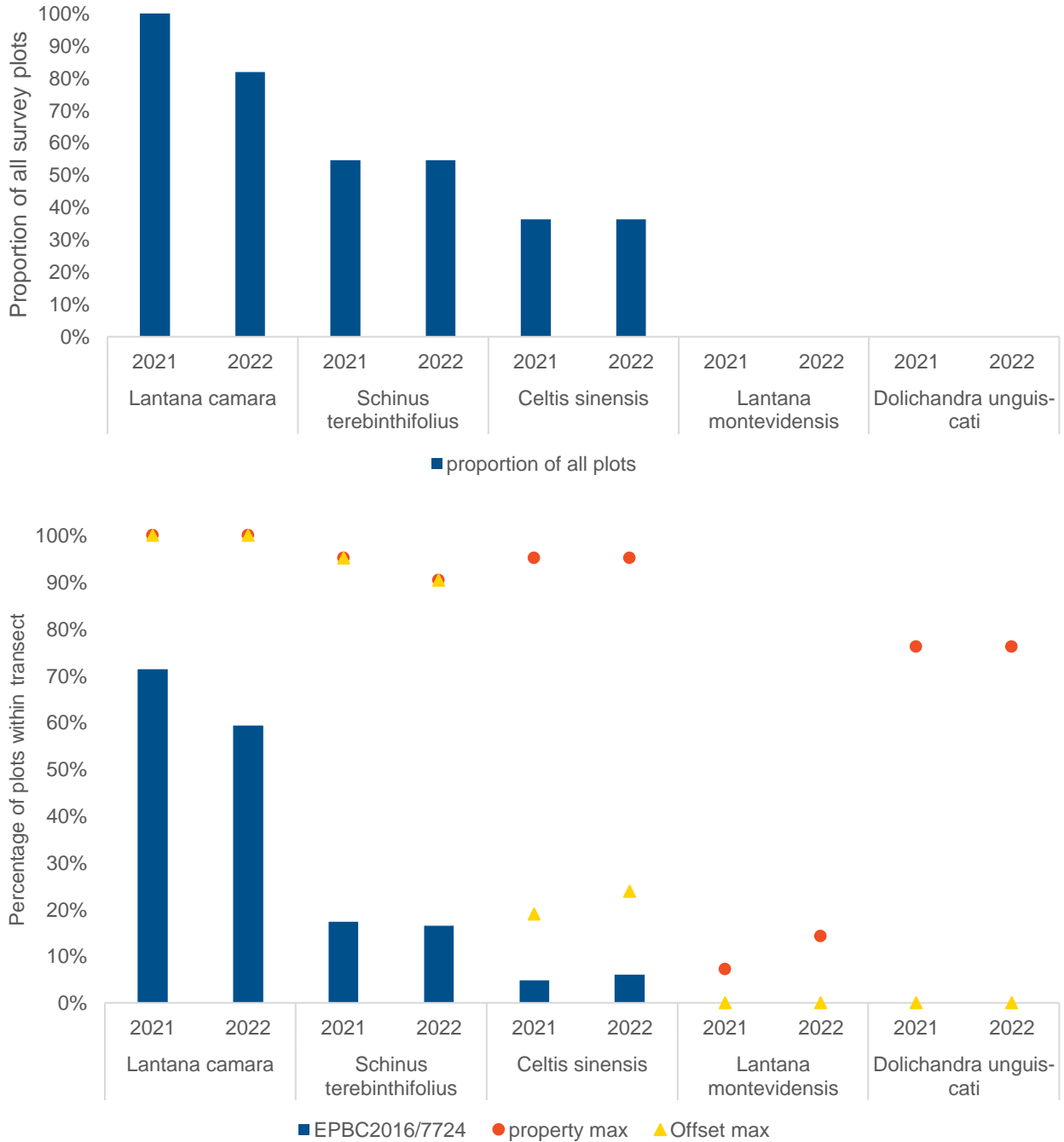


Figure 3. The percentage of the weed transects across EPBC 2016/7724 offset site with weed cover (top), and the average percent coverage of all transects across offset site (bottom) with maximum coverage across whole of property (red circle) and offset specific (yellow triangle).

Map 4. Weed extent across the property, the larger the circle the higher the density within the transect sampled, x= absent.



Lantana

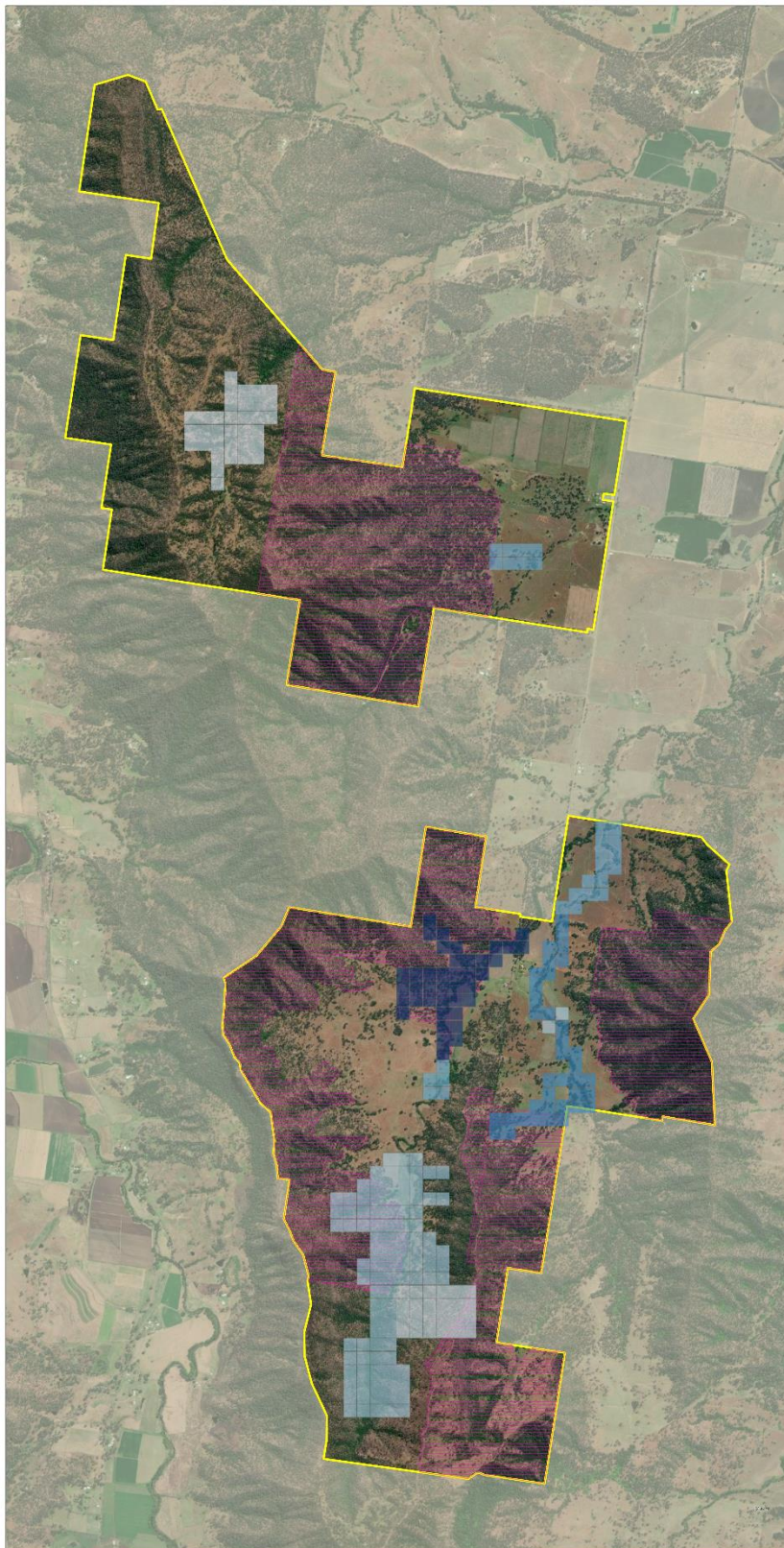
Broad-leaved pepper

Chinese Elm

Cat's Claw Creeper



Map 5. Weed treatment area.



## AROONA

Weed Monitoring

1:14,961  
0 0.10.35 0.7 1.05 1.4 Kilometers



Legend

-  Aroona Boundary
- ACTIVE\_WeedTreatmentArea
- Treatment to date
-  2016
-  2018
-  2019
-  2020
-  2021
-  2022
-  EPBC2016/7724

Author: QTFN  
Date: 2022  
Source: Cadastral Boundaries,  
Data supplied by QSpatial  
[http://qldspatial.information.qld.gov.au/  
catalogue/custom/index.page](http://qldspatial.information.qld.gov.au/catalogue/custom/index.page)  
ACCURACY STATEMENT  
Due to varying sources of data,  
spatial locations may not coincide  
when overlaid.

## 2.5 NON-NATIVE PREDATORS AND HERBIVORES

### Approval Condition 6

f) The number or abundance of non-native predators and non-native herbivores across, and where possible surrounding, the Aroona Station Offset Site;

### Approval Condition 8

The approval holder must demonstrate a 90% reduction in the number or abundance of non-native predators and non-native herbivores by the end of year 5, relative to the number or abundance identified during the baseline surveys, and ensure that the number or abundance of non-native predators and non-native herbivores are then maintained at, or reduced below, the year 5 number or abundance for the rest of the period of effect of the approval.

Wild dogs/dingoes, feral foxes and feral cats are restricted invasive animals under the *Biosecurity Act 2014* (QLD), and do not require specific control measures. The act states, “The Act requires everyone to take all reasonable and practical steps to minimise the risks associated with invasive animals under their control”. The adaptive predator control measures, rigorous monitoring and coordinated landscape approach that will be implemented at the offset site go far beyond the minimal requirement of reducing the risks associated with invasive animals.

As part of the management program, baseline monitoring will be undertaken on the property and a relative abundance index (RAI) calculated for wild dogs and foxes. Where post control surveys indicate that there has been a recurrence of wild dogs and/or foxes on the site, control measures will be actioned using methods (e.g. controlled shooting and/or trapping) as determined by a pest control professional in consideration of these monitoring results.

Predator home ranges exceed the Aroona Station property area, and the EPBC 2016/7724 offset area within. Therefore, as predator abundance and activity can be influenced by multiple factors including, seasonality, food availability and neighbouring predator control works, it is important to provide context for the surrounding landscape of the offset area.

Predator management on Aroona Station has occurred since 2018. To date, dingoes (*Canis lupus*), foxes (*Vulpes vulpes*) and cats (*Felis catus*) have all been recorded on-site in camera trapping, from visual sightings or from the collection of scats. A property wide scale assessment was conducted to ensure that detection of predator activity is maximised, to reflect the large home ranges, and best inform management actions. Pursuant to the Offset Management Plan, this will best inform the property wide predator control program. Regardless, specific attention will be paid to individuals observed on camera trap stations directly within the offset area.

*Table 5. Average foraging range for three target predators ascertained from the literature (Harden 1985; Meek 1999; Meek & Saunders 2000; Molsher et al. 2005; McNeill et al. 2016), and the camera trap stations that therefore assess the RAI of each species within.*

Species	Radius	Camera stations with territories that overlap EPBC 2016/7724
Dog ( <i>Canis lupus</i> )	2 to 3km	a/b/c/d/e/f/g/h/i/j/k/l/m/n/o/p/q
Cat ( <i>Felis catus</i> )	600m? to 1km	a/b/c/d/e/f/g/h/i/j/k/l/m/n/o/p/q
Fox ( <i>Vulpes vulpes</i> )	~900m	a/b/c/d/e/f/g/h/i/j/k/l/m/n/o/p/q

## 2.5.1 Monitoring in this period

Feral predator abundance has been monitored on Aroona Station using two methods since 2018: camera trapping and scat searches.

Given that the movement range of these feral predators extends beyond the specific offset area, RAI are presented including the data from any camera trapping station with projected territories of any feral animal that overlap with the offset area. Observations specific to cameras within the offset area are presented in maps.

The home-ranges of non-native predators: dogs, foxes and cats in both peri-urban and agricultural are presented in Table 5. Operating under this assumption, we placed a network of 16 camera trapping stations that ensured coverage of the entire property (Map 6). Cameras were deployed for a 40-day trapping interval in each season, and all photos were databased, categorised and analysed using Camelot (©WildLabs, 2018), with an independence threshold of 10min.

Camera trapping is performed biannually to account for seasonal variation in predator behaviour. To demonstrate a significant reduction in non-native predator numbers over time within the offset site, the response variable able to be used are discussed below.

**Metric 1 –RELATIVE ABUNDANCE INDEX** - a relative measure of abundance based on the frequency and duration of time each predator species is recorded on camera i.e. how many are there relative to survey time.

**Metric 2 –OCCUPANCY** – the proportion of camera trapping stations at which a predator was detected i.e. how many locations that had evidence of predators in the area.

### 2.5.1.1 Results

Climate and weather conditions influence the occupancy of feral animals. During dry weather periods, animals display a lower occupancy score as they (and their prey) are constrained to water sources. During wet weather periods, the occupancy score is likely to increase as the animals find prey across the landscape.

Throughout the monitoring period, the relative abundance and occupancy of wild dogs showcased a peak in Summer 2021. Preliminary individual recognition shows that these are the same few individuals moving across the landscape. Occupancy in winter declined back to baseline thresholds. Camera trap footage demonstrated isolate individuals and no large packs in the winter of 2021.

The abundance and occupancy of foxes remains stable at the baseline threshold, with a small decline in Winter 2022.

Pigs (*Sus scrofa*) have also been observed in the property. Pig abundance and occupancy fluctuates with weather conditions and seasons. The year was typical of above average rainfall, attracting pigs to lowland alluvial flats, and providing ample food source. The abundance (RAI) of pigs declined in Summer 2021 and Winter 2022. There was minimal evidence of pigs in the revegetation area and no disturbance observed. Management action will continue to be taken.

No cats were observed during this monitoring period.

*Table 6. Occupancy, the number of camera traps with a 1km radius that overlaps with the EPBC2016/7724 offset area.*

	Dogs	Foxes	Cats	Pigs
00_SUM_2019	2	2	0	0
01_WIN_2020	2	0	1	0
02_SUM_2020	2	1	0	2
03_WIN_2021	4	2	2	2
04_SUM_2021	5	4	0	4
05_WIN_2022	4	2	0	1

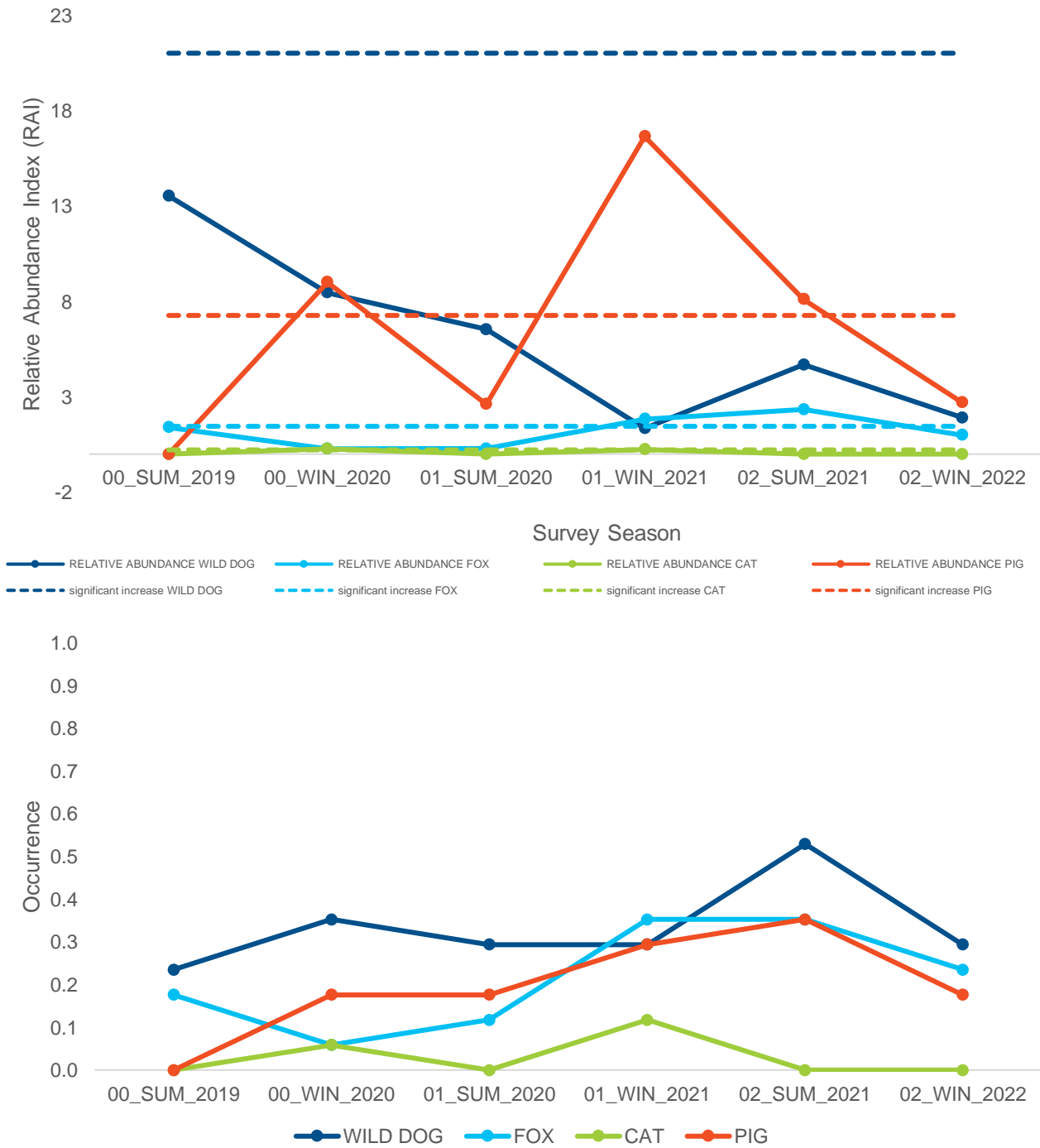


Figure 4. Relative Abundance Index (RAI) and Occupancy of predators across camera traps, and confidence limit threshold to show future deviations from the baseline.

### 2.5.2 Supplementary scat searches

Throughout the year, predator scat is collected opportunistically across the property. In addition to opportunistic scat collection, scat is collected during bi-monthly traverses of the Aroona Station property, roadsides and creeks. This search effort is in addition to the proposed six-monthly searches for evidence of predators within the offset site to be conducted within the compliance reporting period, after works are commenced on the impact site.

Scats are GPS located and collected for laboratory dietary analysis. Scat identification and dietary analysis gives an indication of species and predation trends over time, however is not considered a metric in relation to accurately monitoring predator abundance.

#### Predator scat analysis

To date, predator scat analysis shows no presence of koala in any predators diet on Aroona Station. In the past five years, macropods and wallabies have been the main fauna group present in predator scat, followed by small native mammals, birds and reptiles. Several non-native mammals were found in scat including goat and pigs since 2017.

QTFN have been actively collecting and analysing predator scat on Aroona Station since 2018 (Figure 5) .

Predator scats continue to be found across the Aroona Station site and within the EPBC 2016/7724 offset area (Map 6). Although both foxes and dogs remain on the site, predatory scats collected during this reporting period suggest that neither predator is consuming koala, and the diets of most individuals is composed of macropods and vegetation (Table 7).

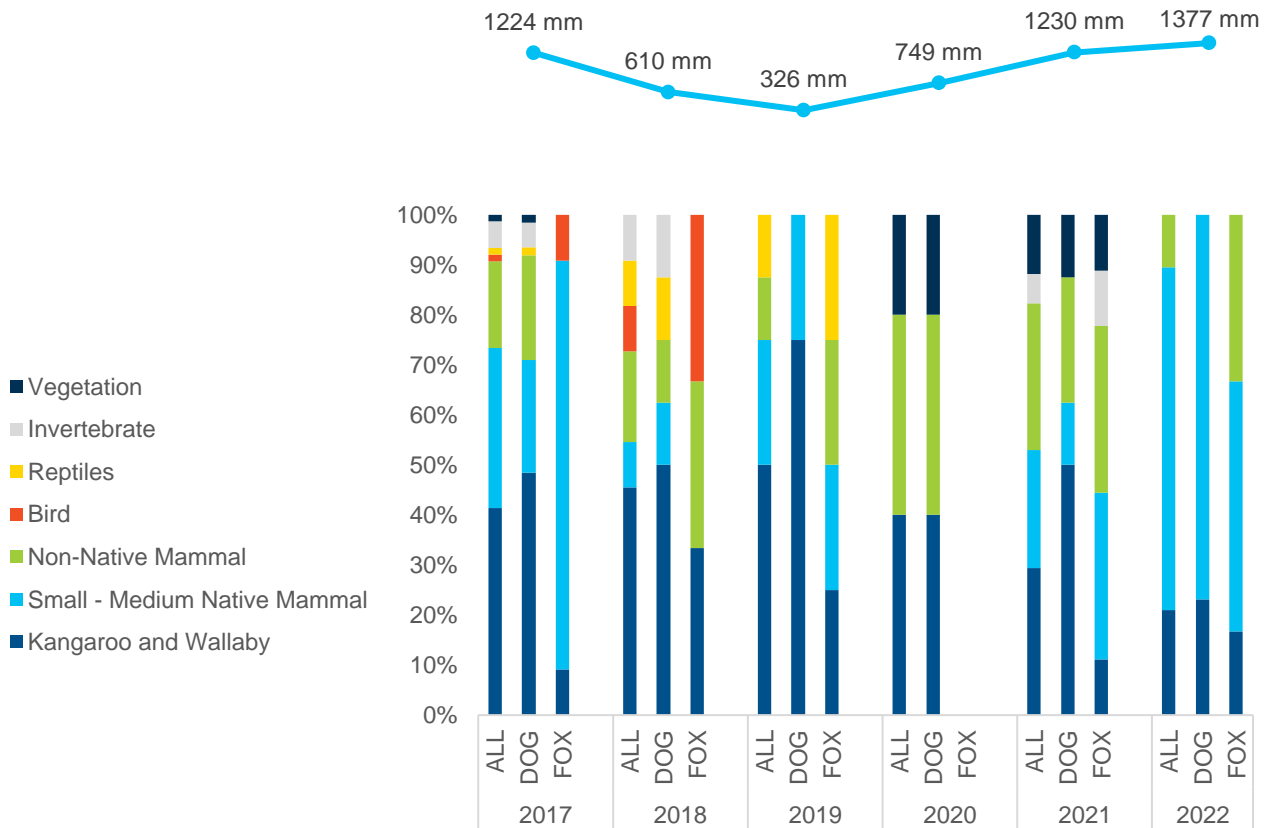


Figure 5. Long term predator diet analysis, percentage of prey type found in scat across years with annual average rainfall (points). i.e., in 2019, all reptile prey was only recorded in fox scat. No fox scats collected in 2020.

*Table 7. The types of prey item identified from fox and dog scat collected within the site from August 2021 to August 2022, sorted by the frequency of individual predators whose scat contained each prey type (e.g., Northern brown bandicoot were found in 67% of the 12 scats collected).*

Species name	Common name	Frequency
<i>Isoodon macrourus</i>	Northern brown bandicoot	0.667
<i>Rattus fuscipes</i>	Bush Rat	0.556
<i>Pseudomys gracilicaudatus</i>	Eastern chestnut mouse	0.22
<i>Macropus dorsalis</i>	Black striped wallaby	0.22
<i>Macropod sp.</i>		0.11
<i>Wallabia bicolor</i>	Swamp wallaby	0.11
<i>Rattus rattus</i>	Rat	0.11
	Goat	0.11

### 2.5.3 Management outcomes

As of Summer 2020, a contractor has been engaged. Biannual monitoring using camera traps will continue, and the feral animal contractor will target the creek line within the offset area that regularly captures predators and pigs. Management will include trapping seasons and ad hoc removal when required.

One cat was removed in May 2022, by the contractor. Gut contents analysis showed *Rattus sp.*. Over twenty pigs were removed throughout this monitoring period.

The inherent nature of controlling introduced predators over an unfenced site means some years will see an increase in numbers, regardless of measures put in place to control them.

## 2.6 KOALA MORTALITIES ATTRIBUTABLE TO NON-NATIVE PREDATORS

### Approval Condition 6

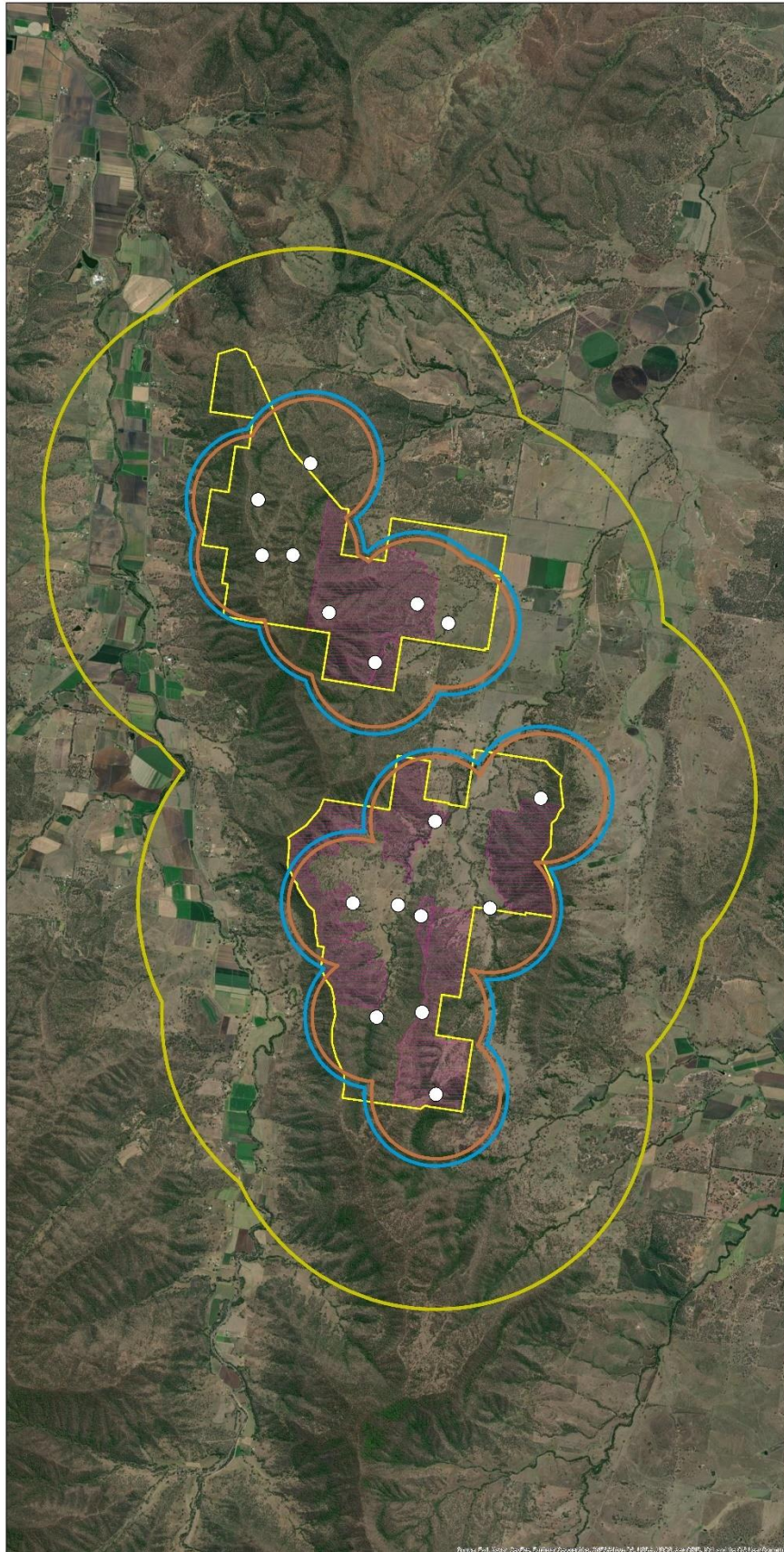
g) The number of Koala mortalities attributable to non-native predators

No koala mortalities caused by non-native predators was recorded in the last monitoring season.

### 2.6.1 Management outcomes

An inventory is kept for any incidences relating to koala mortalities attributable to non-native predators.

Map 6. Non-native predators and herbivores monitoring and dispersal distances.



## AROONA

EPBC 2016/7724

PEST FAUNA  
MANAGEMENT

1 cm = 277 meters  
Kilometers  
0 0.350.7 1.4 2.1 2.8



### Legend

- Camera Trap Locations
- Red Fox ~900m
- Feral Cat - 1km
- Wild Dog - 3km
- Celestino\_BDY (847.98ha)
- Aroona Boundary

Author: QTFN  
Date: 2021  
Source: Cadastral Boundaries,  
Data supplied by QSpatial  
<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>  
**ACCURACY STATEMENT**  
Due to varying sources of data,  
spatial locations may not coincide  
when overlaid.

## 2.7 STOCK MANAGEMENT

### Approval Condition 13

- a. Only permit grazing at the Aroona Offset Site for the purposes of bushfire hazard reduction.
- b. Ensure that all livestock are excluded from Operational management unit 3 for a minimum of 5 years, or until a suitably qualified independent expert has determined that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.
- c. The approval holder must provide the Department with a report from the suitably qualified independent expert verifying that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.
- d. Ensure that any grazing is managed so as to prevent the risk of injury or mortality of Koalas.

### Approval Condition 14

Monitoring report in respect to an analysis of how cattle grazing at the Aroona Station Offset Site has facilitated and/or impacted the achievement of outcomes prescribed under conditions 15 -18;

#### 2.7.1 Cattle grazing monitoring

Cattle grazing for the purpose of fuel hazard management was conducted in line with the decision matrix provided in the Offset Management Plan.

Fuel hazard assessments demonstrated that the near surface (grasses) fuel layer contributed the greatest to the high, very high and extreme overall ratings. The biomass in this layer is a significant food source for cattle before it cures and contributes further to fuel loads. In the natural absence of a midstory within the landscape of open woodlands, a score above high or very high is rarely achieved; however, a substantial fuel and biomass load remains in the surface layer, that the cattle can reduce. When managed correctly, it can be reduced without impact on native recruitment.

- **Frequency, duration and location of grazing, and stock density for each grazing period;**

Where fuel hazard assessments scored high and very high, cattle were moved into offset areas until the fuel hazard was reduced. Only one grazing period was conducted between fuel hazard assessments. Cattle are excluded from revegetation areas.

A summary is provided in Table 8.

- **The timing and frequency of monitoring undertaken; and**

Fuel hazard assessments were conducted bi-annually (January and August), Table 8. The year 2022 has experienced above average rainfall contributing to growth in the near surface layer, reflected in the second assessment. Higher fuel hazard ratings are attributed to growth in the near surface fuel layer.

- **Details of any injury or mortality of individual koalas;**

No evidence of koala injury or mortality caused by cattle grazing was recorded.

- **Details of corrective actions already undertaken and/or proposed to be undertaken in the event of injury or mortality of individual koalas as a result of grazing, and/or if monitoring demonstrates the outcomes under 15-18 are not achievable.**

In the event that it occurs in the future, cattle will be removed from the offset area and the cause of interaction will be investigated. Revegetation zones will be monitored for cattle encroachment. However, to date no impact has been recorded due to cattle exclusion fencing.

If target vegetation composition is negatively affected by cattle grazing, implement adaptive management actions which may include: additional cattle exclusion areas, additional re-vegetation / rehabilitation in areas negatively affected by cattle grazing, reduce intensity of grazing for fuel reduction purposes, and exclude cattle from the offset area.



## 2.7.2 Management outcomes

Fauna friendly stock exclusion fencing has been installed around Operational Management Unit 3 areas where existing fences did not sufficiently exclude cattle. A local contractor was engaged to complete the works, whom demonstrated professionalism and high quality services. This complies with Approval Condition 12, with compliance reported in the Year 1 Annual Report (2021).

An ecological burn was planned in the mountain paddock; however, due to weather conditions and contractor availability the burn was unable to be conducted. Cattle were introduced to reduce fuel loads as per the flowchart.

An integration of agritech was implemented in 2022. Cibolabs satellite-based pasture monitoring aligned with Ceres Tag GPS tracking of cattle has allowed QTFN to monitor and manage our cattle grazing practices. This will assist in management pasture fuel load reductions and best practice cattle management.

No wildlife incidents or mortality have been recorded with the newly installed fences.

Fuel hazard assessments will continue to be conducted.

Table 8. Cattle management summary.

Paddock	January FHA						August FHA					
	FHA	Cattle Hazard Reduction Triggered	Cattle Moved In	Cattle Moved Out	Head of Cattle	Days grazing	FHA	Cattle Hazard Reduction Triggered	Cattle Moved In	Cattle Moved Out	Head of Cattle	Days grazing
Basils	H	No grazing permitted in OMU3 within paddock					H	No grazing permitted in OMU3 within paddock				
Desjardin	H	Yes				0	H	Yes				
Gahrke	H	Yes					VH	Yes				
Meiers	H	Yes	No grazing permitted in OMU3 within paddock				VH	Yes	No grazing permitted in OMU3 within paddock			
Mountain	H	Yes				0	H	Yes	17/10/2022	21/11/2022	72	35
Mt Grey	H	Yes	12/02/2022	21/04/2022	289	68	H	Yes				
Sawmill	H	Yes				0	H	Yes				
Spring	H	Yes				0	H	Yes	07/08/2022	17/10/2022	64	70
Wensley	H	Yes	24/07/2022	09/09/2022	5	47	H	Yes				

January FHA

August FHA

## 2.8 FIRE MANAGEMENT

### MANAGEMENT ACTION

The threats to koalas from fire was addressed in accordance with OMP by referring to the ‘Aroona Station Fire Management Plan’.

The Aroona Station Fire Management Plan divides the property into Fire Management Zones: Land Management Zones, Exclusion Zones and Asset Protection Zones. Within the Land Management Zones, the landscape is broken up into subzones or Fire Management Areas (FMAs) according to practicable containment lines. The Fire Management plan details burning intervals recommended for these FMAs.

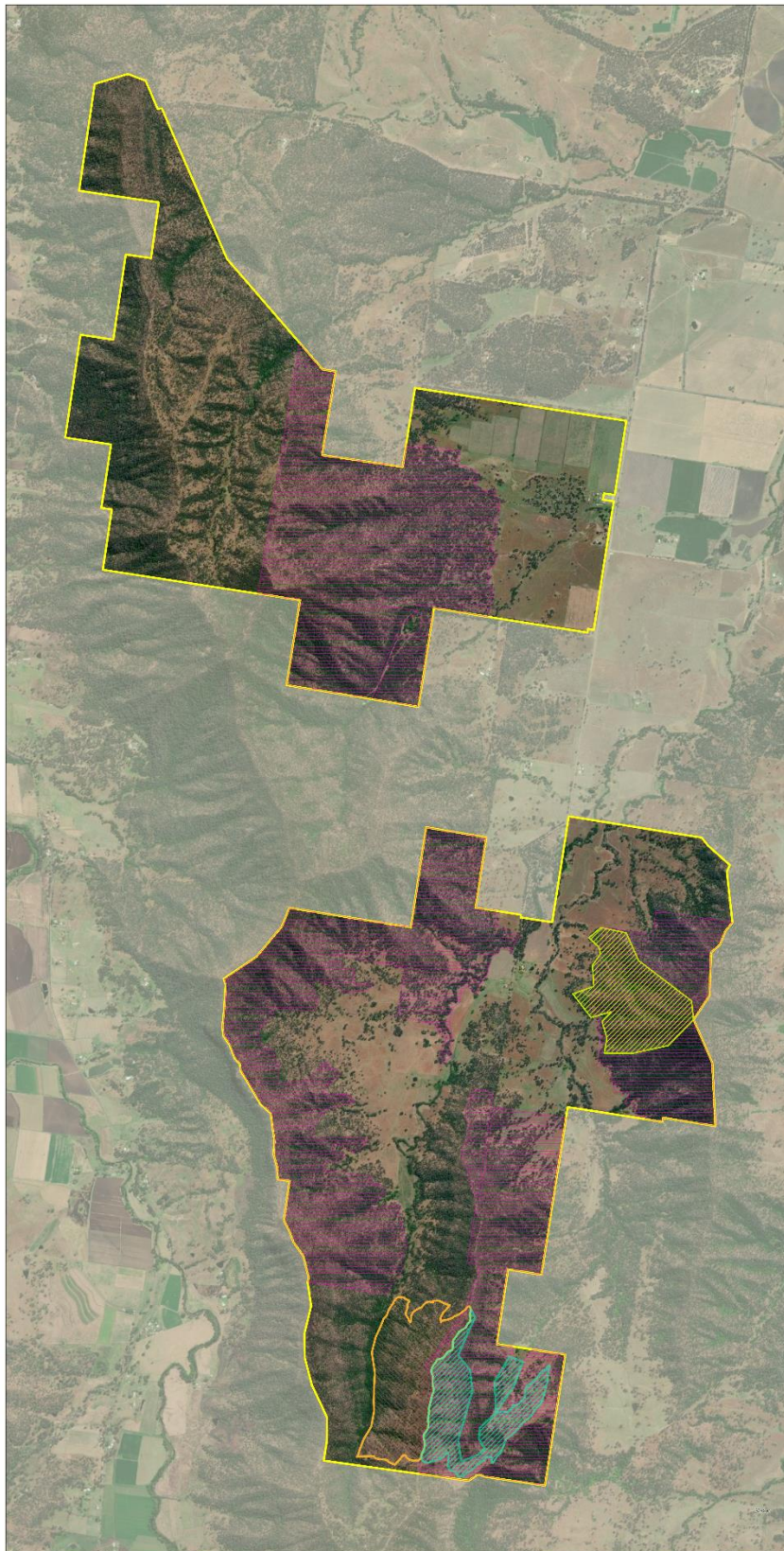
#### 2.8.1 Management outcomes

One ecological burn was conducted on Aroona Station, inside the offset area (Map 7). The burn conducted within the offset area was for the purpose of direct seeding revegetation. The burn covered 64ha, with low intensity and approximately 50% coverage.

Fuel hazard assessments demonstrate high to very high fuel loads, with over 50% exceeding a ‘High’ hazard score. Ratings were variable within and across offset management areas. This is attributed to high surface fuel loads caused by increased grass growth during the wet season.

Fire break trails were inspected and maintained at regular intervals.

Map 7. Fire management.



## AROONA Fire Management

1:14,961  
0.0 0.10 0.35 0.7 1.05 1.4  
Kilometers



Legend

- Aroona Boundary
- 2022 Burn and Seed
- 2021\_Burn and Seed
- 2021\_Firesticks burn
- EPBC2016/7724

Author: QTFN  
Date: 2022  
Source: Cadastral Boundaries,  
Data supplied by QSpatial  
[http://qdsatial.information.qld.gov.au/  
catalogue/custom/index.page](http://qdsatial.information.qld.gov.au/catalogue/custom/index.page)  
ACCURACY STATEMENT  
Due to varying sources of data,  
spatial locations may not coincide  
when overlaid.

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# APPENDIX

Appendix 1. Revegetation Photo monitoring Points

Zone 3 - Basils	ID	Latitude	Longitude
	Basils_photopoint1	-27.86423691	152.41169185
	Basils_photopoint2	-27.86423691	152.41169185
	Basils_photopoint3	-27.863753050	152.41075111
	Basils_photopoint4	-27.86377728	152.41070488

	ID	Latitude	Longitude
	Basils_photopoint5	-27.858921	152.4191222
	Bails_photopoint6	-27.8604419	152.4108495
<b>Zone 6 - Desjardin</b>			
	Desjardin_photopoint1	- 27.8306258300 0	152.4126092900 0
	Desjardin_photopoint2	- 27.8306258300 0	152.4126092900 0





	ID	Latitude	Longitude
	Desjardin_photopoint3	-27.829658	152.412572
	Desjardin_photopoint4	-27.830151	152.414288
	Desjardin_photopointweeds	-27.830537	152.413741
	Desjardin_aerialphoto1	-27.830467	152.413166

**Zone 10 - Meiers**



Meiers\_photopoint1 -27.840266 152.419733

	ID	Latitude	Longitude
	Meiers_photopoint2	-27.841553	152.419846
	Meiers_aerialphoto1	-27.840266	152.419733

Appendix 2. Weed Transect Monitoring Photos

2021

2022

Transect #1



Photo not available – software error

Transect #2



Transect #5



Transect #BC02



2021

2022

**Transect #BC09**



**Transect #BC11**



**Transect #BC12**



*Photo not available -software error*

2021

2022

**Transect #13**



**Transect #BC14**



**Transect #BC15**



**Transect #BC16**



Appendix 3. Images from wildlife monitoring cameras

Dogs – *Canis lupus*



Summer



Winter

Fox – *Vulpes vulpes*



Summer



Winter

Cat – *Felis catus*

NONE  
Summer

NONE  
Winter

Pig – *Sus scrofa*



Summer



Winter