

Annual Compliance Report

EPBC 2016/7724

4 December 2022 – 3 December 2023
(Year 3)

Riverside Celestino
Teviot Road, Jimboomba, Queensland
Celestino Pty Ltd

27 February 2024

Ref: 8107

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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)
Year 3 OAMR	Aroona Station Offset Area Management Report – Baseline Year 3 2016/7724, prepared by Queensland Trust for Nature (January 2024)

1. Introduction

This Annual Compliance Report (ACR) Year 3 (4 December 2022 – 3 December 2023) 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 2022 to 3 December 2023.

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

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

Approved Action	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.
Controlling Provision(s)	Listed threatened species and communities (sections 18 & 18A) Commonwealth actions (section 28)
Approval Date	28 September 2020
Expiry Date of the Approval	31 August 2050
Date of Commencement of the Action	4 December 2020
Address	Teviot Road, Jimboomba
Local Government Area	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 327.5 hectares (ha) of habitat deemed critical for the Koala and Grey-headed Flying-fox (GHFF). A further 3.3 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

27 / 02 / 2024

1.6. Overview of Key Activities and Achievements

The action commenced on 4 December 2020 when the Aroona Station offset site was legally secured via a Voluntary Declaration (VDEC) under the *Vegetation Management Act 1999* (VMA) (refer to **Year 1 ACR** for evidence). Key activities completed and findings recorded during the December 2022 to December 2023 reporting period include:

Impact Site:

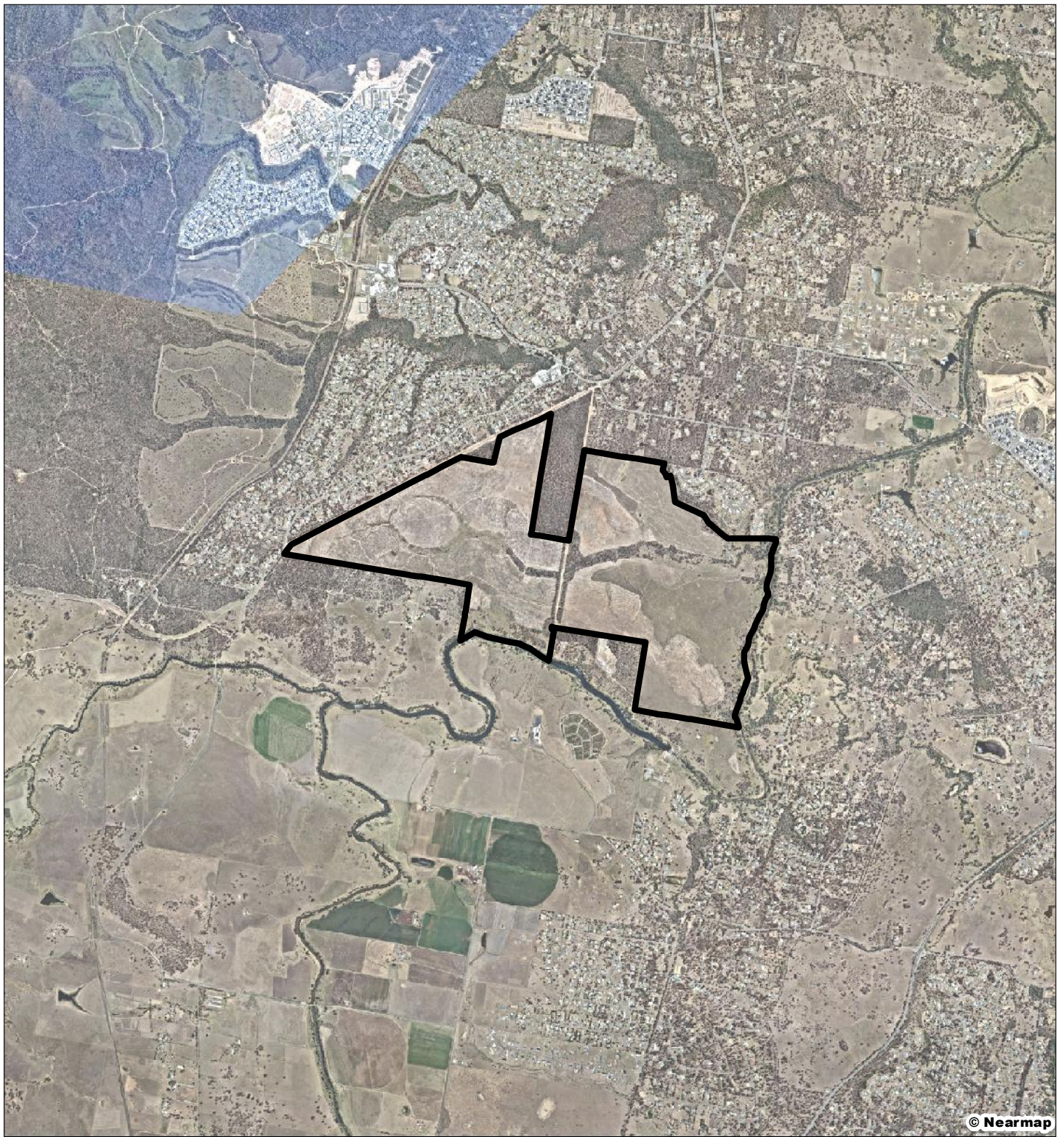
- Vegetation clearing activities were completed and associated activities were carried out intermittently until October 2023. During the Year 3 reporting period all vegetation clearing works were completed.
- Rehabilitation activities commenced during the Year 3 reporting period within the below corridor areas.
 - Within the Logan River corridor *M. irbyana* rehabilitation activities were undertaken
 - Within the Bushland Road corridors natural rehabilitation is proceeding

Offset Site:

- Annual weed, non-native predator and non-native herbivore, Grey-headed Flying-fox habitat condition and Koala species stock rate monitoring assessments were conducted within the offset site. The survey findings from the Year 3 reporting period throughout the offset site have been summarised below:
 - The presence of *Lantana camara* has increased, *Celtis sinensis* has remained stable and *Schinus terebinthifolius* has decreased. This rise in *Lantana camera* has been attributed to wet weather conditions.
 - The abundance and occupancy of non-native predator species including; *Canis lupus familiaris/dingo*, *Vulpus vulpus* and *Felis catus* during the 2023 winter season has increased over the Year 3 monitoring period.
 - Results from the non-native predatory scat analysis found no koala presence in predator diets. No koala mortalities caused by non-native predators or cattle were recorded in the last monitoring season on the offset site.
 - Demonstrated presence and usage of koalas across the site through camera observations.
 - Increase in the density of Koalas and abundance through an increase in scats recorded during Spot Assessment Technique (SAT) surveys.
 - One (1) grazing period was conducted during the winter period in an area of the offset site where the fuel hazard was identified as high.
 - *Corymbia intermedia* and *Eucalyptus tereticornis* were the dominant flowering forage trees with year round flowering recorded within the offset site. Additionally *E. tereticornis basaltica* a subspecies of *E. tereticornis* was observed flowering during late winter.
 - Ecological firebreaks were inspected and maintained at regular intervals. With the addition of a new firebreak this reporting period in the south-eastern portion of the property.

Indirect Offsets:

- University of Queensland studies as outlined by the Indirect Offset Strategy were completed in Year 3 reporting period. The final report will be submitted to the Department by 31 March 2024.



Legend

 Referral Area

Figure 1
Site Context



File ref. 8107 E Figure 1 ACR3 Site Context A
Date 13/02/2024
Project Riverside (EPBC ACR #3)



0 500 1,000 1,500 2,000 m
 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 (refer **Appendix A**). All clearing works have been completed on-site and within prescribed clearing areas only. Refer to **Appendix B** for certificate of practical completion for the clearing works. Refer to **Plan 1** for a plan of the impact on Koala and GHFF critical habitat. Construction activities are yet to commence on-site.

Queensland Fauna Consultancy (QFC) were 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 during the final months of the Year 2 reporting period which detailed the vegetation clearing until 13 December 2022 and are presented in **Appendix C**. Additional WHIMP and WPMP documents were prepared for the remaining areas of clearing by QFC in February and March of 2023. A post-clearing services report was issued for February and March clearing activities. All documents relating to the clearing that occurred on-site during February and March 2023 are presented in **Appendix D**. At the conclusion of clearing, a services report was issued.

Observed fauna were mostly limited to common reptiles, birds and arboreal and land mammals, and where possible were relocated (or self-relocated) to adjacent localities comprising suitable refugia and feeding resources consistent with individual species requirements. Injured were taken to a certified wildlife carer or veterinary clinic. No Koalas were recorded during the clearing period and therefore no injuries to Koala occurred as a result of the clearing.

2.1.1 Weather Damage Event

Several severe weather events occurred within the locality of the residential development site during the Summer of 2024, including a combination of severe thunderstorms and a tornado. As a result, vegetation was damaged within the adjoining ecological corridor (refer **Photo set 1**). Additionally, the shared boundary fencing between the development site and neighbouring State land along Bushland Road was impacted. Remediation works to assess and remove the damaged vegetation and rectifying the fence line were conducted as soon as possible to ensure cattle being kept on the residential development site were detained (refer **Photo set 2**).

Given the vegetation damage was a result of natural weather conditions rather than proponent-driven actions, it is not considered an incident caused by any part of the development therefore falls outside of the provisions set out in the EPBC approval.

The Department was notified of the event via e-mail correspondence on 13 February 2024.



Photo set 1: Tree damage along the Bushland Road alignment due to weather.



Photo set 2: Remediated vegetation damage along Bushland Road

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. **Conditions 5A (a) to (c)** are addressed in the Indirect Offset Strategy.

The research program prescribed under the Indirect Offset Strategy was completed during the reporting period with findings to be detailed in a final report and issued to the Department by 31 March 2024.

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 3 Offset Area Management Report (Year 3 OAMR) located at **Appendix E**. 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. While it was observed the abundance and coverage of flowering trees appeared lower this reporting year, *Corymbia intermedia* and *Eucalyptus tereticornis* were the most dominant flowering forage trees. Additionally, *E. tereticornis* *basaltica* a subspecies of *E. tereticornis* was identified to be flowering during winter. No GHFF individuals were observed foraging on-site during the surveys. Assessment results of flowering trees and monitoring are provided in Section 2.2 of the Year 3 OAMR located at **Appendix E**.

2.3.2 Condition 6d – Koala Species Stocking Rate

In accordance with **condition 6d**, Koala species stocking rate data was collected during this reporting period 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. Assessment results of Koala species stocking rate and monitoring are provided in Section 2.3 of the Year 3 OAMR located at **Appendix E**.

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.

One (1) Koala was recorded on the offset site during Year 3 reporting period via a 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, an increase in *Lantana camara* extent and coverage was recorded, attributed to the re-emergence post the ecological burn which was completed across a portion of the site, and weather associated with continued La Nina conditions. Weed management was conducted in areas of the property deemed accessible and measures deemed appropriate in wet weather. Assessment results of the extent of weed cover and monitoring are provided in Section 2.4 of the Year 3 OAMR located at **Appendix E**.

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 3 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 bi-annually to account for seasonal variations with the Year 3 surveys completed in Summer 2022 and Winter 2023. 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 an initial decline in abundance and occupancy of wild dogs in Summer 2022, however, abundance increased in Winter 2023. Fox and wild pig abundance and occupancy also increased in Winter 2023. Cat numbers were also shown to increase slightly and have now been proven to utilise the area. The increase in pest fauna relative

abundance for the winter 2023 season has been potentially attributed to multiple factors including weather, climate, prey abundance, or the behavioural response to the active management to remove the wild dog population. The Year 3 OAMR also notes the high availability of vegetation following the past wet season and therefore the abundance of prey species. The availability of prey along with the potential low competition between predatory species may also attribute to the high number of pest fauna present, as evidenced in the low diversity diet observed. Additionally, several wild dog individuals were removed from the population which may have divided once stable wild dog packs. The fragmentation of the groupings may have altered the behaviour of individuals and impacted the wild dogs hunting capabilities.

Assessment results of non-native predators and herbivores are provided in Section 2.5 of the Year 3 OAMR located at **Appendix E**

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 2022-2023 reporting period. Details regarding the Koala mortalities attributed to non-native predators are provided in Section 2.6 of the Year 3 OAMR located at **Appendix E**.

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 high levels. Cattle were excluded from revegetation areas. Fuel hazard assessments were conducted bi-annually (January and August) and recorded a high to very high rating, attributed to above average rainfall. No evidence of Koala injury or mortality caused by cattle grazing was recorded. Details regarding the stock management and monitoring are provided in Section 2.7 of the Year 3 OAMR located at **Appendix E**.

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 within section of the Year 3 OAMR provided in **Appendix E** provides the duration, frequency, locations and nature of grazing land use across the offset site. Bi-annual monitoring of the fuel load was completed and recorded a high to very high fuel load ratings following recent rainfall. This recording resulted in the need to use stock for load reduction where conditions may not have provided safe burn conditions. Details regarding the stock management and monitoring are provided in Section 2.7 of the Year 3 OAMR located at **Appendix E**.

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

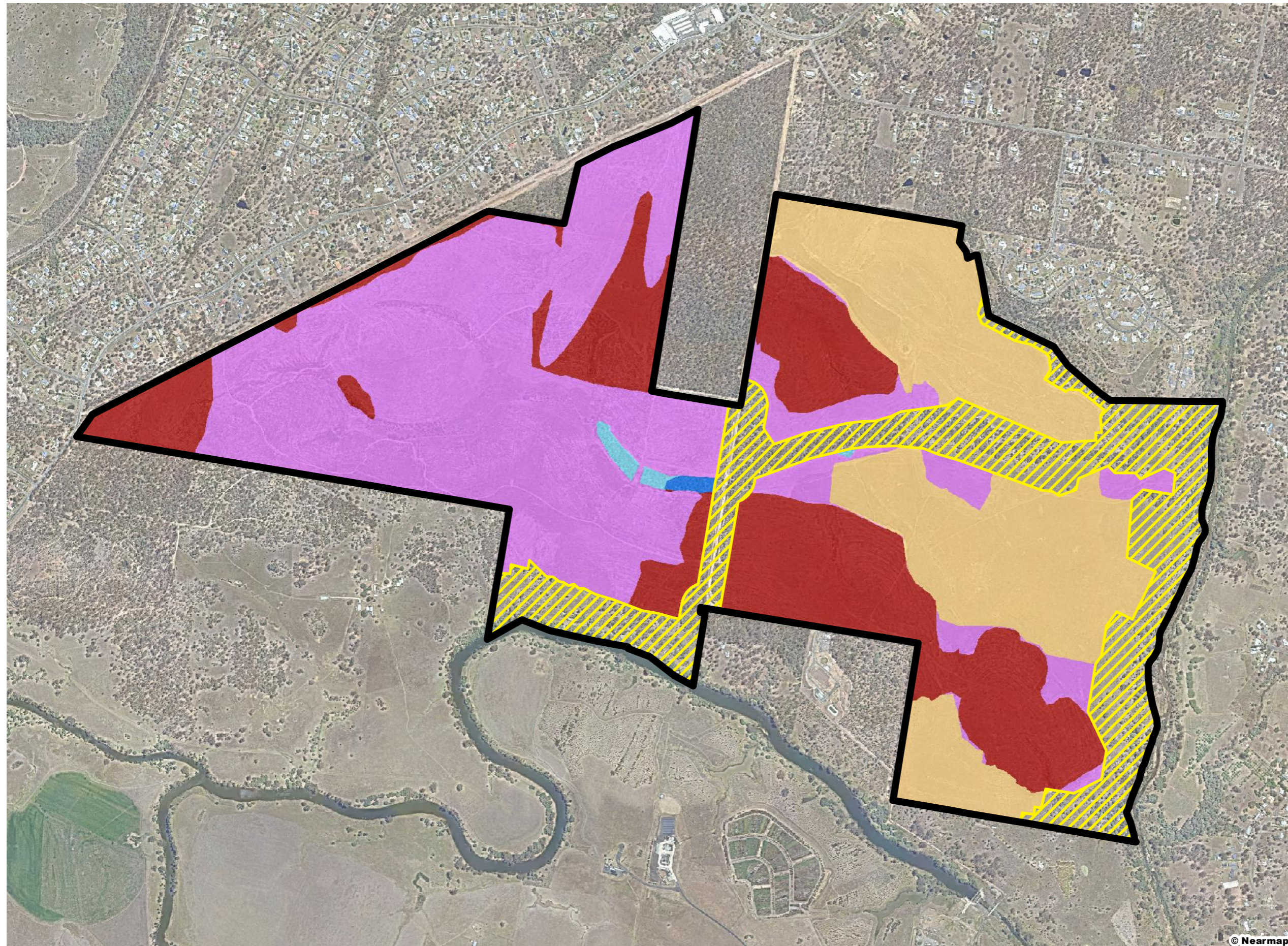
2.6. Conditions 15 to 18 - Ecological Management

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 3. These have been summarised as follows:

- One (1) cattle grazing period was completed between fuel hazard assessments to reduce the fuel load with cattle excluded at all times from revegetation zones.
- Weed management was conducted in areas of the property deemed accessible and measures deemed appropriate in wet weather (**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. Five feral dogs and several feral pigs were removed from January to March. Another one feral dog and two feral pigs were removed from July to September.
- 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.
 - Saplings were found to be showing healthy growth and high survival rates amongst the long grass.
- One ecological burn was completed within Aroona Station, however no ecological burns were conducted within the offset area. Follow up monitoring of the ecological burn completed in 2022 was conducted.

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 (120.5 ha)
- Regrowth impacted (207 ha)
- Retained remnant – functionally lost (1.1 ha)
- Retained regrowth – functionally lost (2.2 ha)
- Non-remnant - existing impact, not included in the critical impact summary (128.9 ha)

Issue	Date	Description	Drawn	Checked
A	23/02/2024	Preliminary	TC	KR

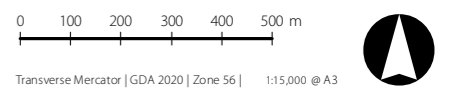
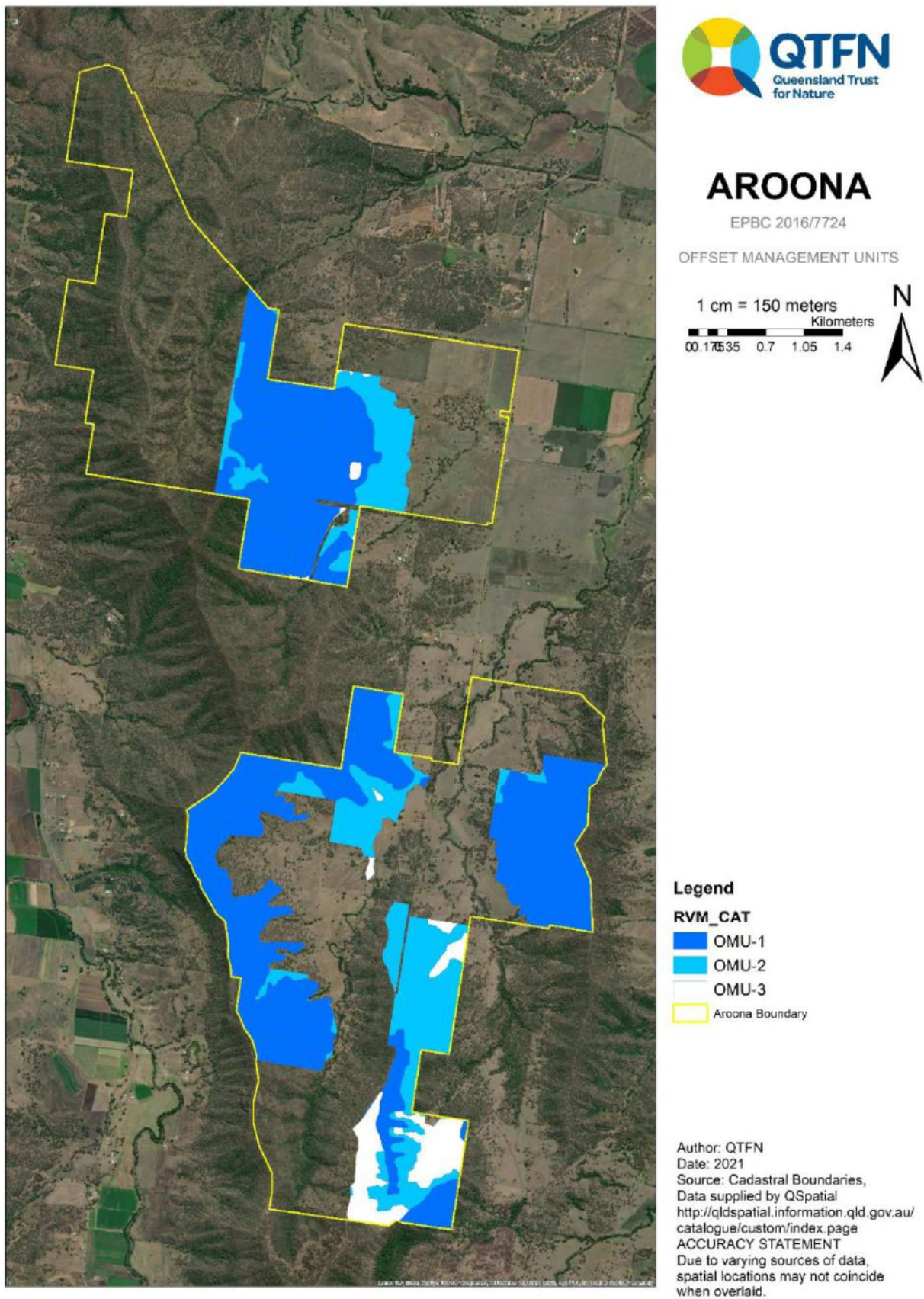


Figure 2: Aroona Station Offset site context – extract from QTFN OAMR Year 1



3. EPBC Conditions and Compliance

Table 2 documents the compliance with EPBC Act conditions for the Project for the Year 3 reporting period, being 4 December 2022 to 3 December 2023. 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 Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
Part A – Conditions Specific to the action		
Development Area		
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	Tree clearing continued within Year 3 and was completed in March 2023. Works associated with vegetation clearing (i.e. mulching) was finalised in October 2023. Refer to Appendix B for certificate of practical completion. The clearing extent of Koala and GHFF critical habitat is shown on Plan 1 . Aerial imagery was used to confirm clearing extents which were confirmed to be limited to the remnant and regrowth designated areas.
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	Minor clearing and associated works have not been completed within the on-site conservation corridor.

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
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 5A has been approved in writing by the Minister.	Compliant	<p>Direct tree felling works were completed in March 2023, additional works associated with the vegetation clearing (i.e. mulching) were finalised in October 2023 (refer Appendix B). 327.5 ha of Koala and Grey-headed Flying-fox habitat was directly impacted by the completion of clearing. A further 3.3 ha of vegetation was deemed functionally lost as a result of the clearing. In total 330.8 ha of Koala and Grey-headed Flying-fox habitat was cleared by the completion of clearing.</p> <p>Further details relating to the Offset Strategy are provided under Condition 5A.</p>
3	<p>For the protection of the Koala and the Grey-headed Flying-fox at the development area, the approval holder must:</p> <ol style="list-style-type: none"> 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; 	Compliant	<p>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 the vegetation clearing that occurred in December 2023 along with a service report (refer Appendix C). Additional WHIMP, WPMP and service reports were provided for the vegetation clearing that was conducted during February and March 2023 (refer Appendix D).</p> <p>No Koalas were recorded within the Year 3 clearing period. No injuries to Koala occurred as a result of the clearing.</p>
	<ol style="list-style-type: none"> 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	<p>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.</p>

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
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 of workers bringing domestic dogs into the development area and adjacent Koala habitat;	Compliant	Dogs are not permitted to be taken onto the impact site or within the ecological corridor.
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	Compliant	Construction has not commenced within the impact site. Vehicle calming measures will be implemented once construction has commenced.

Condition	Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
(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	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 known or expected, such as on roads flanking the on-site conservation corridor or adjacent to fauna movement solutions.	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.	
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.	

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<p>a. Ensure the width of the on-site conservation corridor is at least 100 metres wide to function effectively and minimise edge effects; and</p>		
	<p>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.</p>	Compliant	<p>An environmental corridor meeting the required specifications of the approval is included in the development design.</p> <p><i>Melaleuca irbyana</i> rehabilitation works have commenced in the Logan River corridor in accordance with the State protected plants clearing permit.</p>

Environmental offset requirements			
5	<p>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:</p> <p>a. Legally secure at least 847.98 ha of land at the Aroona Offset Site and commence</p>	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>

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
management activities prior to undertaking any clearing at the development area.		<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>
<p>b. Within 20 business days of legally securing at least 847.98 ha of land at the Aroona Offset Site, provide the Department with:</p> <p>i. written evidence demonstrating that the Aroona Offset Site has been legally secured;</p> <p>ii. legal security documentation;</p> <p>iii. offset attributes; and</p> <p>iv. shapefiles of the Aroona Offset Site.</p>	Compliant	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>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:</p>	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 Year 1 ACR – Appendix E for the notification letter from the Department 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.</p>

Condition	Number / Condition	Is the Project compliant with this condition?	Evidence/ Comments
Reference	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 		<p>In response to 5A (d) University of Queensland studies as outlined by the Indirect Offset Strategy were completed in Year 3 reporting period. The final report will be submitted to the Department by 31 March 2024.</p>

Baseline survey information			
6	By the end of year 1, the approval holder must complete baseline surveys of the entire Aroona	Compliant	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

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<p>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"> 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. 		<p>Station Offset Area Management Report – Baseline Year 1 2016/7724, prepared by Queensland Trust for Nature (January 2022) (refer ACR 1 – Appendix D).</p>
7	<p>Within three (3) months of the end of year 1, the approval holder must publish all survey data</p>	Compliant	<p>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:</p>

Condition	Number / Condition	Is the Project compliant with this condition?	Evidence/ Comments
Reference	(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.		< https://www.celestino.net.au/developments/riverbend/ >
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.	Not Applicable	The Year 5 milestone has not occurred.
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.	Not Applicable	The Year 5 milestone has not occurred.
10	The approval holder must demonstrate the extent of weed cover across the whole Aroona Offset Site is:	Not Applicable	The Year 5 milestone has not occurred.

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<ul style="list-style-type: none"> 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	<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.
Stock Management			
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 ACR 1 – Appendix D).</p>
13	<p>To facilitate the outcomes prescribed under conditions 15 -18, the approval holder must:</p> <ul style="list-style-type: none"> 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 	Compliant	<p>Fuel hazard assessments were conducted bi-annually (January and August) and demonstrated that near surface (grasses) fuel layer contributed the greatest to the high and very high overall ratings. High fuel hazard ratings were recorded in the Year 3 reporting period, attributed to above average rainfall. Cattle are utilised on the offset site to manage fuel loads.</p> <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>

Condition Number / Condition Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<p>determined that planted Koala and Grey-headed Flying-fox feed trees are of sufficient size to withstand impact from cattle.</p> <p>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.</p> <p>d. Ensure that any grazing is managed so as to prevent the risk of injury or mortality of Koalas.</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 report or since the date when the Aroona Offset Site was legally secured, which includes:</p> <p>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;</p>	Compliant	<p>A Year 3 Offset Area Management Report (Year 3 OAMR) was completed by QTFN which includes details of cattle grazing activity across the site and Koala mortality (refer Appendix E). No Koala injuries or mortalities were recorded during the Year 3 reporting period.</p> <p>Table 8 of the Year 3 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 and very 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> <p>No evidence of Koala injury or mortality as a result of cattle grazing was recorded and no corrective action is necessary.</p>

Condition	Number / Condition	Is the Project compliant with this condition?	Evidence/ Comments
Reference	<ul style="list-style-type: none"> 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	<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 3 surveys which included the following works:</p> <ul style="list-style-type: none"> ▪ A contractor was engaged to complete weed management targeting Lantana, Broad-leaved Pepper and Cats' Claw Creeper. ▪ 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. Five feral dogs and several feral pigs were removed from January to March. Another one feral dog and two feral pigs were removed from July to September. Cattle were used in OMU-1 and OMU-2 to reduce fuel hazard loads across the site. Cattle were excluded from revegetation areas. ▪ Revegetation works were completed in OMU-3 including tree planting of 25.5 ha and 40 ha of aerial seeding of upland cleared pasture.
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Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
				<ul style="list-style-type: none"> While one ecological burn was completed within Aroona station, no burns were conducted within the offset site. However, monitoring was conducted across areas where ecological burns were conducted in the last reporting period.
16	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"> 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. 		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"> b. The Diameter at Breast Height of trees increases as follows: <ul style="list-style-type: none"> 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 		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>the end of year 15 relative to the baseline habitat quality assessment data.</p> <p>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.</p>	Compliant	Management activities to improve habitat quality within OMU-1 have occurred during Year 3.
<p>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.</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 >50% - <200% of the benchmark for relevant Regional Ecosystems present for the period of effect of the approval.</p>	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
<p>e. A 50% increase, relative to the baseline habitat quality assessment data, in Koala density by the end of year 10.</p>	Not Applicable	The Year 20 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
<p>f. A 100% increase, relative to the baseline habitat quality assessment data, in Koala density by the end of year 20, and</p>		

Condition	Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
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.		Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
17 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 3. Rehabilitation actions are conducted in line with the Aroona Station Weed Management Strategy and the Aroona Station Fire Management Plan (refer Appendix E).
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		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
	<ul style="list-style-type: none"> 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.	Not Applicable	The Year 5 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	d.	Average tree canopy cover must be maintained at >50% - <200% of the benchmark for relevant Regional	Compliant	Management activities to improve habitat quality within OMU-2 have occurred during Year 3.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
		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.		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 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.
Habitat Creation				
18	The approval holder must achieve the following outcomes in Operational management unit 3:		Compliant	All revegetation works were completed in Operation Management Unit 3 and are now in the maintenance phase. This included the planting of tree across 25.5 ha and 40 ha of aerial seeding of upland cleared pasture. Due to the wet weather, the seedlings are reported to be showing healthy growth and high survival rates.
	a. Recreate the relevant pre-clearing Regional Ecosystem as identified in the baseline			

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
		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.	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 were completed in Year 2 and are now in the maintenance phase. Due to the above average rainfall, the seedlings are reported to be showing healthy growth and high survival rates.
	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 maintain or exceed that rate of recruitment 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.
	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	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>the end of year 5 relative to the baseline habitat quality assessment data.</p> <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 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.</p>		
	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.	Not Applicable	The Year 10 milestone has not occurred therefore the offset site is not required to demonstrate this outcome.
	g.	Average tree canopy height at >25% 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 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.	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 subsequently maintain or exceed this diversity of foraging species 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.
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-	Compliant	QTFN are contracted to complete annual monitoring assessments of the Aroona Station offset site and will carry out detailed assessments at each milestone year.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
		<p>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>		
20		<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 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</p>	Not Applicable	Corrective action was not requested during the reporting period. The project is considered to have satisfied the Year 3 requirements of the EPBC Act Approval.

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
<p>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

<p>21 The approval holder must notify the Department in writing of:</p> <ul style="list-style-type: none"> 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. 	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 letter was considered an administrative issue and is unlikely to result in further actions or status of non-compliant (refer ACR 1 – Appendix G for letter).</p> <p>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.</p> <p>In response to 21c, construction has not commenced on-site.</p>
<p>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.</p>	Not Applicable	The action commenced on 4 December 2020; therefore, this condition is no longer relevant.

Compliance records

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
23	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.
24	Not Applicable	Compliance records were not requested by the Department during the reporting period.
<p><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></p>		

Annual compliance reporting

25	Compliant	<p>The Year 3 ACR will be published on the approval holder's website by no later than 29 February 2024 at the below link:</p> <p><https://www.celestino.net.au/developments/riverbend/></p>
		<p>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:</p> <ol style="list-style-type: none"> Publish each compliance report on the website within 60 business days following the relevant 12 month period; 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;

Condition Number / Condition Reference	Is the Project compliant with this condition?	Evidence/ Comments
<ul style="list-style-type: none"> 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. 		

Reporting non-compliance

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 becoming aware of the incident or non-compliance. The notification must specify:</p> <ul style="list-style-type: none"> 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 	Not Applicable	No non-compliances occurred during the reporting period.
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Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
27	<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"> 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. 	Not Applicable	No non-compliances occurred during the reporting period.

Independent audit

28	<p>The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister.</p>	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"> 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 	Not Applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.

Condition	Number / Condition	Reference	Is the Project compliant with this condition?	Evidence/ Comments
	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.		Not Applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
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.		Not Applicable	The action has not been completed.

4. Appendices

Appendix A

EPBC 2016/7724 Approval and Variation Notice

Appendix B

Certificate of Practical Completion of Clearing Works

Appendix C

WHIMP, WPMP and Fauna Survey Reports for clearing conducted November – December 2022

Appendix D

WHIMP, WPMP and Fauna Survey Reports for clearing conducted February – March 2023

Appendix E

Offset Area Management Report – Year 3

Appendix A

EPBC 2016/7724 Approval and Variation Notice



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

Person to whom the approval is granted	Celestino Pty Limited ACN or ABN: 165 629 783
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Approved action	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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Expiry date of approval	This approval has effect until 31 August 2050
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Variation

Variation of conditions attached to approval	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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Date of effect	This variation has effect on the date the instrument is signed
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Person authorised to make decision

Name and position	Kim Farrant Assistant Secretary Environment Assessments (Vic, Tas) and Post Approvals Branch
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Signature

Date of decision	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**.



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

Person to whom the approval is granted (approval holder)	Celestino Pty Limited
ACN or ABN of approval holder	165 629 783
Action	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.



ANNEXURE A – CONDITIONS OF APPROVAL

Part A – Conditions specific to the action

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.

Part B – Standard administrative conditions

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**.



Part C - Definitions

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.

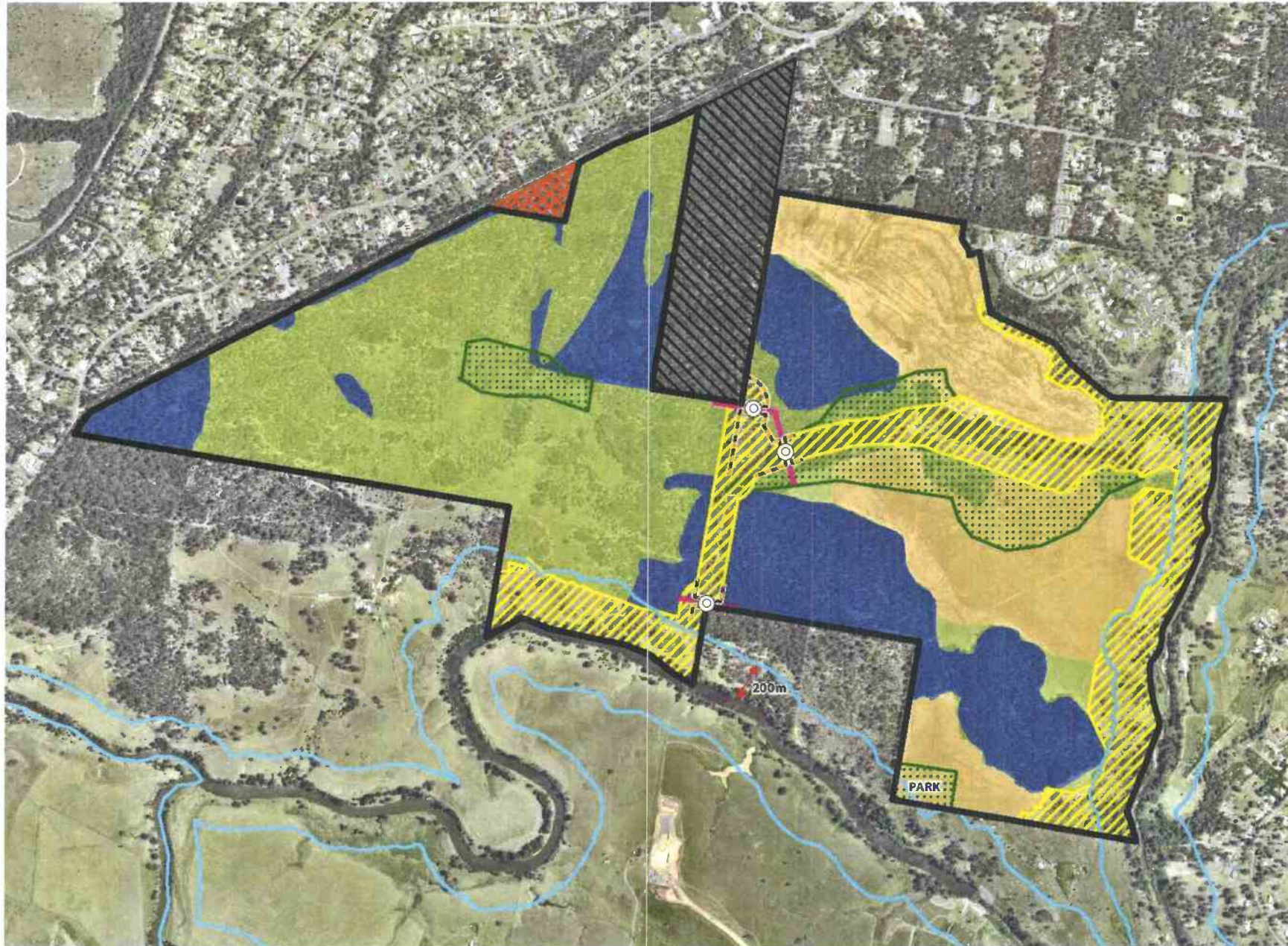
Year 5 means the period within five years from the date when the **Aroona Offset Site** is legally secured.

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

* This note is an integral part of this plan data. 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.

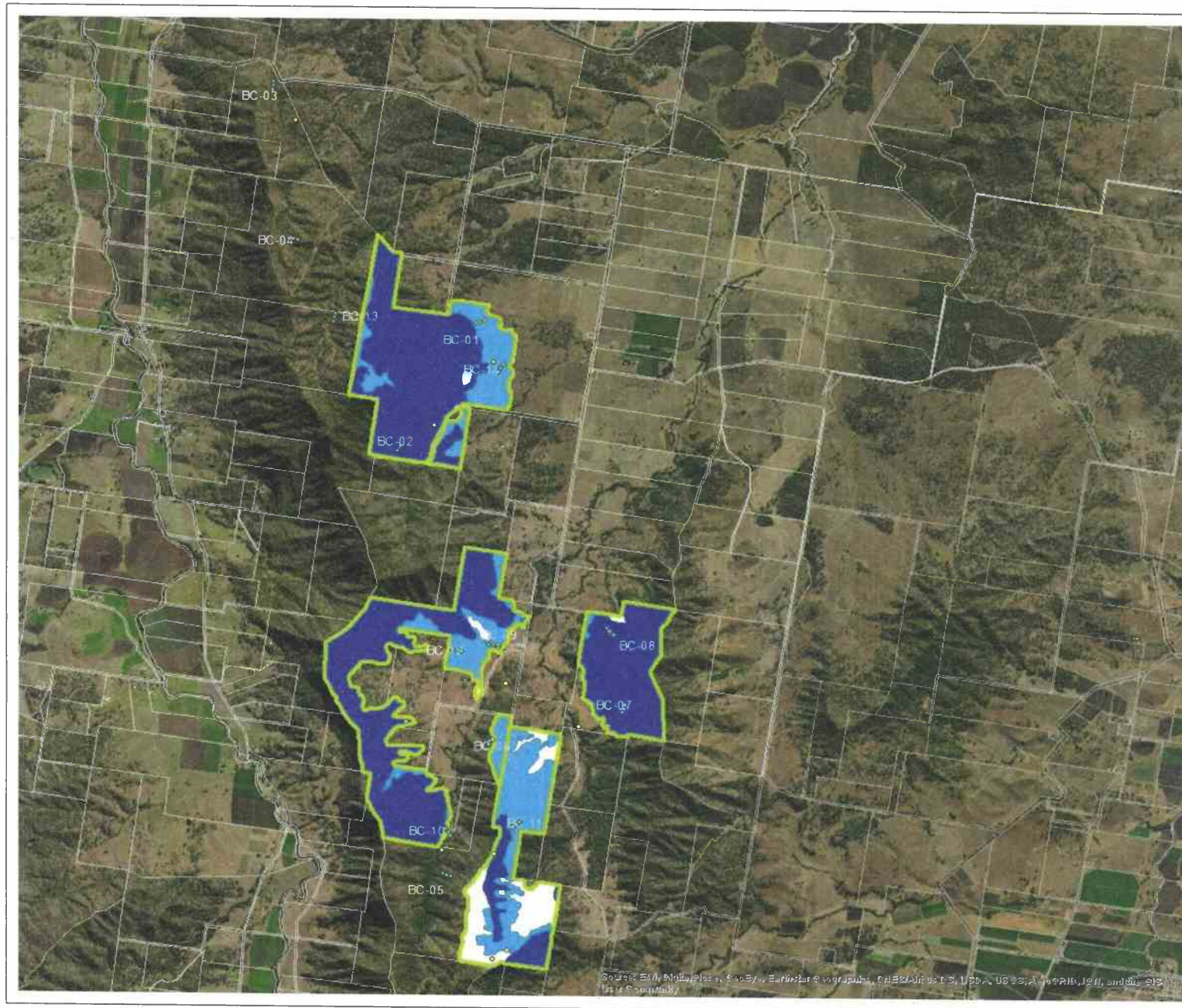
Legend

- 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.

Appendix B

Certificate of Practical Completion of Clearing Works



54

Sub Clause 34.6

AS 4000 - 1997

Certificate of Practical Completion

Project:	Riverbend Vegetation Clearing	Date Issued: 24/10/2023
Principal:	Celestino Developments Pty Ltd	Contract No: 20-0190
Contractor:	Civil Contractors (Aust) Pty Ltd	

To: Civil Contractors (Aust) Pty Ltd
1587 Ipswich Road
Rocklea QLD 4106

and

Celestino Developments Pty Ltd
642 Great Western Highway
Pendle Hill NSW 2145

The Superintendent certifies that Practical Completion of the works was reached on 29/08/2023 for Separable Portions 1-4 & 7, and 12/10/2023 for Separable Portions 5 & 6.

A handwritten signature in black ink, appearing to read "S. Ridge".

.....
Simon Ridge
Senior Engineer



Qld Fauna Consultancy Pty Ltd
2 Sandalwood Street, Sinnamon Park QLD 4073
Tel: [REDACTED]
Mobile: [REDACTED]
Email: fauna@qfc.com.au
A.B.N: 89 738 001 172

RE: Vegetation clearance certification

To whom it may concern,

This letter is to certify that all vegetation clearance at Riverbend – Teviot Road, Jimboomba was supervised by fauna spotter/catchers from Queensland Fauna Consultancy under the provisions of a Rehabilitation Permit (WA0026789) as requested by Winslow.

All supervised clearance activities were carried out with the full co-operation of onsite personnel and machinery operator/s and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017* and in accordance with the conditions of the development approval.

A handwritten signature in black ink, appearing to read 'Bryan Robinson', written over a light grey horizontal line.

Bryan Robinson
(Director and Principal Ecologist)
Queensland Fauna Consultancy Pty Ltd

Appendix C

WHIMP, WPMP and Fauna Survey Reports
for clearing conducted November –
December 2022



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



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

Date:	12/10/22
Title:	Fauna Spotter Catcher Pre-clearance and Habitat Values Survey Separable Portions 4-7 – Riverbend, Teviot Road, Jimboomba
Author/s:	Bryan Robinson, Jasmine Zeleny
Reviewed by:	Bryan Robinson
Status:	Final Report
Filed as:	QFC WHIMP CCA Winslow Jimboomba Oct 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 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.

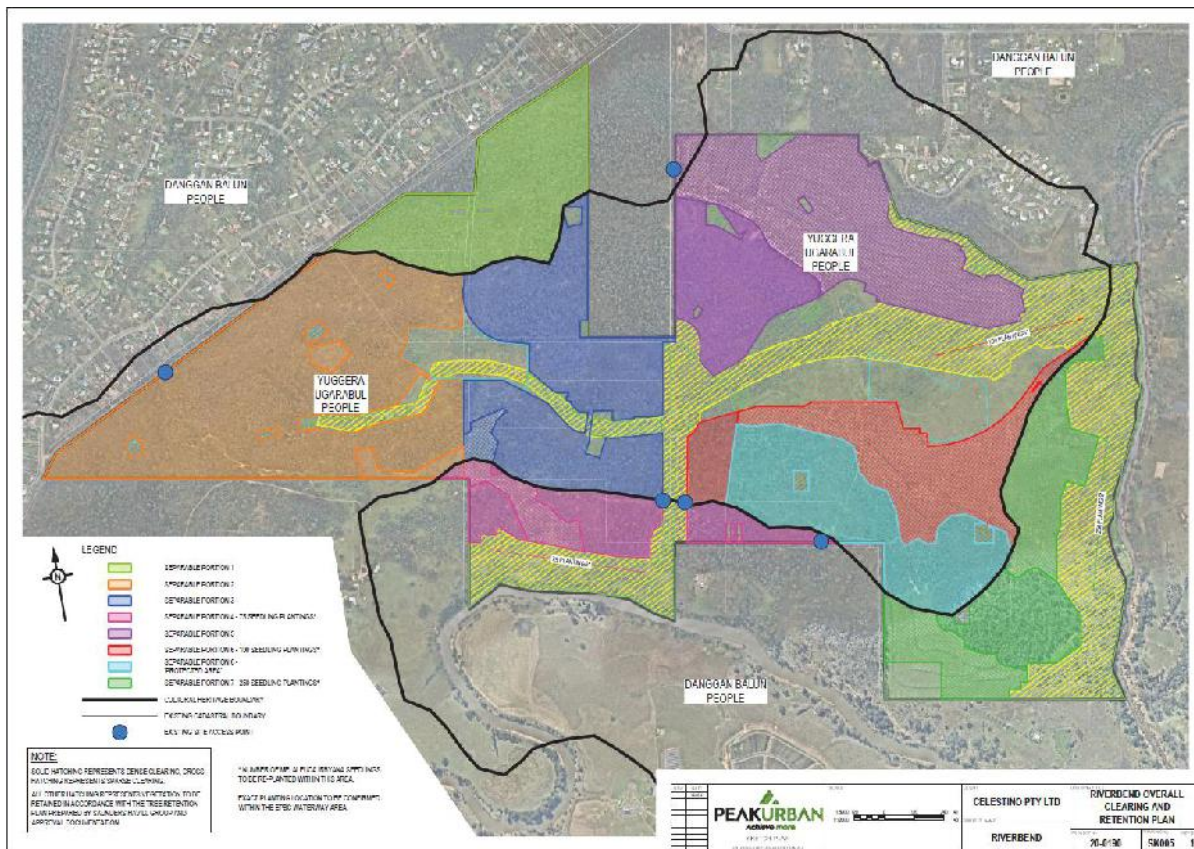
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance 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 th November 2022
Rehabilitation Permit	WA0026789	16 th September 2023
Scientific Purposes Permit	WA0032325	3 rd March 2026
Scientific User Registration	Registration Number 589	27 th February 2025
Animal Ethics	CA 2019/02/1259	27 th February 2022
General Fisheries Permit	207015	16 th 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.

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.

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.

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

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

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

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

Animal Group	Capture and handling	Relocation
Macropods	<ul style="list-style-type: none"> 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. 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 & Nottidge, 2009). 	<ul style="list-style-type: none"> Release animal into suitable to its habitat requirements. Ensure plenty of cover is available. 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. Monitor animals to ensure adequate recovery if sedated.
Microbats	<ul style="list-style-type: none"> Only vaccinated persons are to handle bats If possible, plug the hollow opening with a bag or towel and ask the operator to cut the hollow from the tree; Always wear gloves when handling bats. If not contained within a hollow, place bats inside a calico bag and hang upright in a cool place 	<ul style="list-style-type: none"> 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. Bats not contained within a hollow should be released as late as possible at the end of the day.
Possums	<ul style="list-style-type: none"> Use thick elbow length gloves when handling possums; Try to grip the animal behind the head near the shoulder blades and around the tail so that you have control of the animal; Keep fingers away from the mouth of the animal; Keep the animal's body facing away at all times; 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. 	<ul style="list-style-type: none"> Release the possum into habitat with adequate hollows and cover; 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; 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"> Choose a smaller shrubby tree with vines or heavy foliage (so the adult can construct a drey easily) 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 It may be necessary to take one or more of the young to a wildlife carer 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.

Animal Group	Capture and handling	Relocation
Birds	<ul style="list-style-type: none"> • Use gloves when handling larger birds • Use a towel to cover the bird and simultaneously restrain the bird and transfer into calico bag • With larger parrots and raptors, restrain head and legs and transfer into a kitty crate • Wrap chicks loosely in a towel and transfer to kitty crate, keep in a warm location. 	<ul style="list-style-type: none"> • Relocate adult birds in suitable habitat • Chicks should be referred to wildlife carer
Koalas	<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

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

Table 4: Basic Wildlife Care

Birds	Reptiles & Amphibians	Mammals
<p>Egg</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>Egg</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>Neonate</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>Chick</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>Juvenile</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>Juvenile</p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p>Adult</p> <p>Keep adult birds in a lined animal crate or cage and covered in a quiet area.</p>	<p>Adult</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>Adult</p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p>Feeding</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>Feeding</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>Feeding</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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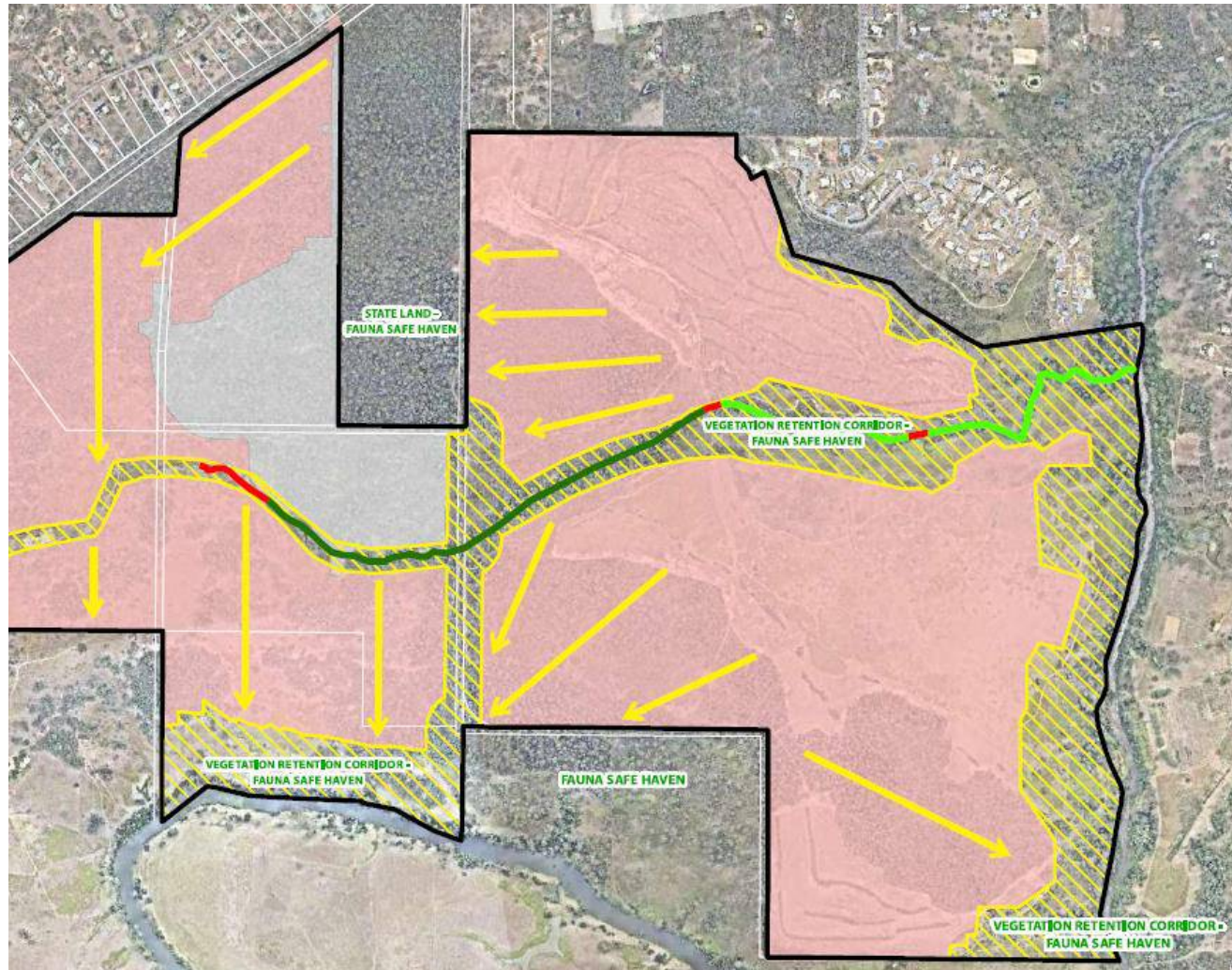
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10. Appendix A: Intended Direction of Clearing



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



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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
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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.

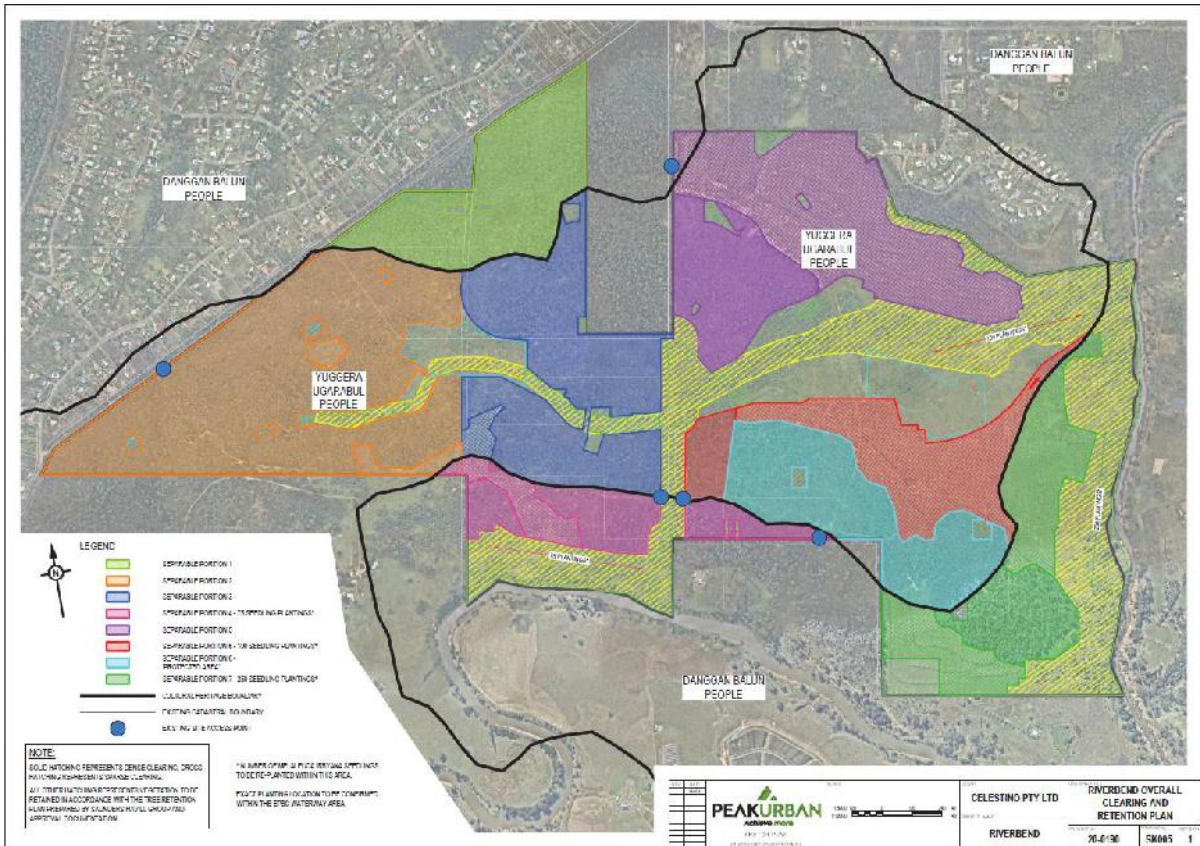
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance 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 th November 2022
Rehabilitation Permit	WA0026789	16 th September 2023
Scientific Purposes Permit	WA0032325	3 rd March 2026
Scientific User Registration	Registration Number 589	27 th February 2025
Animal Ethics	CA 2022/01/1569	27 th February 2025
General Fisheries Permit	207015	16 th 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.

2. Methodology

Eight site inspections were carried out between the 18th of March and the 14th 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 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>

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
Mammals		
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> .	Present 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).	Possible 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.	Possible 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 & Strahan 2008).</p>	<p>Possible Suitable feeding resources occur onsite and evidence of diggings observed onsite.</p>
<p>Amphibians</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>Possible Habitat conducive to this species is found within the survey area.</p>
<p>Birds</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 & Day 2004; BirdLife Australia n.d.)</p>	<p>Possible 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>Present 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>Present 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

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
23	Arboreal Termitaria	-27.8361910	152.9643369
24	Arboreal Termitaria	-27.8363812	152.9637875
25	Arboreal Termitaria	-27.8358927	152.9636308
26	Arboreal Termitaria	-27.8357398	152.9671036

27	Arboreal Termitaria	-27.8358276	152.9676120
28	Arboreal Termitaria	-27.8357244	152.9676189
29	Arboreal Termitaria	-27.8359826	152.9677758
30	Arboreal Termitaria	-27.8368052	152.9694975
31	Arboreal Termitaria	-27.8367426	152.9702182
32	Arboreal Termitaria	-27.8368781	152.9701619
33	Arboreal Termitaria	-27.8368857	152.9701355
34	Arboreal Termitaria	-27.8371112	152.9702508
35	Arboreal Termitaria	-27.8372101	152.9714963
36	Arboreal Termitaria	-27.8373524	152.9718174
37	Arboreal Termitaria	-27.8374846	152.9716349
38	Arboreal Termitaria	-27.8374347	152.9708896
39	Arboreal Termitaria	-27.8378542	152.9723153
40	Arboreal Termitaria	-27.8379631	152.9719617
41	Arboreal Termitaria	-27.8379213	152.9719480
42	Arboreal Termitaria	-27.8378994	152.9719027
43	Arboreal Termitaria	-27.8378017	152.9718179
44	Arboreal Termitaria	-27.8377150	152.9714928
45	Arboreal Termitaria	-27.8378597	152.9712523
46	Arboreal Termitaria	-27.8379258	152.9717221
47	Arboreal Termitaria	-27.8378530	152.9706869
48	Arboreal Termitaria	-27.8374622	152.9704030
49	Arboreal Termitaria	-27.8370845	152.9700788
50	Arboreal Termitaria	-27.8370237	152.9698942
51	Arboreal Termitaria	-27.8370568	152.9696743
52	Arboreal Termitaria	-27.8373262	152.9694842
53	Arboreal Termitaria	-27.8373711	152.9695039
54	Arboreal Termitaria	-27.8375891	152.9694550
55	Arboreal Termitaria	-27.8375730	152.9694566

56	Arboreal Termitaria	-27.8372491	152.9690775
57	Arboreal Termitaria	-27.8372110	152.9692621
58	Arboreal Termitaria	-27.8372314	152.9692680
59	Arboreal Termitaria	-27.8372185	152.9692945
60	Arboreal Termitaria	-27.8372056	152.9693226
61	Arboreal Termitaria	-27.8368970	152.9691152
62	Arboreal Termitaria	-27.8367470	152.9690116
63	Arboreal Termitaria	-27.8361912	152.9678003
64	Arboreal Termitaria	-27.8363866	152.9675839
65	Arboreal Termitaria	-27.8361941	152.9675812
66	Arboreal Termitaria	-27.8363159	152.9673640
67	Arboreal Termitaria	-27.8361438	152.9671721
68	Arboreal Termitaria	-27.8360813	152.9671137
69	Arboreal Termitaria	-27.8362515	152.9672788
70	Arboreal Termitaria	-27.8365516	152.9669861
71	Arboreal Termitaria	-27.8366993	152.9669670
72	Arboreal Termitaria	-27.8368308	152.9673025
73	Arboreal Termitaria	-27.8371199	152.9677159
74	Arboreal Termitaria	-27.8365710	152.9675686
75	Arboreal Termitaria	-27.8295526	152.9644958
76	Arboreal Termitaria	-27.8297024	152.9655840
77	Arboreal Termitaria	-27.8298255	152.9660458
78	Arboreal Termitaria	-27.8301044	152.9674305
79	Arboreal Termitaria	-27.8357081	152.9677683
80	Arboreal Termitaria	-27.8348438	152.9679509
81	Arboreal Termitaria	-27.8345127	152.9678799
82	Arboreal Termitaria	-27.8340759	152.9681711
83	Arboreal Termitaria	-27.8337439	152.9684243
84	Arboreal Termitaria	-27.8336943	152.9680701

85	Arboreal Termitaria	-27.8335452	152.9683297
86	Arboreal Termitaria	-27.8333370	152.9685187
87	Arboreal Termitaria	-27.8336760	152.9684639
88	Arboreal Termitaria	-27.8341631	152.9688451
89	Arboreal Termitaria	-27.8345098	152.9690484
90	Arboreal Termitaria	-27.8353839	152.9683549
91	Arboreal Termitaria	-27.8348457	152.9691360
92	Arboreal Termitaria	-27.8343658	152.9696327
93	Arboreal Termitaria	-27.8344820	152.9698641
94	Arboreal Termitaria	-27.8340090	152.9694388
95	Arboreal Termitaria	-27.8336113	152.9693915
96	Arboreal Termitaria	-27.8335394	152.9696604
97	Arboreal Termitaria	-27.8336978	152.9698902
98	Arboreal Termitaria	-27.8336229	152.9699478
99	Arboreal Termitaria	-27.8345199	152.9701685
100	Arboreal Termitaria	-27.8351370	152.9700320
101	Arboreal Termitaria	-27.8353880	152.9694489
102	Arboreal Termitaria	-27.8355485	152.9692335
103	Arboreal Termitaria	-27.8358215	152.9696623
104	Arboreal Termitaria	-27.8359846	152.9693602
105	Arboreal Termitaria	-27.8362761	152.9697398
106	Arboreal Termitaria	-27.8363191	152.9701010
107	Arboreal Termitaria	-27.8364311	152.9701791
108	Arboreal Termitaria	-27.8356741	152.9702724
109	Arboreal Termitaria	-27.8354421	152.9708099
110	Arboreal Termitaria	-27.8345944	152.9706186
111	Arboreal Termitaria	-27.8344400	152.9705999
112	Arboreal Termitaria	-27.8338953	152.9709014
113	Arboreal Termitaria	-27.8339317	152.9711771

114	Arboreal Termitaria	-27.8339594	152.9713161
115	Arboreal Termitaria	-27.8341711	152.9713295
116	Arboreal Termitaria	-27.8341615	152.9714207
117	Arboreal Termitaria	-27.8342384	152.9719520
118	Arboreal Termitaria	-27.8342259	152.9719426
119	Arboreal Termitaria	-27.8345001	152.9721713
120	Arboreal Termitaria	-27.8348389	152.9720695
121	Arboreal Termitaria	-27.8348401	152.9720743
122	Arboreal Termitaria	-27.8348710	152.9718898
123	Arboreal Termitaria	-27.8349452	152.9711798
124	Arboreal Termitaria	-27.8352457	152.9717646
125	Arboreal Termitaria	-27.8361093	152.9711546
126	Arboreal Termitaria	-27.8363329	152.9713504
127	Arboreal Termitaria	-27.8364745	152.9715162
128	Arboreal Termitaria	-27.8364991	152.9711765
129	Arboreal Termitaria	-27.8368020	152.9711223
130	Arboreal Termitaria	-27.8365564	152.9703602
131	Arboreal Termitaria	-27.8365450	152.9702877
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134	Arboreal Termitaria	-27.8366663	152.9719050
135	Arboreal Termitaria	-27.8367396	152.9721395
136	Arboreal Termitaria	-27.8372099	152.9724440
137	Arboreal Termitaria	-27.8370031	152.9724136
138	Arboreal Termitaria	-27.8370311	152.9727674
139	Arboreal Termitaria	-27.8374861	152.9725904
140	Arboreal Termitaria	-27.8373251	152.9726926
141	Arboreal Termitaria	-27.8367670	152.9729311
142	Arboreal Termitaria	-27.8365793	152.9729034

143	Arboreal Termitaria	-27.8366827	152.9725819
144	Arboreal Termitaria	-27.8363832	152.9724554
145	Arboreal Termitaria	-27.8366194	152.9720963
146	Arboreal Termitaria	-27.8362177	152.9724816
147	Arboreal Termitaria	-27.8366736	152.9720894
148	Arboreal Termitaria	-27.8362022	152.9721675
149	Arboreal Termitaria	-27.8361410	152.9725985
150	Arboreal Termitaria	-27.8361533	152.9723760
151	Arboreal Termitaria	-27.8361234	152.9725525
152	Arboreal Termitaria	-27.8357203	152.9723675
153	Arboreal Termitaria	-27.8354264	152.9726325
154	Arboreal Termitaria	-27.8354821	152.9729646
155	Arboreal Termitaria	-27.8350207	152.9727834
156	Arboreal Termitaria	-27.8351425	152.9727256
157	Arboreal Termitaria	-27.8349186	152.9728494
158	Arboreal Termitaria	-27.8349344	152.9729000
159	Arboreal Termitaria	-27.8353046	152.9725545
160	Arboreal Termitaria	-27.8348054	152.9724455
161	Arboreal Termitaria	-27.8348387	152.9724175
162	Arboreal Termitaria	-27.8346248	152.9726349
163	Arboreal Termitaria	-27.8345437	152.9724029
164	Arboreal Termitaria	-27.8345436	152.9734773
165	Arboreal Termitaria	-27.8346505	152.9735887
166	Arboreal Termitaria	-27.8345463	152.9731642
167	Arboreal Termitaria	-27.8351356	152.9730979
168	Arboreal Termitaria	-27.8351346	152.9729165
169	Arboreal Termitaria	-27.8350915	152.9729693
170	Arboreal Termitaria	-27.8352486	152.9733004
171	Arboreal Termitaria	-27.8353127	152.9732282

172	Arboreal Termitaria	-27.8352676	152.9737802
173	Arboreal Termitaria	-27.8351546	152.9736425
174	Arboreal Termitaria	-27.8352883	152.9739683
175	Arboreal Termitaria	-27.8357081	152.9677683
176	Arboreal Termitaria	-27.8348438	152.9679509
177	Arboreal Termitaria	-27.8345127	152.9678799
178	Arboreal Termitaria	-27.8340759	152.9681711
179	Arboreal Termitaria	-27.8337439	152.9684243
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181	Arboreal Termitaria	-27.8335452	152.9683297
182	Arboreal Termitaria	-27.8333370	152.9685187
183	Arboreal Termitaria	-27.8336760	152.9684639
184	Arboreal Termitaria	-27.8341631	152.9688451
185	Arboreal Termitaria	-27.8345098	152.9690484
186	Arboreal Termitaria	-27.8353839	152.9683549
187	Arboreal Termitaria	-27.8348457	152.9691360
188	Arboreal Termitaria	-27.8343658	152.9696327
189	Arboreal Termitaria	-27.8344820	152.9698641
190	Arboreal Termitaria	-27.8340090	152.9694388
191	Arboreal Termitaria	-27.8336113	152.9693915
192	Arboreal Termitaria	-27.8335394	152.9696604
193	Arboreal Termitaria	-27.8336978	152.9698902
194	Arboreal Termitaria	-27.8336229	152.9699478
195	Arboreal Termitaria	-27.8345199	152.9701685
196	Arboreal Termitaria	-27.8351370	152.9700320
197	Arboreal Termitaria	-27.8353880	152.9694489
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542	Arboreal Termitaria (with excavation)	-27.8345214	152.9690087
543	Arboreal Termitaria (with excavation)	-27.8351295	152.9692258
544	Arboreal Termitaria (with excavation)	-27.8355162	152.9712654
545	Arboreal Termitaria (with excavation)	-27.8362447	152.9725982
546	Arboreal Termitaria (with excavation)	-27.8377565	152.9732089
547	Arboreal Termitaria (with excavation)	-27.8378860	152.9737174
548	Arboreal Termitaria (with excavation)	-27.8401747	152.9750694

549	Arboreal Termitaria (with excavation)	-27.8396402	152.9756513
550	Arboreal Termitaria (with excavation)	-27.8389805	152.9777233
551	Arboreal Termitaria (with excavation)	-27.8265934	152.9685565
552	Arboreal Termitaria (with excavation)	-27.8294556	152.9685652
553	Arboreal Termitaria (with excavation)	-27.8301737	152.9689928
554	Arboreal Termitaria (with excavation)	-27.8292198	152.9699561
555	Arboreal Termitaria (with excavation)	-27.8292861	152.9707283
556	Arboreal Termitaria (with excavation)	-27.8292812	152.9728726
557	Arboreal Termitaria (with excavation)	-27.8289457	152.9724851
558	Arboreal Termitaria (with excavation)	-27.8293815	152.9733158
559	Arboreal Termitaria (with excavation)	-27.8286610	152.9735667
560	Arboreal Termitaria (with excavation)	-27.8279494	152.9719601
561	Arboreal Termitaria (with excavation)	-27.8265560	152.9694197
562	Arboreal Termitaria (with excavation)	-27.8266417	152.9691125
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564	Arboreal Termitaria (with excavation)	-27.8279371	152.9705948
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568	Arboreal Termitaria (with excavation)	-27.8423181	152.9792469
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571	Arboreal Termitaria (with excavation)	-27.8427659	152.9795754
572	Arboreal Termitaria (with excavation)	-27.8421048	152.9776690
573	Arboreal Termitaria (with excavation)	-27.8366768	152.9624067
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575	Arboreal Termitaria (with excavation)	-27.8233185	152.9702823
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577	Bird Nest	-27.8365971	152.9636777

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590	Bird Nest	-27.8394727	152.9750269
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594	Bird Nest	-27.8283356	152.9743718
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598	Dead Stag	-27.8369816	152.9639443
599	Dead Stag	-27.8369008	152.963673
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679	Exfoliating Bark (Arboreal)	-27.83506385	152.9700435
680	Exfoliating Bark (Arboreal)	-27.83606961	152.9697287
681	Exfoliating Bark (Arboreal)	-27.83495583	152.9717403
682	Exfoliating Bark (Arboreal)	-27.83450481	152.9713846
683	Exfoliating Bark (Arboreal)	-27.83558586	152.9710599
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688	Exfoliating Bark (Arboreal)	-27.83391479	152.9679949
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693	Exfoliating Bark (Arboreal)	-27.83495583	152.9717403

694	Exfoliating Bark (Arboreal)	-27.83450481	152.9713846
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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
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727	Hollow Bearing Tree	-27.8372082	152.9643993
728	Hollow Bearing Tree	-27.8374242	152.9641899
729	Hollow Bearing Tree	-27.8373511	152.9641625
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765	Hollow Bearing Tree	-27.82989581	152.9666319
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767	Hollow Bearing Tree	-27.82983517	152.966837
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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

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782	Hollow Bearing Tree	-27.83535767	152.96999
783	Hollow Bearing Tree	-27.83474807	152.97062
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785	Hollow Bearing Tree	-27.8363308	152.971319
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787	Hollow Bearing Tree	-27.83688442	152.9707581
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790	Hollow Bearing Tree	-27.83666674	152.9727544
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810	Hollow Bearing Tree	-27.8363308	152.971319
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822	Hollow Bearing Tree	-27.83642962	152.9733858
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824	Hollow Bearing Tree	-27.8361301	152.974022
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826	Hollow Bearing Tree	-27.83777921	152.9742874
827	Hollow Bearing Tree	-27.8415126	152.9817569
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835	Hollow Bearing Tree	-27.8262453	152.9696331
836	Hollow Bearing Tree	-27.8255209	152.9693364
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838	Hollow Bearing Tree	-27.8277843	152.9711808

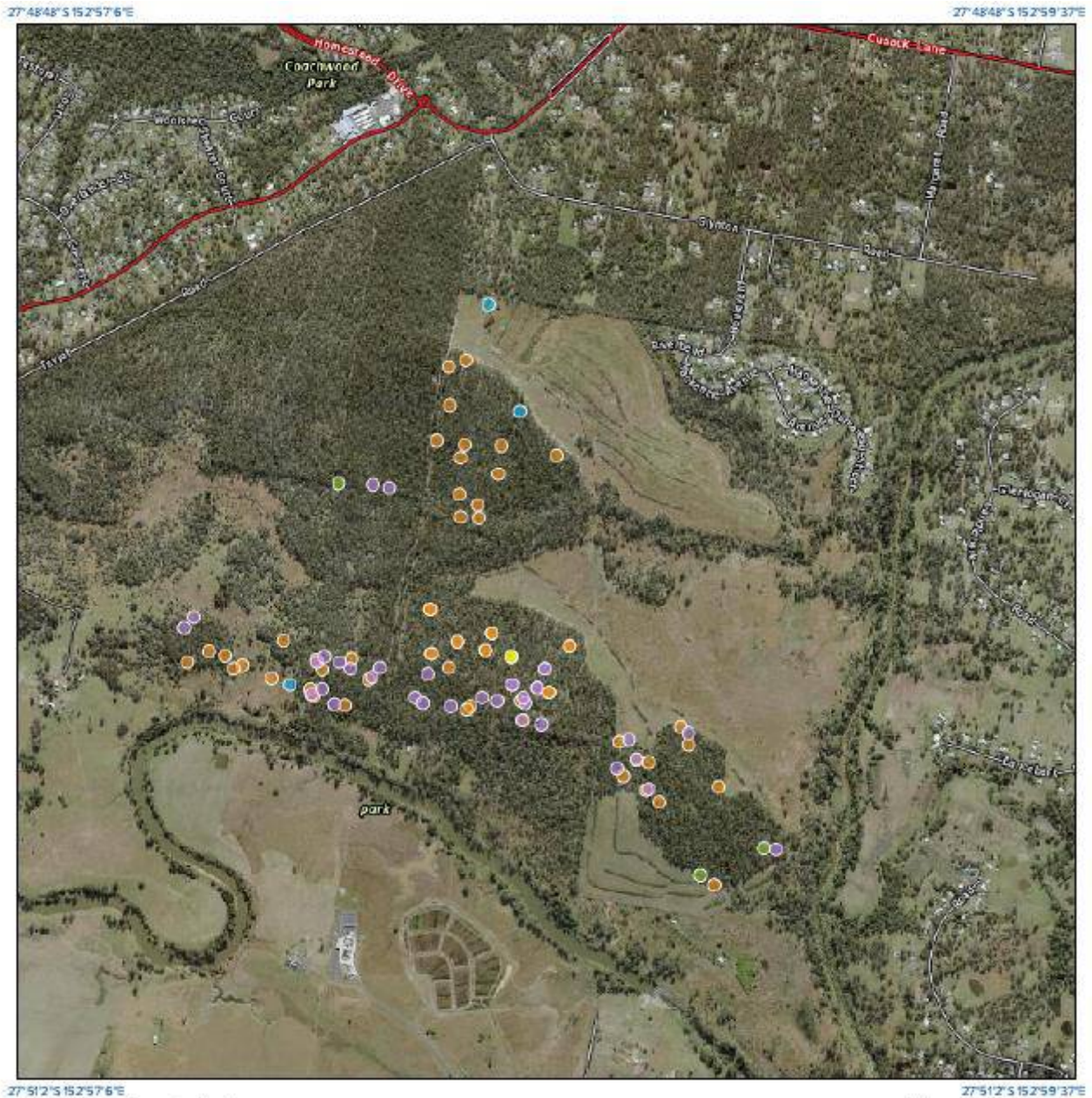
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843	Hollow Bearing Tree	-27.84247244	152.9790646
844	Hollow Bearing Tree	-27.8424915	152.9778662
845	Hollow Bearing Tree	-27.84171712	152.9799754
846	Hollow Bearing Tree	-27.84142265	152.9810512
847	Hollow Bearing Tree	-27.84256397	152.9794737
848	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
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855	Hollow Stump	-27.83537757	152.9705757
856	Hollow Stump	-27.83489517	152.9715119
857	Hollow Stump	-27.837228	152.9717061
858	Hollow Stump	-27.8398203	152.9753683
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

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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 Queensland Globe

Legend located on next page



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Legend

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



Attribution

Maxar

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11. Appendix E: Fire Ant Nest Locations



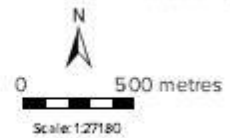
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 Legend

 Attribution

POINT-Fire Ant Nest.csv



Cities and Towns



Railway



Road Crossing

 Bridge

 Tunnel

Road

 Highway

 Main

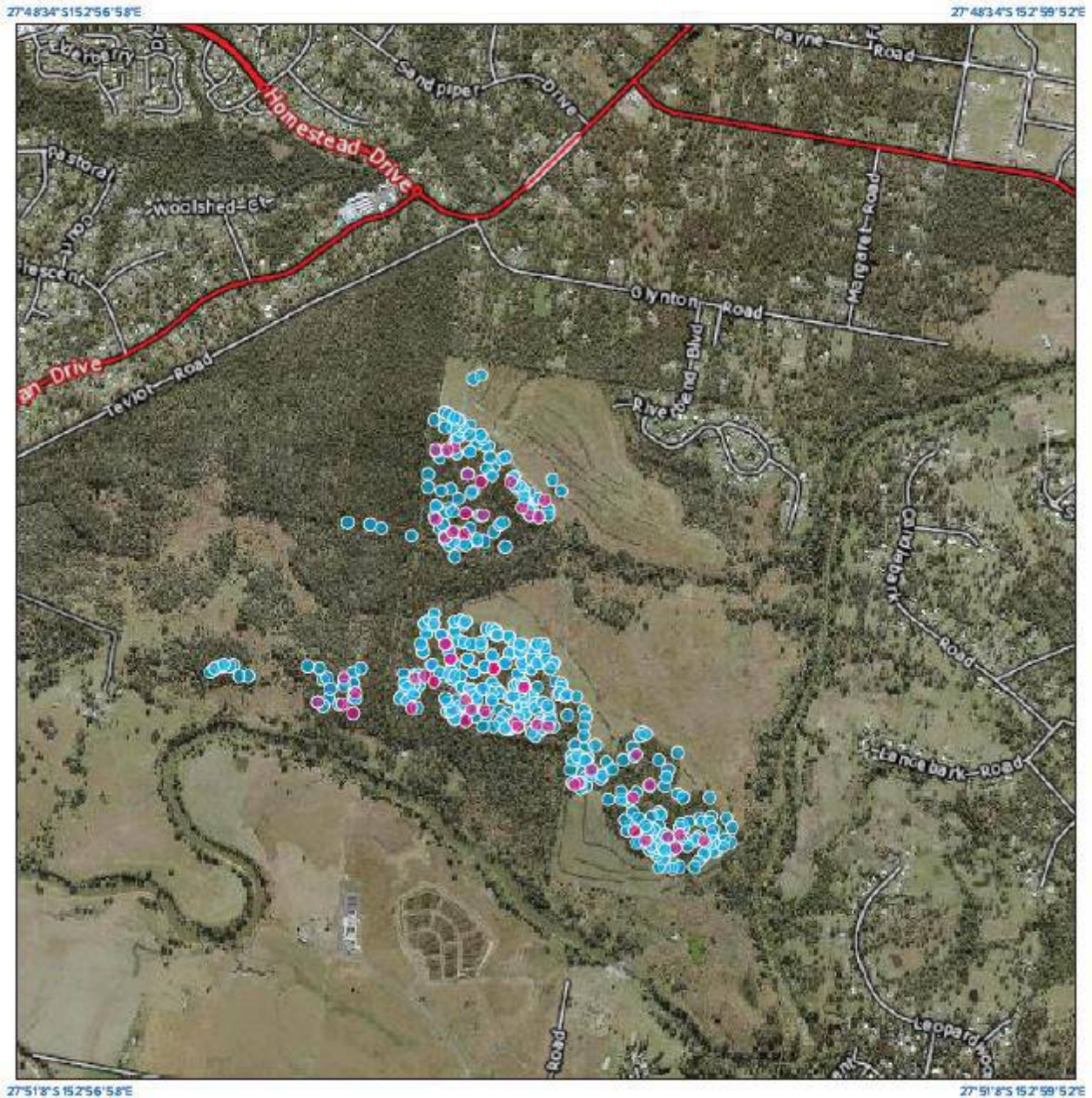
 Local

 Private

Maxar

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12. Appendix F: Arboreal Termitaria Locations



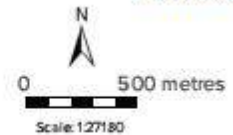
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Legend

POINT-Arboreal Termitaria
.csv



POINT-Arboreal Termitaria
with excavation.csv



Railway



Road crossing

— Bridge

— Tunnel

Cities and Towns



Road

— Highway

— Main

— Local

— Private

Attribution

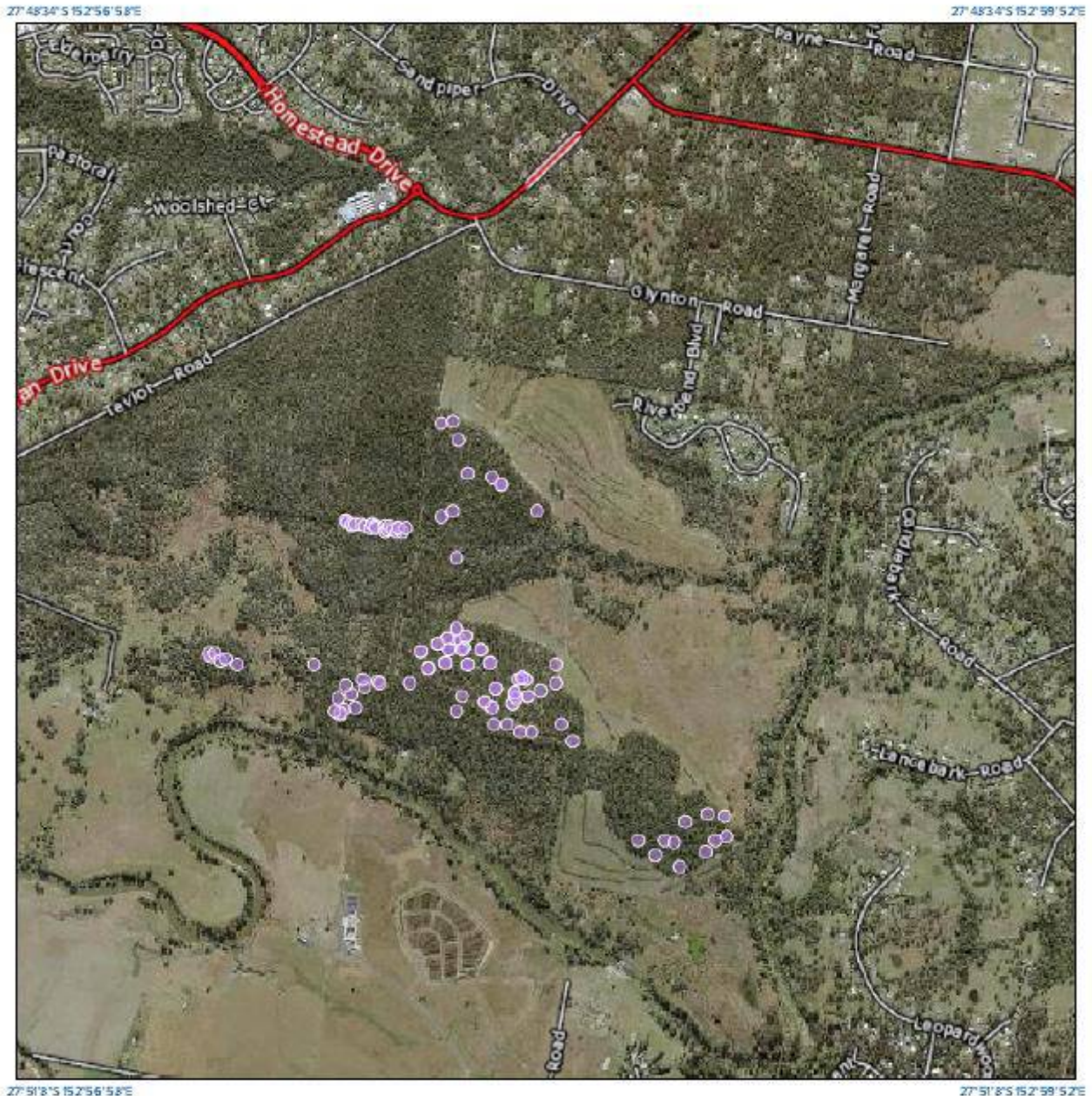
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13. Appendix G: Hollow Bearing Tree Locations



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Legend

POINT-Hollow Bearing Tree.csv



Road Crossing



Road



Cities and Towns



Railway



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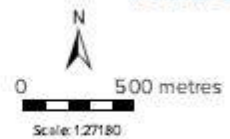
14. Appendix H: Stag Tree Locations



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Legend located on next page




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 **Legend**

 **Attribution**

POINT-Dead Stag.csv



Cities and Towns



Railway



Road Crossing



Tunnel

Road



Main

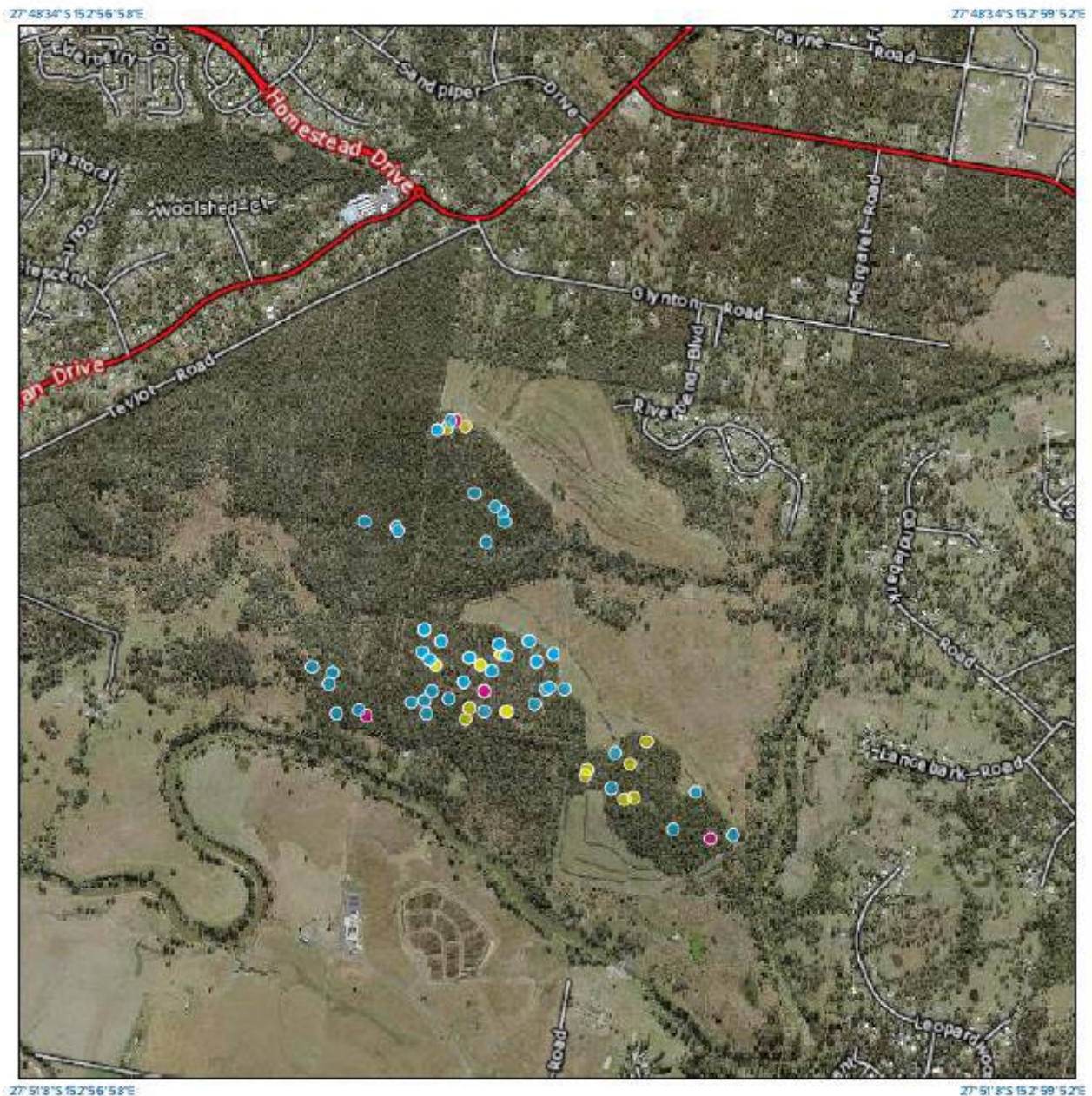


Private

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



Scale: 1:27180
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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

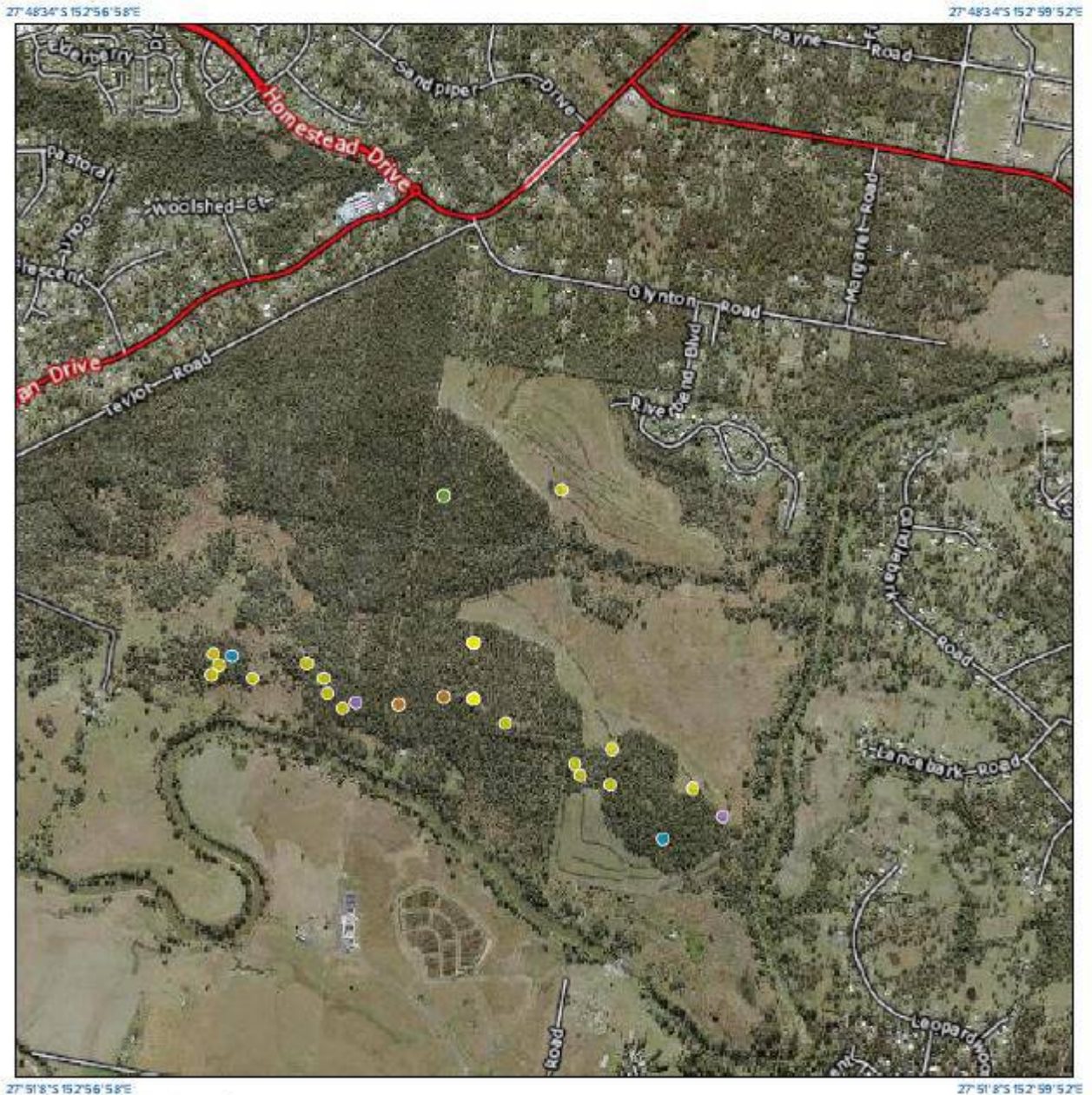
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16. Appendix J: Bird Nest, Koala Scat, Bee Hive and Paper Wasp Nest Locations



27°51'8\"/>

152°56'58\"/>

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Legend

POINT-Bird Nest.csv



Road



Attribution

Maxar

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17. Appendix J: Aquatic Habitat Feature Locations



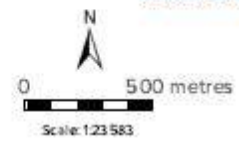
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Legend

POINT-Ephemeral Pool.csv



POINT-Dam.csv



Road Crossing

- Bridge
- Tunnel

Road

- Highway
- Main
- Local
- Private

Cities and Towns



Railway



Attribution

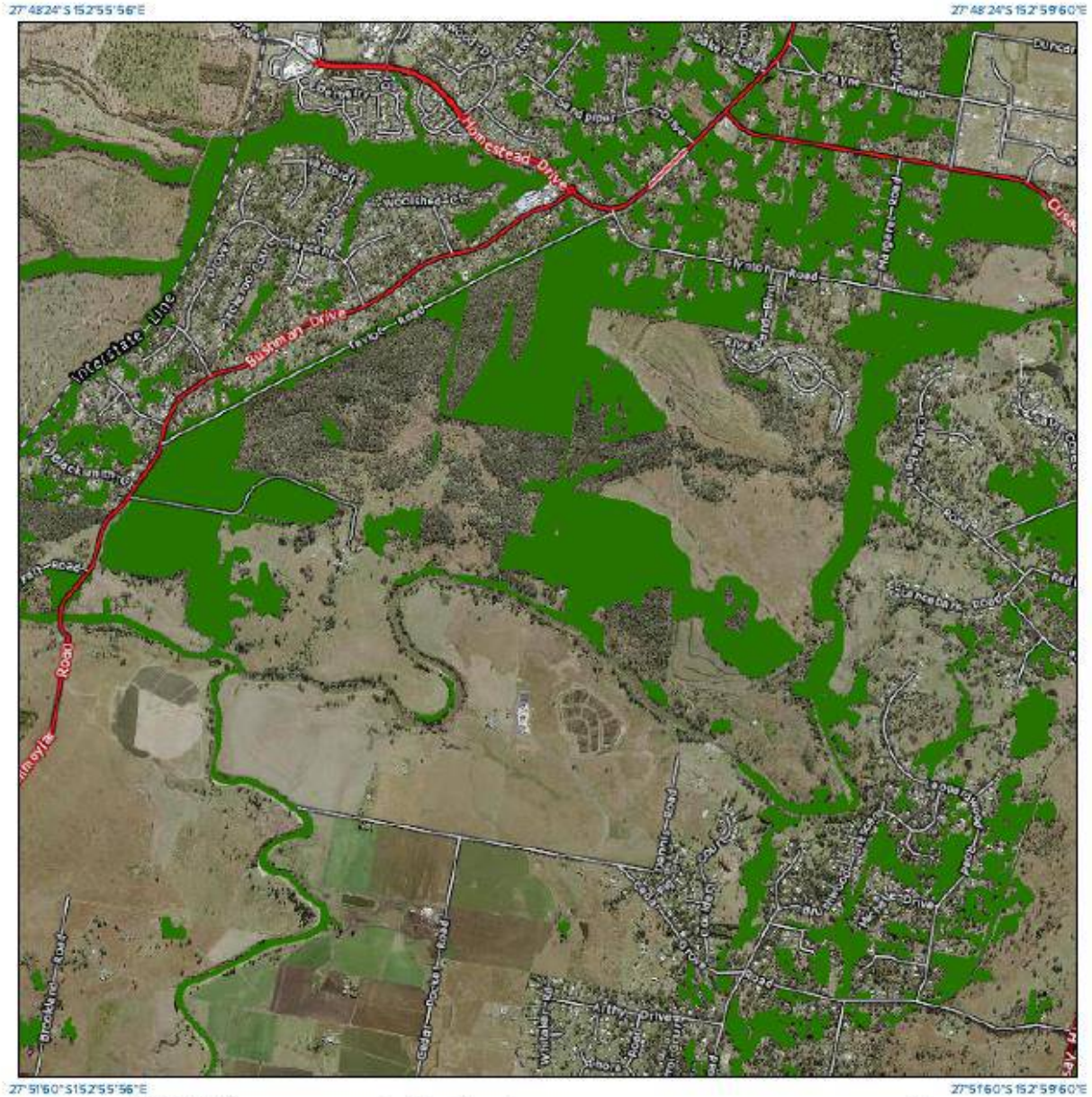
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18. Appendix K: Koala Habitat Values



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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



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](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	46
Listed Migratory Species:	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.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	21
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	27
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	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
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In feature area
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In buffer area only
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community likely to occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	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
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			
Maccullocheilla mariensis Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In feature area
FROG			
Mixophyes fleayi Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area	In buffer area only
INSECT			
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
Phyllodes imperialis smithersi Pink Underwing Moth [86084]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) 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
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus tridactylus Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana 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
Cupaniopsis tomentella Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla 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
Notelaea ipsyiciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmali 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
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Tringa nebularia 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
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia 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	
Controlled action					
Bushman Drive Residential Development, Jimboomba, Qld	2018/8376	Controlled Action	Further Information Request	In feature area	
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In feature area	
Cedar Grove Connector Pipeline	2011/6013	Controlled Action	Completed	In feature area	
Flagstone West Urban Development Project, QLD	2014/7206	Controlled Action	Post-Approval	In feature area	
Greater Flagstone master planned residential development, Undullah, Qld	2015/7530	Controlled Action	Post-Approval	In feature area	
Inland Rail Calvert to Kagaru Project	2017/7944	Controlled Action	Assessment Approach	In buffer area only	
Recreation Fields and Ancillary Sporting Facilities for Emmaus College	2009/5187	Controlled Action	Post-Approval	In buffer area only	
Residential Development, Lot 4 RP45728, New Beith, Qld	2019/8398	Controlled Action	Further Information Request	In buffer area only	
Residential development, Lots 3, 200 and 1, approx 6.5km SW Undullah, Qld	2016/7772	Controlled Action	Further Information Request	In buffer area only	

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

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

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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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

Disclaimer

Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data, the State of Queensland makes no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product.

The State of Queensland disclaims all responsibility for information contained in this product and all liability (including liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Information about your Species lists request is logged for quality assurance, user support and product enhancement purposes only.

The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (<https://www.qld.gov.au/environment/plants-animals/species-information/wildnet>) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

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>Pyrholaemus sagittatus</i>	speckled warbler		C		9
animals	birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		C		5
animals	birds	Acanthizidae	<i>Smicromis 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>Elseya 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.



**Nov-Dec
2022**

Fauna Management and Spotter/Catcher Services Report

Riverbend
Teviot Road, Flagstone
Report prepared for CCA Winslow



Report prepared by
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Date:	22/12/2022
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 November and December 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.

Thursday 3rd November 2022

- Pre-clearance activities carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- 1 tree 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
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: Terrestrial termitaria

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Gully

No Fauna Found

Friday 18th November 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
- 22 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, Fissure

No. & size of hollow/s (mm): 0-49: 3, 50-99: 4, 100-149: 2, 150-199: 1, 200-249: 1, 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, terrestrial termitaria

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Pond, Gully (dry)

Wednesday 23rd November 2022

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

Arboreal Microhabitats: No. flagged tree/s felled: 3

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

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

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Gully (dry)

No Fauna Found

Tuesday 13th December 2022

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

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

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

No. & size of hollow/s (mm): 0-49: 3, 50-99: 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

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		
AJ Lukan	18/11/2022	07:52	Riverbend – Teviot Road, Flagstone	-27.8248	152.9642	Deceased	NA	Bird Egg/s (species unidentified)	3	04/10/2022	-27.8388	152.9746			X		Not viable, crushed during felling.	Small eggs, about the size of a 20c piece. Newly laid eggs with no formation of chick.

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*.

No koalas were observed during clearance. 3 unidentified bird eggs found during felling were not viable and no other fauna required mitigation during clearing activities.

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

Menkhorst, K. & Knight, F. (2011) *A Field Guide to the Mammals of Australia*. 3rd 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*, 3rd edn Sydney: New Holland Publishers.

Appendix D

WHIMP, WPMP and Fauna Survey Reports
for clearing conducted February – March
2023



February
2023

Fauna Spotter Catcher Wildlife and Habitat Impact Mitigation Plan

Riverbend – Teviot Road
Flagstone, Queensland
Report prepared for Winslow



Report prepared by
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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 Winslow to prepare a Fauna Spotter Catcher Wildlife and Habitat Impact Mitigation Plan for Riverbend – Teviot Road, Flagstone, 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.

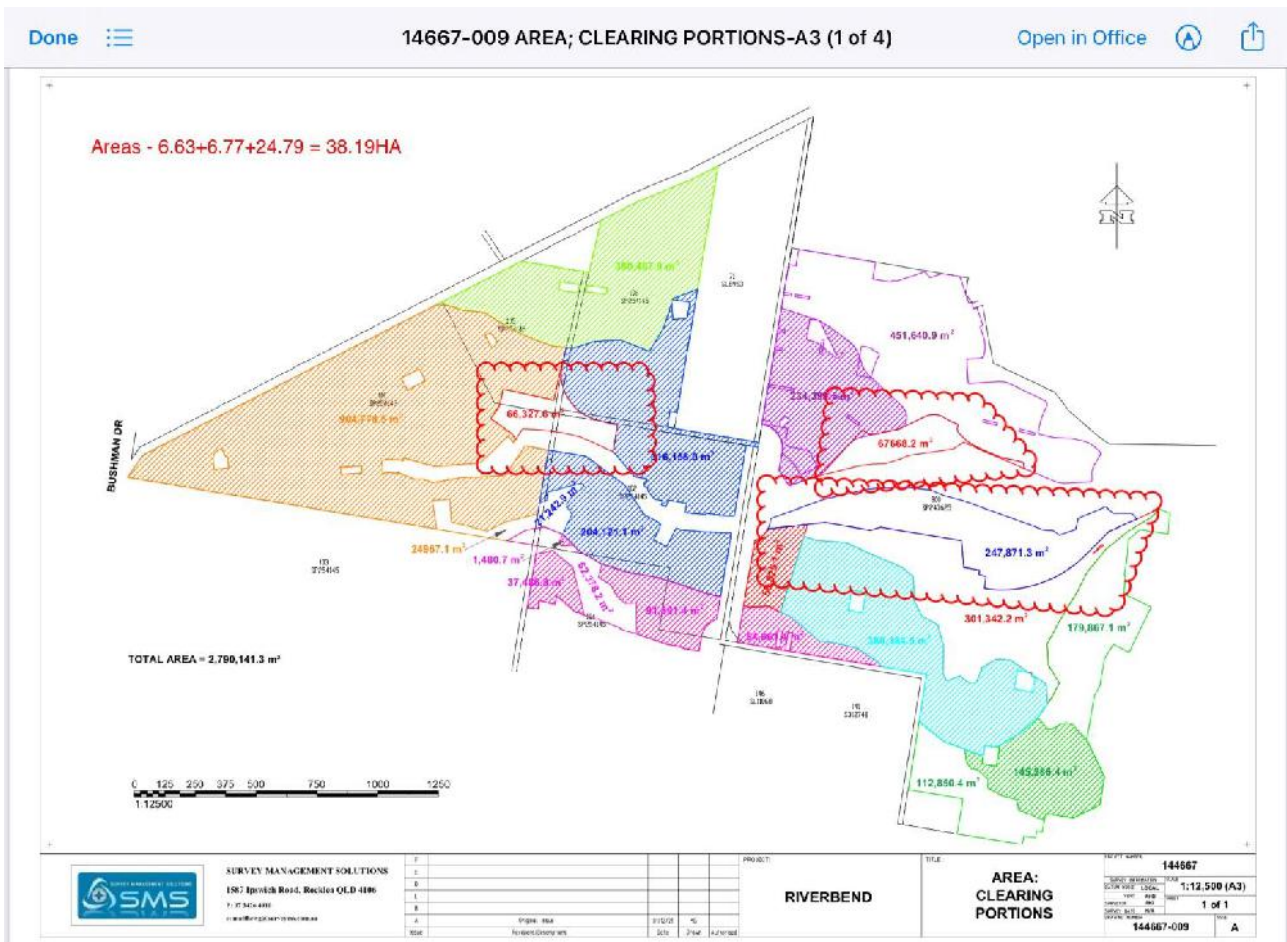
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance 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 creeks and drainage features. Dominant trees species include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, *C. intermedia* and *Lophostemon suaveolens*. Understorey vegetation consists of grass, scattered shrubs and weeds and dense leaf litter.

Map 1: Project Location (clearing areas marked in red)



Source: Survey Management Solutions n.d.

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	WA0047114	31 st October 2025
Rehabilitation Permit	WA0026789	16th September 2023
Scientific Purposes Permit	WA0032325	3 rd March 2026
Scientific User Registration	Registration Number 589	27 th February 2025
Animal Ethics	CA 2022/01/1569	27 th February 2025
General Fisheries Permit	207015	16 th 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.

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 for Phase 1 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.

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 during the fauna survey, as well as sightings of Eastern Grey Kangaroos *Macropus giganteus*.

The area of proposed clearing activities exhibits direct connectivity to notable habitat values to the south as well as a retained fauna save haven (State Forest) on the northern side of the site. 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.

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

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.

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

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.

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 and the species was sighted during the inspection.

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

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.

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
Lizards Geckoes Dragons Monitors	<ul style="list-style-type: none"> 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; Be cautious when handling smaller skinks and legless lizards as they may discard their tail; Lizards and geckoes can be placed inside suitably sized calico bags 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. Dragons and small monitors can be placed in suitably sized calico bags. Larger monitors to be placed in suitably sized crate 	<ul style="list-style-type: none"> Place the lizard head first into a suitable holding crate for later release. <ul style="list-style-type: none"> Dragons & monitors– release up trees or into heavy vegetation; Water dragons – in the vicinity of riparian areas; Skinks, Geckoes, Legless lizards – around creek margins.
Snakes	<ul style="list-style-type: none"> 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; Snakes should be identified and only moved if competent and safe to do so (see SOP006 Handling Venomous Snakes Procedure); Do not attempt to catch a snake if you're not competent; Injured snakes should be handled with suitable equipment. 	<ul style="list-style-type: none"> Release in suitable habitat e.g. along creek lines for python and tree snakes If feasible take them well away from clearance site to a suitable release location Release discreetly away from high density suburban areas
Small Mammals	<ul style="list-style-type: none"> Place a gloved hand around the whole animal in the case of small mammals (melomys or rats), Do not handle rodents by the tail as this will cause damage to the tail sheath Place the animal in calico bag in a cool place for later relocation. Minimise holding time to avoid animal gnawing through bags and escaping 	<ul style="list-style-type: none"> Release animal into area suitable to its habitat requirements. Ensure plenty of cover is available.

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

Animal Group	Capture and handling	Relocation
Macropods	<ul style="list-style-type: none"> 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. 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 & Nottidge, 2009). 	<ul style="list-style-type: none"> Release animal into suitable to its habitat requirements. Ensure plenty of cover is available. 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. Monitor animals to ensure adequate recovery if sedated.
Microbats	<ul style="list-style-type: none"> Only vaccinated persons are to handle bats If possible, plug the hollow opening with a bag or towel and ask the operator to cut the hollow from the tree; Always wear gloves when handling bats. If not contained within a hollow, place bats inside a calico bag and hang upright in a cool place 	<ul style="list-style-type: none"> 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. Bats not contained within a hollow should be released as late as possible at the end of the day.
Possums	<ul style="list-style-type: none"> Use thick elbow length gloves when handling possums; Try to grip the animal behind the head near the shoulder blades and around the tail so that you have control of the animal; Keep fingers away from the mouth of the animal; Keep the animal's body facing away at all times; 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. 	<ul style="list-style-type: none"> Release the possum into habitat with adequate hollows and cover; 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; 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"> Choose a smaller shrubby tree with vines or heavy foliage (so the adult can construct a drey easily) 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 It may be necessary to take one or more of the young to a wildlife carer 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.

Animal Group	Capture and handling	Relocation
Birds	<ul style="list-style-type: none"> • Use gloves when handling larger birds • Use a towel to cover the bird and simultaneously restrain the bird and transfer into calico bag • With larger parrots and raptors, restrain head and legs and transfer into a kitty crate • Wrap chicks loosely in a towel and transfer to kitty crate, keep in a warm location. 	<ul style="list-style-type: none"> • Relocate adult birds in suitable habitat • Chicks should be referred to wildlife carer
Koalas	<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

Vets			
Name	Location	Contact Number	Comments
RSPCA Wildlife Hospital	139 Wacol Station Road, Wacol	[REDACTED]	24 Hours/7days
Carers			
Name	Location	Contact Number	Comments
RSPCA Wildlife Hospital	139 Wacol Station Road, Wacol	[REDACTED]	24 Hours/7days
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

Birds	Reptiles & Amphibians	Mammals
<p>Egg</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>Egg</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>Neonate</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>Chick</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>Juvenile</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>Juvenile</p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p>Adult</p> <p>Keep adult birds in a lined animal crate or cage and covered in a quiet area.</p>	<p>Adult</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>Adult</p> <p>Place into a lined crate and keep covered in a dark and quiet location.</p>
<p>Feeding</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>Feeding</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>Feeding</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 Retained bushland marked as Fauna Safe Zones are located to the north and south 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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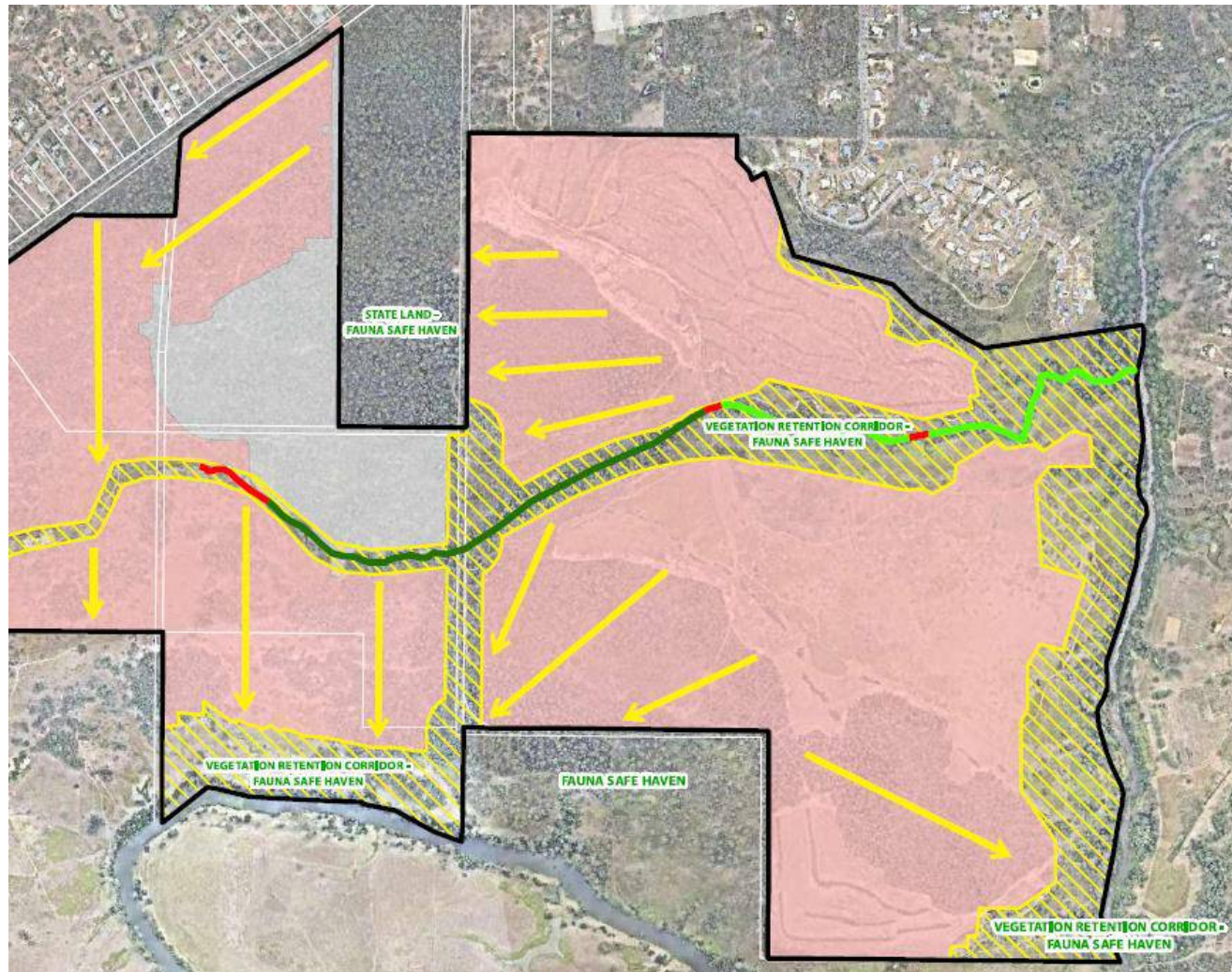
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10. Appendix A: Intended Direction of Clearing



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

11. Appendix B: Intended Release Sites for Wildlife



Source: Adapted from Queensland Globe (2023)



February
2023

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

Riverbend – Teviot Road
Flagstone, Queensland
Report prepared for Winslow



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1. Introduction

1.1 Project Background

Queensland Fauna Consultancy Pty Ltd has been engaged by Winslow to conduct a Fauna Spotter Catcher Pre-clearance and Habitat Values Survey and present a subsequent report for Riverbend – Teviot Road, Flagstone, 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.

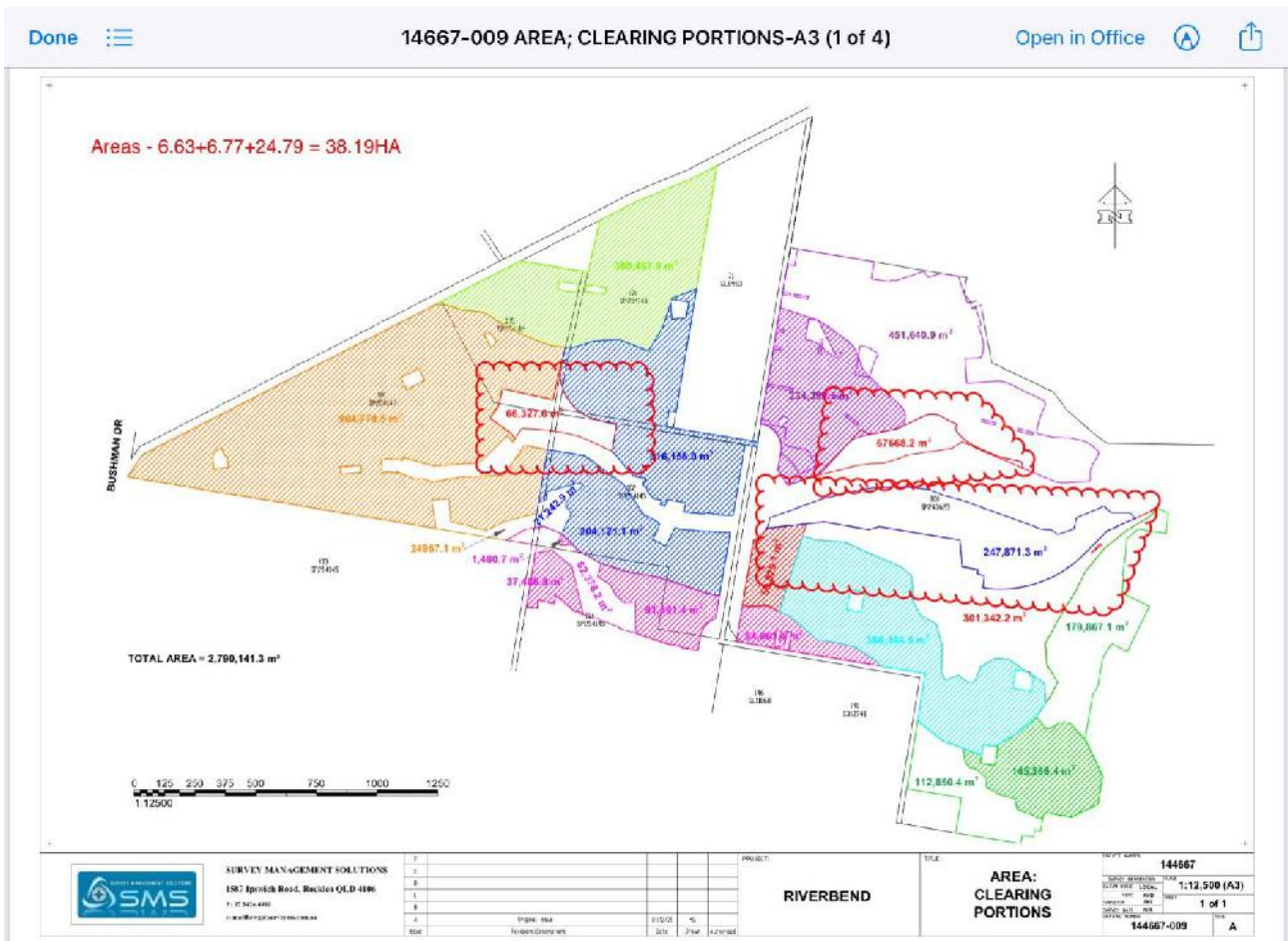
This review encompasses species identified under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Queensland *Nature Conservation Act 1992*. Further consideration is given, where applicable, to species of iconic, cultural and/or regional significance 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 creeks and drainage features. Dominant trees species include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, *C. intermedia* and *Lophostemon suaveolens*. Understorey vegetation consists of grass, scattered shrubs and weeds and dense leaf litter.

Map 1: Project Location (clearing areas marked in red)



Source: Survey Management Solutions n.d.

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	WA0047114	31 st October 2025
Rehabilitation Permit	WA0026789	16th September 2023
Scientific Purposes Permit	WA0032325	3 rd March 2026
Scientific User Registration	Registration Number 589	27 th February 2025
Animal Ethics	CA 2022/01/1569	27 th February 2025
General Fisheries Permit	207015	16 th 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.

2. Methodology

A site inspection was carried out on the 13th, 16th and 20th of February 2023 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 different components and microhabitat features. This included an open low-level understorey with sections exhibiting dense cover provided by dense grass (Figure 1 and Figure 2) and weed species such as Lantana *Lantana camara* (Figure 3 and Figure 4). Dense leaf litter (Figure 5) and basal bark exfoliations also feature on site, being present in abundance and at variable depths, providing refugial opportunities and microhabitat connectivity that can be exploited by many different native terrestrial vertebrate and invertebrate species.

The site is also exhibitive of scattered woody debris, timber stockpiles, and hollow logs (Figure 6 to Figure 11), providing refugial and foraging opportunities, and a contributory factor to the provision of a variety of thermal and moisture gradients that can be exploited by a number of different native terrestrial vertebrate and invertebrate species. A small amount of artificial debris is also present in the locality, adding to its potential habitat value for resident and transient fauna (Figure 12 and Figure 13).

Terrestrial termite mounds also feature on site (Figure 14), with numerous mounds displaying recent excavations typical of the Short-beaked Echidna *Tachyglossus aculeatus* (Figure 15 and Figure 16).

Mammal assemblages may comprise both native and introduced species. Macropod scat was observed across the site (Figure 17), and Eastern Grey Kangaroos *Macropus giganteus* were also sighted during the inspection. Other macropod species likely to occur on site include the Red-necked Wallaby *Notamacropus rufogriseus*. Bandicoot activity was also observed across the site in the form of characteristic diggings (Figure 18).

These features collectively contribute to the potential presence of a variety of native fauna species utilising the area for refugial, foraging and other resources.

GPS coordinates for all indicative terrestrial habitat features are shown in Table 2. Localities for identified terrestrial habitat features are presented in Map 2. A comprehensive list of fauna species recorded in the region can be viewed in Appendix C.

Table 2: Localities for identified terrestrial habitat features

Number	Habitat Feature	GPS Coordinates (Latitude, Longitude)
1	Artificial Debris	-27.832536204363194,152.96461064025976
2	Artificial Debris	-27.83255836744254,152.9645652930473
3	Artificial Debris	-27.832407672224985,152.964598078956
4	Hollow Log	-27.831158126821894,152.97039417397795
5	Hollow Log	-27.830258012594527,152.97500682785457
6	Hollow Log	-27.830812302628853,152.9711815103402
7	Hollow Log	-27.829988055006254,152.97367708370246
8	Hollow Log	-27.832330808030004,152.96985759566047
9	Hollow Log	-27.833209387193822,152.97643005073454
10	Hollow Log	-27.832896220566518,152.9762856535066
11	Hollow Log	-27.83289004495892,152.97696960139527
12	Hollow Log	-27.833354238241377,152.97674868425747
13	Hollow Log	-27.832915585608234,152.97700405548898
14	Hollow Log	-27.833482268631567,152.97695259548783
15	Hollow Log	-27.82922082523733,152.96123867140278
16	Hollow Log	-27.82801340093241,152.9591553740179
17	Hollow Log	-27.82813761791897,152.95929032243188
18	Hollow Log	-27.82861249188445,152.9592550716203
19	Hollow Log	-27.828773600930006,152.95903736321333
20	Hollow Log	-27.82935022802065,152.9609588292007
21	Hollow Log	-27.82936261835663,152.9609237946729
22	Hollow Log	-27.833198675136746,152.9640764706103
23	Terrestrial Termitaria	-27.833055552218262,152.9683607837454
24	Terrestrial Termitaria	-27.83298793798127,152.9686705858391
25	Terrestrial Termitaria	-27.83288645306742,152.9689173730006
26	Terrestrial Termitaria	-27.828689372757253,152.96014359190926

27	Terrestrial Termitaria	-27.828721638017157,152.960026549087
28	Terrestrial Termitaria	-27.82823429722651,152.9592198231218
29	Terrestrial Termitaria	-27.82863671451647,152.9583831173411
30	Terrestrial Termitaria	-27.829044434608683,152.95982312748177
31	Terrestrial Termitaria	-27.829148435579242,152.9600125121029
32	Terrestrial Termitaria	-27.829324624379865,152.96062531826993
33	Terrestrial Termitaria	-27.82938382442147,152.96073441619762
34	Terrestrial Termitaria	-27.833270829919147,152.9638275245499
35	Timber Stockpile	-27.83358275137978,152.97735246237474
36	Woody Debris	-27.8306850354656,152.97198199175344
37	Woody Debris	-27.82998147499104,152.974843371487
38	Woody Debris	-27.828708588712654,152.95925601285353
39	Woody Debris	-27.832403329881572,152.96448808294684



Figure 1: Dense grass



Figure 2: Dense grass



Figure 3: Lantana *Lantana camara*



Figure 4: Lantana *Lantana camara*



Figure 5: *Lomandra sp.*



Figure 6: Woody debris



F



Figure 8: Timber stockpile



F



Figure 10: Hollow log



Figure 11: Hollow log



Figure 12: Artificial debris



Figure 13: Artificial debris



Figure 14: Terrestrial termite mound



Figure 15: Terrestrial termite mound with excavation



Figure 16: Terrestrial termite mound with excavation



Figure 17: Macropod scat



Figure 18: Bandicoot digging

3.2 Arboreal Habitat Features

The majority of the clearance area consists predominately of Eucalypt and Acacia woodland (Figure 19 to Figure 24) consisting of trees of varying height, species and density suitable for feeding and nesting resources. The intermittent contiguous canopy structure (Figure 25) and dense vine growth (Figure 26) within the vegetation represented may be facilitative of arboreal progression for species such as the Common Brushtail Possum *Trichosurus vulpecula*, Squirrel Glider *Petaurus norfolcensis*, and Brush-tailed Phascogale *Phascogale tapoatafa*.

Hollow-bearing trees and fissures are present in the clearance area (Figure 27 to Figure 31), which may provide habitat opportunities for arboreal mammals, reptiles, and birds. Exfoliating bark on tree trunks (Figure 32 and Figure 33) may provide refugial opportunities for reptile species including skinks and geckos. A high number of nest boxes are also present within this clearing area; however, these boxes will be relocated prior to clearing works (Figure 34 to Figure 37).

A number of arboreal termite mounds are also present across the site (Figure 38 to Figure 40), with some mounds exhibiting excavations (Figure 41). 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*. Mammals have also been known to utilise these features for shelter where hollows are not readily available.

Five avian stick nests were located during the inspection but did not appear active at the time of the survey (Figure 42 and Figure 43). However, 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 4.

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.

GPS coordinates for all indicative arboreal habitat features are shown in Table 3. Localities for identified arboreal habitat features are presented in Map 2.

Koala food trees located in the clearance area include *Eucalyptus tereticornis*, *E. siderophloia*, *E. moluccana*, *E. crebra*, *E. fibrosa*, *E. crebra*, *Corymbia citriodora*, *C. intermedia*, *C. tessellaris*, and *Lophosetemon suaveolens*. However, no evidence was observed to indicate recent use of these trees by koalas. No koala scats were found during 'drip zone' searches and characteristic scratchings were not found during trunk investigations. A Koala habitat values map for the clearance area is presented in Appendix A.

Table 3: Localities for identified arboreal habitat features

Number	Habitat Feature	GPS Coordinates (Latitude, Longitude)
1	Arboreal Termitaria	-27.830991053163242,152.9707010639855
2	Arboreal Termitaria	-27.830542089528866,152.97177627839767
3	Arboreal Termitaria	-27.82958984375,152.97254473851746
4	Arboreal Termitaria	-27.829709911289278,152.97499988968224
5	Arboreal Termitaria	-27.83008480903504,152.97179899523815
6	Arboreal Termitaria	-27.833167616105637,152.96825091565748
7	Arboreal Termitaria	-27.832422019429632,152.9701490043049
8	Arboreal Termitaria	-27.832657260795855,152.97564728182124
9	Arboreal Termitaria	-27.83291481017485,152.97653236728857
10	Arboreal Termitaria	-27.833230663374838,152.97738932554287
11	Arboreal Termitaria	-27.82901425605253,152.96065439106738
12	Arboreal Termitaria	-27.828783923305956,152.96019633967728
13	Arboreal Termitaria	-27.828781127929688,152.96000237451392
14	Arboreal Termitaria	-27.827981095382945,152.9595897381509
15	Arboreal Termitaria	-27.82744615543242,152.9594604605317
16	Arboreal Termitaria	-27.827438528206244,152.95949439456774
17	Arboreal Termitaria	-27.828302991580603,152.95929858084253
18	Arboreal Termitaria	-27.829195281064628,152.9607002227589
19	Arboreal Termitaria	-27.832244088438664,152.96414811871637
20	Bird Nest	-27.829445915362225,152.97348240143683
21	Bird Nest	-27.831662198914735,152.9732561750607
22	Bird Nest	-27.832183081480583,152.9749346550551
23	Bird Nest	-27.832213105743392,152.97506030513912
24	Bird Nest	-27.827098152075507,152.95942365416582
25	Exfoliating Bark (Arboreal)	-27.830993710331345,152.97074597157197

26	Exfoliating Bark (Arboreal)	-27.83020303919343,152.97370691780077
27	Exfoliating Bark (Arboreal)	-27.830467550095527,152.97312635887783
28	Exfoliating Bark (Arboreal)	-27.830020751364543,152.97260729781596
29	Exfoliating Bark (Arboreal)	-27.82979206549965,152.97413157221476
30	Exfoliating Bark (Arboreal)	-27.82967052328246,152.97289882240702
31	Exfoliating Bark (Arboreal)	-27.829620975307147,152.97407991272377
32	Exfoliating Bark (Arboreal)	-27.831803155925975,152.9727643879707
33	Exfoliating Bark (Arboreal)	-27.832199096679688,152.97088406902975
34	Exfoliating Bark (Arboreal)	-27.83241944904703,152.97013392320358
35	Exfoliating Bark (Arboreal)	-27.832839064064334,152.97640875759086
36	Exfoliating Bark (Arboreal)	-27.829219515975264,152.96094104735405
37	Exfoliating Bark (Arboreal)	-27.828814551866593,152.9601509659713
38	Exfoliating Bark (Arboreal)	-27.828549605068268,152.95978310344913
39	Exfoliating Bark (Arboreal)	-27.828614418760786,152.95981327417087
40	Exfoliating Bark (Arboreal)	-27.828351029872387,152.95978712899725
41	Exfoliating Bark (Arboreal)	-27.827463035613906,152.95941256293457
42	Fissure	-27.829155713578878,152.96101577570604
43	Hollow Bearing Tree	-27.830276664651407,152.97405144388932
44	Hollow Bearing Tree	-27.830279900129284,152.974284936171
45	Hollow Bearing Tree	-27.83031156244131,152.9747460410427
46	Hollow Bearing Tree	-27.830245971679688,152.975016566959
47	Hollow Bearing Tree	-27.830338751896743,152.97383236989063
48	Hollow Bearing Tree	-27.829928415990786,152.9719424004713
49	Hollow Bearing Tree	-27.829523982271382,152.97321483845874
50	Hollow Bearing Tree	-27.82973743589578,152.9729354748593
51	Hollow Bearing Tree	-27.831878417570355,152.9712696380026
52	Hollow Bearing Tree	-27.832209511247477,152.97088197910927
53	Hollow Bearing Tree	-27.832156374641016,152.97008020656938

54	Hollow Bearing Tree	-27.832238036968697,152.97103453747
55	Hollow Bearing Tree	-27.829663244109174,152.9617281495637
56	Hollow Bearing Tree	-27.82894165685271,152.95998072569483
57	Hollow Bearing Tree	-27.82783762447465,152.9595083061421
58	Hollow Bearing Tree	-27.82770007648716,152.9594406710353
59	Hollow Bearing Tree	-27.82890695150181,152.95928199361344
60	Hollow Bearing Tree	-27.832073027381377,152.963969682749
61	Nest Box	-27.830455636825334,152.9726020563864
62	Nest Box	-27.830363482168192,152.97131559198615
63	Nest Box	-27.83009168832245,152.97293048042846
64	Nest Box	-27.830669253315502,152.97142686691765
65	Nest Box	-27.83029853276053,152.97265810604668
66	Nest Box	-27.83203382932304,152.97209281147335
67	Nest Box	-27.831484876584565,152.97288653161283
68	Nest Box	-27.831596938391197,152.97256988531728
69	Nest Box	-27.83164202031345,152.97289535337472
70	Nest Box	-27.831603907536874,152.97325187664907
71	Nest Box	-27.831563630568958,152.97460371677658
72	Nest Box	-27.831887145086156,152.97192250300282
73	Nest Box	-27.83239799545339,152.9696159477376
74	Nest Box	-27.832504905348667,152.96964093499628
75	Nest Box	-27.83266822682651,152.9691445237068
76	Nest Box	-27.832660261314423,152.9689025627165
77	Nest Box	-27.83279531814459,152.96935994296766
78	Nest Box	-27.83270471483687,152.96944065824695
79	Nest Box	-27.832001464762815,152.97178430556662
80	Nest Box	-27.832651523178797,152.96986767891215
81	Nest Box	-27.832216223897845,152.97514985875037

82	Nest Box	-27.832024180106426,152.9750072528631
83	Nest Box	-27.832133469703685,152.97530266707633
84	Nest Box	-27.83220000243951,152.9754038654344
85	Nest Box	-27.832222085785467,152.9755441749319



Figure 19: Site overview



Figure 20: Site overview



Figure 21: Site overview



Figure 22: Site overview



Figure 23: Site overview



Figure 24: Site overview



Figure 25: Contiguous canopy



Figure 26: Dense vine growth



Figure 27: Hollow-bearing tree



Figure 28: Hollow-bearing tree



Figure 29: Hollow-bearing tree



Figure 30: Hollow-bearing tree



F



32: Exfoliating bark



Figure 33: Exfoliating bark



Figure 35: Nest box



Figure 36: Nest box



Figure 37: Nest box



Figure 38: Arboreal termite mound



Figure 39: Arboreal termite mound



Figure 40: Arboreal termite mound



Figure 41: Arboreal termitaria with excavation



Figure 42: Bird nest



Figure 43: Bird nest

Table 4: Arboreal Fauna Species Observed

Number	Common Name and <i>Scientific Name</i>	Conservation Status	
		NCA	EPBC
1	Australian Magpie <i>Cracticus tibicen</i>	Least Concern	Not Listed
2	Noisy Miner <i>Manorina melanocephala</i>	Least Concern	Not Listed
3	Spangled Drongo <i>Dicrurus bracteatus</i>	Least Concern	Marine
4	Torresian Crow <i>Corvus orru</i>	Least Concern	Not Listed
5	Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>	Least Concern	Marine
6	Superb Fairy-wren <i>Malurus cyaneus</i>	Least Concern	Not Listed
7	Brown Quail <i>Coturnix ypsilophora</i>	Least Concern	Not Listed
8	Galah <i>Eolophus roseicapilla</i>	Least Concern	Not Listed
9	Sulphur-crested Cockatoo <i>Cacatua galerita</i>	Least Concern	Not Listed
10	Magpie-lark <i>Grallina cyanoleuca</i>	Least Concern	Marine
11	Blue-faced Honeyeater <i>Entomyzon cyanotis</i>	Least Concern	Not Listed
12	Rainbow Bee-eater <i>Merops ornatus</i>	Least Concern	Migratory
13	Common Bronzewing <i>Phaps chalcoptera</i>	Least Concern	Not Listed
14	Crested Pigeon <i>Ocyphaps lophotes</i>	Least Concern	Not Listed
15	Sacred Kingfisher <i>Todiramphus sanctus</i>	Least Concern	Marine
16	Black Kite <i>Milvus migrans</i>	Least Concern	Not Listed
17	Laughing Kookaburra <i>Dacelo novaeguineae</i>	Least Concern	Not Listed
18	Noisy Friarbird <i>Philemon corniculatus</i>	Least Concern	Not Listed
19	Wedge-tailed Eagle <i>Aquila audax</i>	Least Concern	Not Listed
20	Pied Butcherbird <i>Cracticus nigrogularis</i>	Least Concern	Not Listed
21	Grey Butcherbird <i>Cracticus torquatus</i>	Least Concern	Not Listed
22	Pheasant Coucal <i>Centropus phasianinus</i>	Least Concern	Not Listed
23	Grey-crowned Babbler <i>Pomatostomus temporalis</i>	Least Concern	Not Listed
24	Australian Wood Duck <i>Chenonetta jubata</i>	Least Concern	Not Listed
25	Whistling Kite <i>Haliastur sphenurus</i>	Least Concern	Marine

3.3 Aquatic Habitat Features

A single creek is present within the clearing area (Figure 44 and Figure 45). The creek was retaining water at the time of the inspection and exhibited moderate levels of riparian vegetation. Native species may exploit the various microhabitats present by such environmental features, particularly during times of rainfall, including the Eastern Water Dragon *Intellagama lesueurii*, Red-bellied Black Snake *Pseudechis porphyriacus*, Keelback Snake *Tropidonophis mairii*, Striped Marsh Frog *Limnodynastes peronii*, Tusked Frog *Adelotus brevis*, Graceful Treefrog *Litoria gracilentia*, and various mammals and birds as a water resource.

GPS coordinates for all indicative aquatic habitat features are shown in Table 5. Localities for identified aquatic habitat features are presented in Map 2.

Table 5: Localities for identified aquatic habitat features

Number	Habitat Feature	GPS Coordinates (Latitude, Longitude)
1	Creek	-27.83167986839814,152.97192475390656

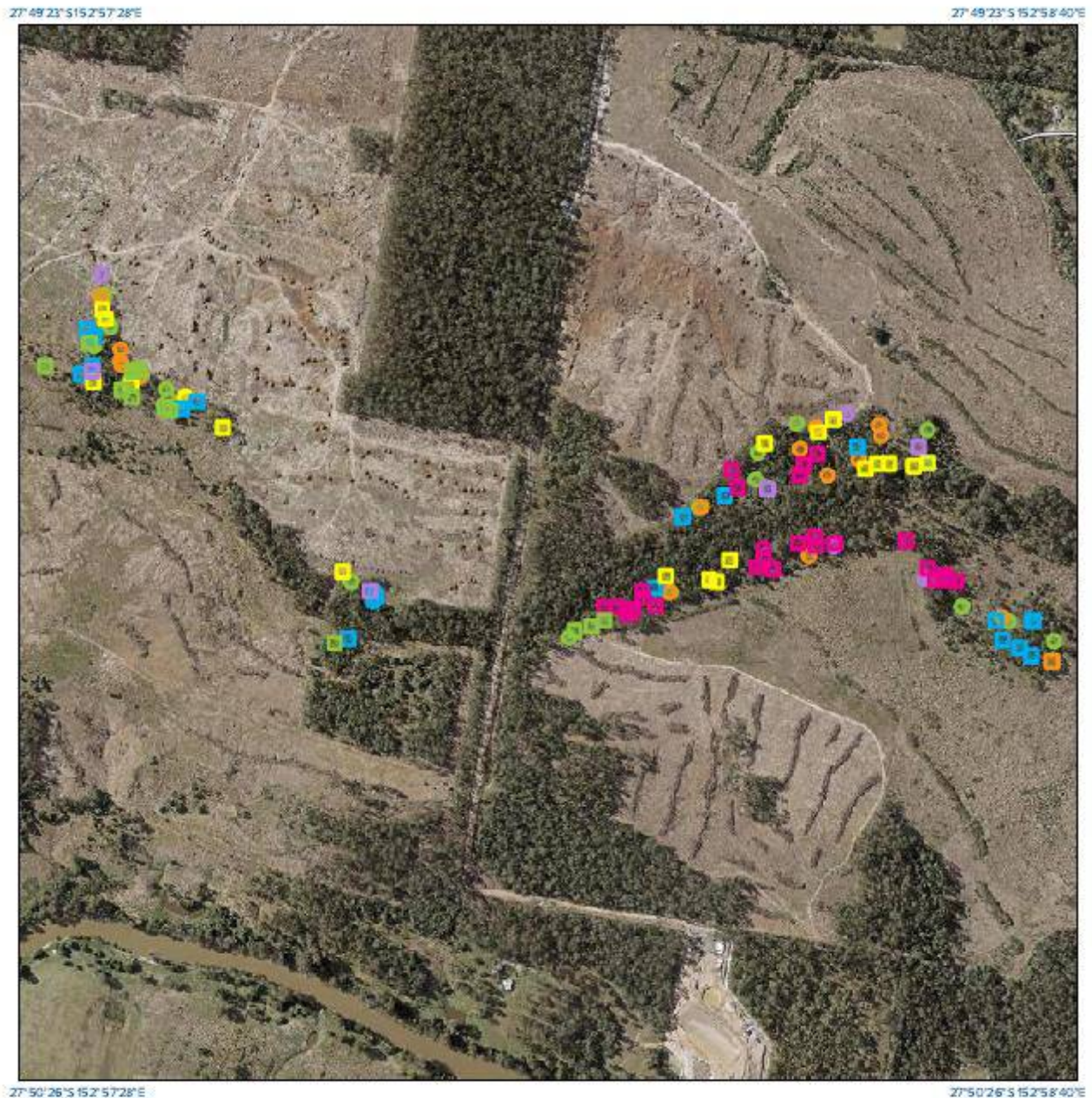


Figure 44: Creek



Figure 45: Creek

Map 2: Localities for identified terrestrial, arboreal, and aquatic habitat features



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 Legend

 Attribution

POINT-Arboreal
Termitaria.csv



POINT-Artificial Debris.csv



POINT-Bird Nest.csv



POINT-Creek.csv



POINT-Exfoliating Bark
(Arboreal).csv



POINT-Fissure.csv



POINT-Hollow Log.csv



POINT-Hollow-bearing
Tree.csv



POINT-Nest Box.csv



POINT-Terrestrial
Termitaria.csv



POINT-Timber Stockpile.csv



POINT-Woody Debris.csv



Road crossing

— Bridge

— Tunnel

Cities and Towns



Road

— Highway

— Main

— Local

— Private

Railway



Maxar

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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 likely or possible to occur within the site and will require further mitigation during clearing activities.

Although no evidence was found during the site inspection of recent Koala use the species has previously been recorded 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 species prior to vegetation clearing activities.

Table 6: Significant species deemed likely or possible to occur within the clearance survey area

Common Name Scientific Name	Species Information	Likelihood of Occurrence within the Clearance Survey area
Mammals		
Short-beaked Echidna <i>Tachyglossus aculeatus</i> EPBC: Not Listed NCA: Special Least Concern	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 & Strahan 2008).	Likely Suitable feeding resources occur onsite and evidence of diggings observed onsite.
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> .	Possible 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.
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.	Possible Suitable vegetation communities containing both feeding and roosting resources occur on and adjacent to the clearance site.

<p>Southern Greater Glider <i>Petauroides volans</i></p> <p>EPBC: Endangered NCA: Endangered</p>	<p>Largest of the gliders, the Great Glider is found along eastern Australia within a variety of eucalypt dominated forests and tall open woodlands (Lindenmayer 2002)</p>	<p>Possible Preferred habitat type present and the species is documented within the area.</p>
Birds		
<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 & Day 2004; BirdLife Australia n.d.)</p>	<p>Possible 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: 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>Present Habitat conducive to this species is found within the survey area and the species was sighted during the inspection.</p>
<p>Rufous Fantail <i>Rhipidura uniforms</i></p> <p>EPBC: Migratory NCA: 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>Possible Habitat conducive to this species is found within the survey area and the species was sighted during the inspection.</p>
Amphibians		
<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>Possible 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.

6. References

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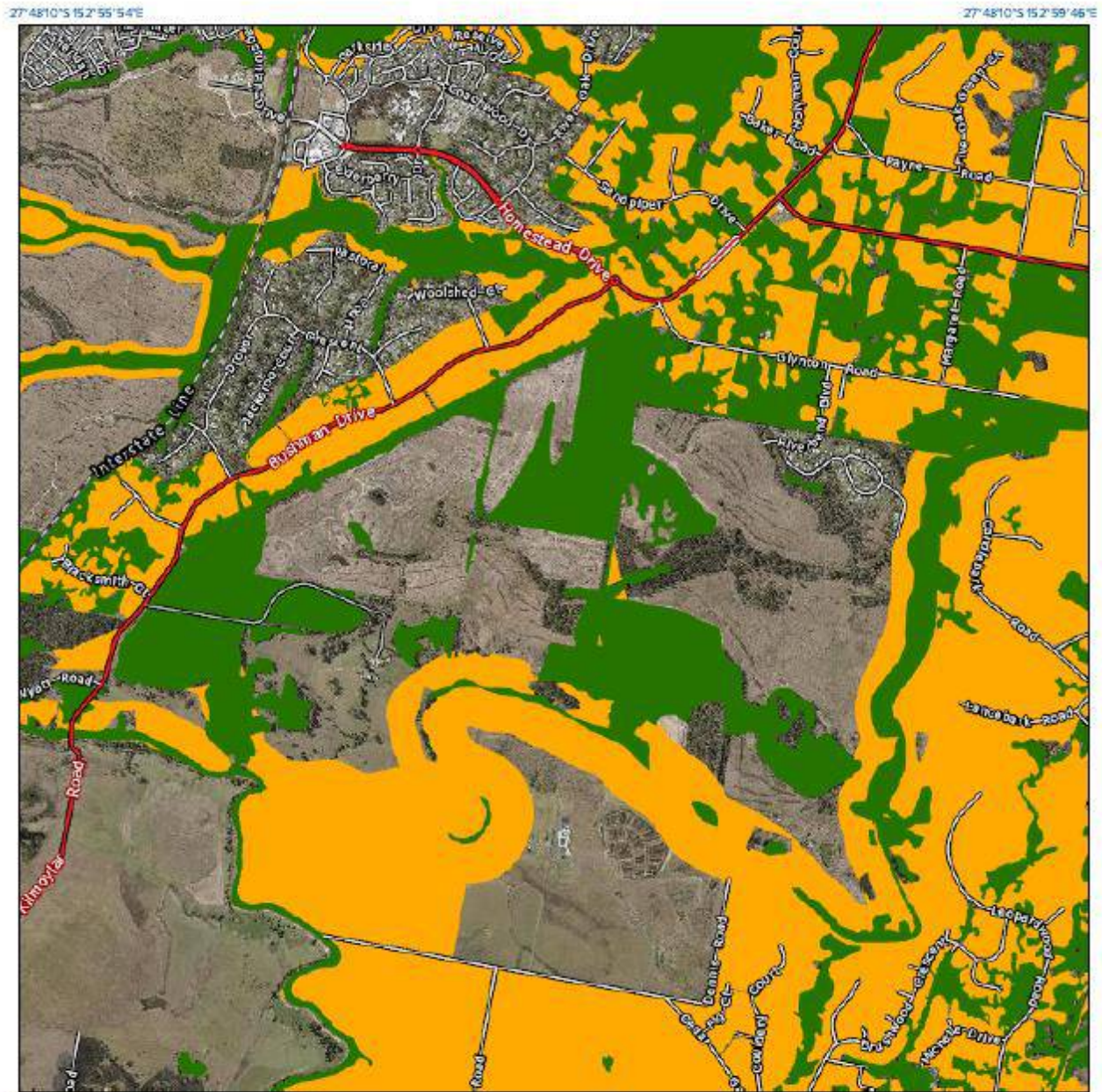
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7. Appendix A: Koala Habitat Values



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Department of Resources

 Legend

 Attribution

Koala priority area



Core koala habitat area



**Identified koala broad-
hectare area**



**Locally refined koala habitat
area**



**Koala habitat restoration
area**



Road Crossing

 Bridge

 Tunnel

Road

 Highway

 Main

 Local

 Private

Cities and Towns



Railway



Maxar

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8. Appendix B: EPBC Act Protected Matters Report



Australian Government
Department of Climate Change, Energy,
the Environment and Water

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: 11-Apr-2023

[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](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	40
Listed Migratory Species:	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 <https://www.dcceew.gov.au/parks-heritage/heritage>

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	21
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	6
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Ramsar Site Name	Proximity
Moreton bay	30 - 40km upstream from Ramsar site

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
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within 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
BIRD		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area

Scientific Name	Threatened Category	Presence Text
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
FISH		
Maccullochella mariensis Mary River Cod [83806]	Endangered	Translocated population known to occur within area
INSECT		
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
MAMMAL		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<u>Petaurus australis australis</u> Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area
<u>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</u> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area
<u>Potorous tridactylus tridactylus</u> Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area
<u>Pteropus poliocephalus</u> Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
PLANT		
<u>Arthraxon hispidus</u> Hairy-joint Grass [9338]	Vulnerable	Species or species habitat may occur within area
<u>Dichanthium setosum</u> bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
<u>Fontainea venosa</u> [24040]	Vulnerable	Species or species habitat may occur within area
<u>Notelaea ipsviciensis</u> Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
<u>Picris evae</u> Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area
<u>Planchonella eerwah</u> Shiny-leaved Condoe, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area
<u>Rhodamnia rubescens</u> Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area

REPTILE

Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Tringa nebularia 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]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Cedar Grove Connector Pipeline	2011/6013	Controlled Action	Completed
Residential development, Teviot Road, north Beaudesert, Qld	2016/7724	Controlled Action	Post-Approval
Not controlled action			
Construction and upgrade of approximately 7km of external road corridor, Flagstone, Qld	2014/7319	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthm two thirds of Australia	2015/7522	Not Controlled Action	Completed
South West Pipeline and Wyaralong Tanks Project, Qld	2018/8320	Not Controlled Action	Completed
Not controlled action (particular manner)			

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Construction & Operation 275/330kV Transmission Line	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval
Bioregional Assessments			
SubRegion	BioRegion	Website	
Clarence-Moreton	Clarence-Moreton	BA website	

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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9. Appendix C: Wildlife Online Extract



WildNet species list

Search Criteria: Species List for a Specified Point
Species: Animals
Type: Native
Queensland status: All
Records: All
Date: Since 1980
Latitude: -27.8295
Longitude: 152.9670
Distance: 5
Email: jasmine@qfc.com.au
Date submitted: Tuesday 11 Apr 2023 11:42:06
Date extracted: Tuesday 11 Apr 2023 11:50:06

The number of records retrieved = 210

Disclaimer

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The State of Queensland disclaims all responsibility for information contained in this product and all liability (including liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Information about your Species lists request is logged for quality assurance, user support and product enhancement purposes only.

The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (<https://www.qld.gov.au/environment/plants-animals/species-information/wildnet>) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	<i>Litoria balatus</i>	slender bleating treefrog		C		6
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		27
animals	amphibians	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog		C		25
animals	amphibians	Hylidae	<i>Litoria gracilentia</i>	graceful treefrog		C		7
animals	amphibians	Hylidae	<i>Litoria latopalмата</i>	broad palmed rocketfrog		C		3
animals	amphibians	Hylidae	<i>Litoria nasuta</i>	striped rocketfrog		C		8
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		12
animals	amphibians	Limnodynastidae	<i>Limnodynastes peronii</i>	striped marshfrog		C		8
animals	amphibians	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog		C		4
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		7
animals	amphibians	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog		C		11
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>Smicromis 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>Mirafrja javanica</i>	Horsfield's bushlark		C		1
animals	birds	Alcedinidae	<i>Ceyx azureus</i>	azure kingfisher		C		5
animals	birds	Alcedinidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		27
animals	birds	Alcedinidae	<i>Todiramphus macleayii</i>	forest kingfisher		C		6
animals	birds	Alcedinidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		15
animals	birds	Anatidae	<i>Anas gracilis</i>	grey teal		C		3
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		27
animals	birds	Anatidae	<i>Aythya australis</i>	hardhead		C		1
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		13
animals	birds	Anatidae	<i>Cygnus atratus</i>	black swan		C		1
animals	birds	Anatidae	<i>Dendrocygna eytoni</i>	plumed whistling-duck		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		10
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

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird		C		23
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		15
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		17
animals	birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		C		2
animals	birds	Cacatuidae	<i>Eolophus roseicapilla</i>	galah		C		25
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>Erythrogonys 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		15
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 phasianella</i>	brown cuckoo-dove		C		1
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		20
animals	birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		C		4
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		17
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		42
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>Eudynamis orientalis</i>	eastern koel		C		4
animals	birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		C		6
animals	birds	Dicaeidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		3
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	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	Locustellidae	<i>Cincloramphus timoriensis</i>	tawny grassbird		C		6
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		21
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		18
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		26
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		16
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		20
animals	birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		C		15
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		18
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		7
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		8
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		17
animals	birds	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater		C		6
animals	birds	Meliphagidae	<i>Ptilotula fusca</i>	fuscous honeyeater		C		4
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		11
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	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		5
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		4
animals	birds	Oriolidae	<i>Sphecotheres vieillotii</i>	Australasian figbird		C		8
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>Synoicx 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		3
animals	birds	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler		C		5
animals	birds	Psittaculidae	<i>Alisterus scapularis</i>	Australian king-parrot		C		14
animals	birds	Psittaculidae	<i>Parvipsitta pusilla</i>	little lorikeet		C		8
animals	birds	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		28
animals	birds	Psittaculidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		23
animals	birds	Psittaculidae	<i>Trichoglossus moluccanus</i>	rainbow lorikeet		C		35
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>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		2
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 leucocephalus</i>	pied stilt		C		2
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		19
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		21
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	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		C		17
animals	mammals	Dasyuridae	<i>Antechinus flavipes flavipes</i>	yellow-footed antechinus (south-east Queensland)		C		15
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		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		10
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		E	E	77
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		1
animals	reptiles	Elapidae	<i>Cryptophis nigrescens</i>	eastern small-eyed snake		C		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).

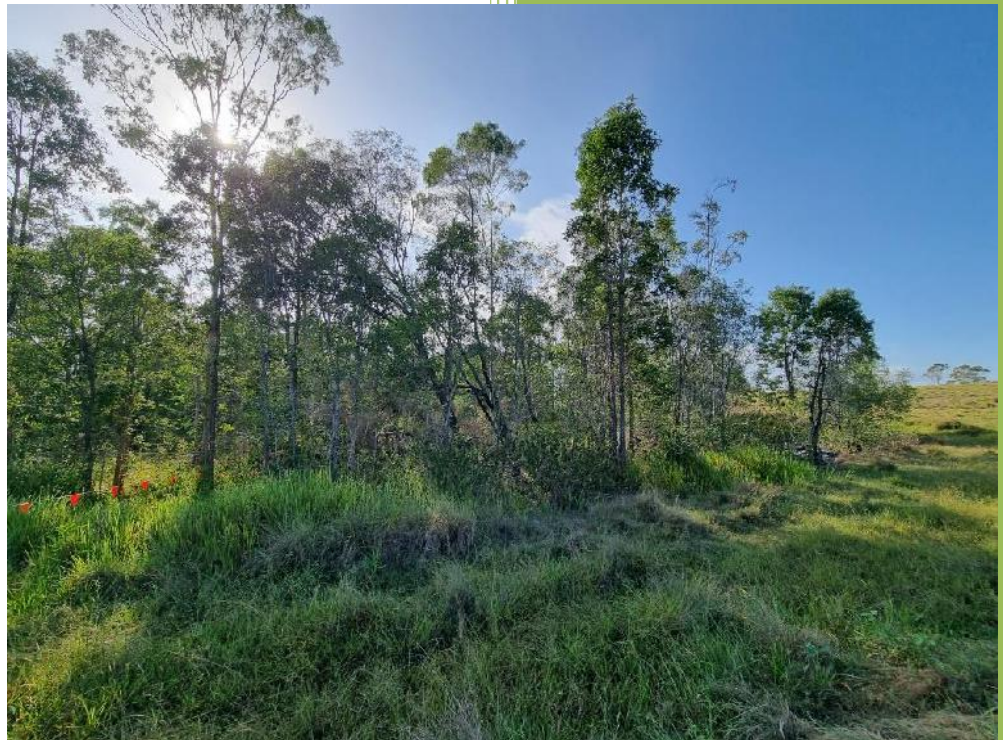
This number is output as 99999 if it equals or exceeds this value. A second number located after a / indicates the number of specimen records for the taxon.

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

February 2023

Fauna Management and Spotter/Catcher Services Report

Riverbend - Teviot Road, Flagstone
Report prepared for 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 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 February 2023.

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.

Monday 13th February 2023

- Pre-clearance inspection 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 Y N Hollows Y N Arboreal termitaria Y N Other: Exfoliating Bark

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

Terrestrial Microhabitats:

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

Other: Dry Gilgai, Timber Stockpiles, Dense Leaf Litter, Artificial Debris, Bark Exfoliations, Terrestrial Termitaria

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Gully (dry)

Tuesday 14th February 2023

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

Arboreal Microhabitats: No. flagged tree/s felled: 0

Nest Y N Hollows Y N Arboreal termitaria Y N Others: Exfoliating Bark, Nest Box

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, Artificial Debris, Dry Gilgai

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

Wednesday 15th February 2023

- Pre-clearance inspection carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Nest box relocation carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found
- 1 tree flagged
- Two personnel in attendance

Arboreal Microhabitats: No. flagged tree/s felled: 8

Nest - inactive Y N Hollows Y N Arboreal termitaria Y N

Other: Exfoliating Bark, Nest box

No. & size of hollow/s (mm): 50-99: 1, 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: Bark Exfoliations, Artificial Debris, Dense Leaf Litter, Dense Ground Cover

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Gilgai

Thursday 16th February 2023

- Pre-clearance inspection carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Nest box relocation carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found.
- 1 tree flagged
- Two personnel in attendance

Arboreal Microhabitats: No. flagged tree/s felled: 6

Nest Y N Hollows Y N Arboreal termitaria Y N Other: Nest box

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 Grass, Lantana, Bark Exfoliations, Timber stockpiles, Dense Leaf Litter

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Inundated grass

Friday 17th February 2023

- Pre-clearance inspection carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Nest box relocation 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: 6

Nest Y N Hollows Y N Arboreal termitaria Y N Other: Nest box, exfoliating bark

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

Terrestrial Microhabitats:

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

Others: Bark Exfoliations

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

Monday 20th February 2023

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

Arboreal Microhabitats: No. flagged tree/s felled: 3

Nest Y N Hollows Y N Arboreal termitaria 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

Others: Bark Exfoliations, Dense Leaf Litter, Terrestrial Termitaria

Aquatic habitat/s: Dam Y N Creek Y N Wetland Y N Other: Gully (dry)

No Fauna Found

Tuesday 21st February 2023

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

Arboreal Microhabitats: No. flagged tree/s felled: 7

Nest - inactive Y N Hollows Y N Arboreal termitaria Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 100-149: 1, 200-249: 1, 250-299: 1

Terrestrial Microhabitats:

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

Others: Dense grass

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

No Fauna Found

Wednesday 22nd February 2023

- Pre-clearance inspection carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- 2 Trees flagged.
- One personnel in attendance

Arboreal Microhabitats: No. flagged tree/s felled: 8

Nest – inactive Y N Hollows Y N Arboreal termitaria Y N Others: 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

Others: Terrestrial Termitaria, Dense Leaf Litter

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

No Fauna Found

Thursday 23rd February 2023

- Pre-clearance inspection carried out (refer to Methodology) at Teviot Road, Flagstone
- Vegetation clearance carried out at Teviot Road, Flagstone
- Nest box relocation 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: 2

Nest Y N Hollows Y N Arboreal termitaria Y N Other: Nest box, 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

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

Friday 24th February

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

Arboreal Microhabitats: No. flagged tree/s felled: 1

Nest Y N Hollows Y N Arboreal termitaria Y N

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

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 27th February 2023

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

Arboreal Microhabitats: No. flagged tree/s felled: 5

Nest Y N Hollows Y N Arboreal termitaria Y N Other: Exfoliating bark

No. & size of hollow/s (mm): 50-99: 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

Tuesday 28th February 2023

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

Arboreal Microhabitats: No. flagged tree/s felled: 4

Nest - inactive Y N Hollows Y N Arboreal termitaria Y N Other: Exfoliating bark

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

Terrestrial Microhabitats:

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

Others: Dense Lantana

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			
Diamantina Ward	13/02/2023	14:52	Riverbend – Teviot Road, Flagstone	27.823	152.9734	Alive	Least Concern	Lace Monitor <i>Varanus varius</i>	1	13/02/2023	-27.8234	152.9734	X					Self-relocated to vegetation outside of clearing area	Adult
Diamantina Ward	14/02/2023	09:30	Riverbend – Teviot Road, Flagstone	-27.8301	152.9721	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	14/02/2023	-27.8312	152.9719	X					Relocated within original nest box	Found in nest box
Diamantina Ward	14/02/2023	09:39	Riverbend – Teviot Road, Flagstone	-27.8300	152.9721	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	14/02/2023	-27.8309	152.9723	X					Relocated within original nest box	Found in nest box
Diamantina Ward	14/02/2023	13:10	Riverbend – Teviot Road, Flagstone	-27.8326	152.9690	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	14/02/2023	-27.8324	152.9687	X					Relocated within original nest box	Found in nest box

Diamantina Ward	15/02/2023	12:14	Riverbend – Teviot Road, Flagstone	-27.8331	152.9760	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	15/02/2023	-27.8306	152.9769	X				Relocated within original nest box	Found in nest box
Diamantina Ward	15/02/2023	14:02	Riverbend – Teviot Road, Flagstone	-27.8325	152.9768	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	15/02/2023	-27.8316,	152.9767	X				Relocated within original nest box	Found in nest box
John Bolton	15/02/2023	07:59	Riverbend – Teviot Road, Flagstone	-27.8299	152.9726	Alive	Least Concern	Red-bellied Black Snake <i>Pseudechis porphyriacus</i>	1	15/02/2023	-27.8315	152.9721	X				Into creek within protection zone	
Diamantina Ward	16/02/2023	08:07	Riverbend – Teviot Road, Flagstone	27.8329	152.9773	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	16/02/2023	-27.8312	152.9775	X				Relocated within original nest box	Found in nest box
Diamantina Ward	16/02/2023	08:50	Riverbend – Teviot Road, Flagstone	27.8327	152.9770	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	3	16/02/2023	-27.8314	152.9778	X				Relocated within original nest box	Found in nest box

Diamantina Ward	16/02/2023	09:54	Riverbend – Teviot Road, Flagstone	-27.8325	152.9769	Alive	Least Concern	Australian Owllet-Nightjar <i>Aegotheles cristatus</i>	3	16/02/2023	-27.8320	152.9768	X				Relocated within original nest box	3 x juveniles found in nest box, Parent was in nest box prior to relocation, but flushed.
Diamantina Ward	16/02/2023	13:52	Riverbend – Teviot Road, Flagstone	-27.8319	152.972	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	16/02/2023	-27.8314	152.9722	X				Relocated within original nest box	Found in nest box
Diamantina Ward	16/02/2023	14:34	Riverbend – Teviot Road, Flagstone	-27.8326	152.9698	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	4	16/02/2023	-27.8322	152.9692	X				Relocated within original nest box	Found in nest box
Diamantina Ward	16/02/2023	15:56	Riverbend – Teviot Road, Flagstone	-27.8299	152.9734	Alive	Least Concern	Long-nosed Bandicoot <i>Perameles nasuta</i>	1	16/02/2023	NA	NA	X				Self-relocated into lantana thicket	
John Bolton	16/02/2023	11:01	Riverbend – Teviot Road, Flagstone	-27.8304	152.9712	Deceased	Special Least Concern	Short-beaked Echidna <i>Tachyglossus aculeatus</i>	1	16/02/2023	NA	NA				X		Found deceased in dense Lantana thicket after machine tracked through. Was not visible.

John Bolton	16/02/2023	15:08	Riverbend – Teviot Road, Flagstone	-27.8295	152.9736	Alive	Least Concern	Red-bellied Black Snake <i>Pseudechis porphyriacus</i>	1	16/02/2023	-27.8315	152.9720	X					Into vegetation next to creek within protection zone.
Chris Hay	17/02/2023	06:46	Riverbend – Teviot Road, Flagstone	-27.8304	152.9726	Alive	Least Concern	Eastern Grey Kangaroo <i>Macropus giganteus</i>	9	17/02/2023	-27.8304	152.9726	X					Self-relocated into bushland adjacent to clearing area
Chris Hay	17/02/2023	07:08	Riverbend – Teviot Road, Flagstone	-27.8294	152.9743	Alive	Least Concern	Red-backed Fairy-wren <i>Malurus melanocephalus</i>	6	17/02/2023	-27.8294	152.9742	X					Self-relocated into adjacent Lantana thicket
Chris Hay	17/02/2023	08:17	Riverbend – Teviot Road, Flagstone	-27.8302	152.9730	Alive	Least Concern	Red-browed Finch <i>Neochmia temporalis</i>	3	17/02/2023	-27.8302	152.9730	X					Self-relocated into bushland adjacent to clearing area
Chris Hay	17/02/2023	11:18	Riverbend – Teviot Road, Flagstone	-27.8304	152.9739	Alive	Least Concern	Elegant Snake-eyed Skink <i>Cryptoblepharus pulcher</i>	2	17/02/2023	27.8304	152.9739	X					Onto tree trunk

Chris Hay	17/02/2023	14:40	Riverbend – Teviot Road, Flagstone	-27.8297	152.9742	Alive	Introduced	Dingo (intr.) <i>Canis lupus dingo</i>	2	17/02/2023	-27.8298	152.9742	X					Seen moving through work area, self- relocated	
Diamantina Ward	17/02/2023	09:44	Riverbend – Teviot Road, Flagstone	-27.8290	152.9597	Alive	Least Concern	Common Brush-tail Possum <i>Trichosurus vulpecula</i>	1	17/02/2023	-27.8327,	152.9679	X					Relocated within original nest box	Found in nest box
Diamantina Ward	17/02/2023	09:56	Riverbend – Teviot Road, Flagstone	-27.8290	152.9597	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	4	17/02/2023	-27.8328	152.9679	X					Relocated within original nest box	Found in nest box
Diamantina Ward	17/02/2023	10:07	Riverbend – Teviot Road, Flagstone	-27.8289	152.9600	Alive	Least Concern	Common Brush-tail Possum <i>Trichosurus vulpecula</i>	1	17/02/2023	-27.8325	152.9684	X					Relocated within original nest box	Found in nest box
Diamantina Ward	17/02/2023	10:15	Riverbend – Teviot Road, Flagstone	-27.8286	152.9596	Alive	Least Concern	Common Brush-tail Possum <i>Trichosurus vulpecula</i>	1	17/02/2023	-27.8326	152.9681	X					Relocated within original nest box	Found in nest box

Diamantina Ward	17/02/2023	10:22	Riverbend – Teviot Road, Flagstone	-27.8287	152.9594	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	17/02/2023	27.8332	152.9675	X				Relocated within original nest box	Found in nest box
Diamantina Ward	23/02/2023	08:53	Riverbend – Teviot Road, Flagstone	-27.8324	152.9697	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	23/02/2023	27.8321	152.9692	X				Relocated within original nest box	Found in nest box
Diamantina Ward	23/02/2023	10:57	Riverbend – Teviot Road, Flagstone	-27.8324	152.9644	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	1	23/02/2023	-27.8325	152.9642	X				Relocated within original nest box	Found in nest box
Diamantina Ward	23/02/2023	11:33	Riverbend – Teviot Road, Flagstone	-27.8318	152.9623	Alive	Least Concern	Gould's Wattled Bat <i>Chalinolobus gouldii</i>	1	23/02/2023	-27.8317	152.9626	X				Relocated within original nest box	Found in nest box
Diamantina Ward	23/02/2023	11:46	Riverbend – Teviot Road, Flagstone	-27.8317	152.9623	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	3	23/02/2023	-27.832	152.9629	X				Relocated within original nest box	Found in nest box

John Bolton	28/02/2023	13:35	Riverbend – Teviot Road, Flagstone	-27.8331	152.9820	Alive	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	1	28/02/2023	NA	NA	X					Self-relocated into adjacent vegetation
John Bolton	28/02/2023	15:12	Riverbend – Teviot Road, Flagstone	-27.8327	152.9815	Alive	Least Concern	Common Tree Snake <i>Dendrelaphis punctulatus</i>	1	28/02/2023	-27.8319	152.9812	X					Released into tree beside creek

5 Conclusion

All vegetation clearance was supervised as requested by Winslow and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

No Koalas were observed during clearance. 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.

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

Menkhorst, K. & Knight, F. (2011) *A Field Guide to the Mammals of Australia*. 3rd edn. Oxford University Press, South Melbourne.

Simpson, K. & Day, N. (2004) *Field Guide to the Birds of Australia*. Penguin Group, Australia

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Wilson, S. (2015) *A Field Guide to Reptiles of Queensland*. 2nd edn, Sydney: New Holland Publishers.

7 Appendix A: Fauna Photos



Squirrel Gliders inside nest box
Petaurus norfolcensis



Red-bellied Black Snake
Pseudechis porphyriacus



Common Brushtail Possum inside nest box
Trichosurus vulpecula

Fauna Management and Spotter/Catcher Services Report

Riverbend – Teviot Road, Flagstone
Report prepared for Winslow



Report prepared by
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Date:	21/03/2023
Title:	Fauna Management and Spotter/Catcher Services Report Riverbend – Teviot Road, Flagstone
Author/s:	Bryan Robinson, Willow Sorbello
Reviewed by:	Jasmine Zeleny
Field personnel:	Diamantina Ward, John Bolton, Chris Hay, Madelynne O'Neill, Matthew McNamara
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1 Introduction

Qld Fauna Consultancy Pty Ltd has been engaged by 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 March 2023.

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.

Wednesday 1st March 2023

- 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

Arboreal Microhabitats: No. flagged tree/s felled: 0

Nest Y N Hollows Y N Arboreal termitaria Y N

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

Terrestrial Microhabitats:

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

Others: Dense Lantana

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

No Fauna Found

Tuesday 14th March 2023

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

Arboreal Microhabitats: No. flagged tree/s felled: 0

Nest Y N Hollows Y N Arboreal termitaria Y N Others: Exfoliating Bark, Fissure

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

Terrestrial Microhabitats:

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

Others: Terrestrial Termitaria, Artificial Debris, Dense Leaf Litter

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

No Fauna Found

Wednesday 15th March 2023

- 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.
- 26 trees flagged.
- Two personnel in attendance.

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

Nest Y N Hollows Y N Arboreal termitaria Y N Other: Exfoliating Bark, Fissure

No. & size of hollow/s (mm): 0-49: 6, 50-99: 2, 100-149: 4, 150-199: 5, 200-249: 2

Terrestrial Microhabitats:

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

Others: Terrestrial Termitaria, Dense Leaf Litter, Bark Exfoliations

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

Thursday 16th March 2023

- 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: 8

Nest Y N Hollows Y N Arboreal termitaria Y N Others: Exfoliating Bark, Fissure

No. & size of hollow/s (mm): 0-49: 2, 200-249: 3, 300+: 1

Terrestrial Microhabitats:

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

Others: Terrestrial Termitaria, Bark Exfoliations, Dense Leaf Litter, Artificial Debris

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

Monday 27th March 2023

- 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: 3

Nest Y N Hollows Y N Arboreal termitaria Y N Others: Nest Box

No. & size of hollow/s (mm): 0-49: 1

Terrestrial Microhabitats:

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

Others: Terrestrial Termitaria

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

No Fauna Found

Friday 31st March 2023

- Nest box relocation carried out at Teviot Road, Flagstone
- Refer to **Fauna Register** for fauna found.
- 0 trees flagged.
- One personnel in attendance

Arboreal Microhabitats: No. flagged tree/s felled: 0

Nest Y N Hollows Y N Arboreal termitaria Y N Others: Nest box

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

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

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		
Diamantina Ward	15/03/2023	12:58	Riverbend – Teviot Road, Flagstone	-27.8280	152.9570	Alive/ Euthanised	Least Concern	Yellow-footed Antechinus <i>Antechinus flavipes</i>	2	15/03/2023	NA	NA	1		1		One individual self-relocated.	One individual self-relocated, the other was humanely euthanised by FSC due to fatal injuries.
Madelynne O'Neill	15/03/2023	11:25	Riverbend – Teviot Road, Flagstone	-27.8284	152.9590	Deceased	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	NA	NA	NA			X		NA	Found deceased inside hollow after the tree was dropped, searched the tree but no other colony members were found. Found in Hollow: 150-199mm

Madelynne O'Neill	15/03/2023	16:40	Riverbend – Teviot Road, Flagstone	-27.8267	152.9598	Injured	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	NA	NA	NA	V					Taken to vet due to injuries sustained during felling	Vet Love: shop 7, corner of homestead and wild mint drive, Jimboomba, QLD (07) 5546 0315 Searched the tree extensively, no other found. Found in hollow: 150-199mm
Chris Hay	16/03/2023	09:14	Riverbend – Teviot Road, Flagstone	-27.8295	152.9588	Alive	Least Concern	Tawny Frogmouth <i>Podargus strigoides</i>	1	16/03/2023	-27.8295	-27.8295	X					Self-relocated into adjacent tree	Sitting on low branch at 1.5 metres above ground. Was encouraged to fly out of clearing zone by FSC and self-relocated.

Diamantina Ward	16/03/2023	11:21	Riverbend – Teviot Road, Flagstone	-27.8300	152.9617	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	1	16/03/2023	NA	NA	X				Self-relocated into timber stockpile, timber left overnight to allow animal to self-relocate.
Diamantina Ward	31/03/2023	08:12	Riverbend – Teviot Road, Flagstone	-27.8279	152.9644	Alive	Least Concern	Common Brushtail Possum <i>Trichosurus vulpecula</i>	2	31/03/2023	-27.8279	152.9651	X				Released into tree hollow in state forest
Diamantina Ward	31/03/2023	08:43	Riverbend – Teviot Road, Flagstone	-27.8282	152.9645	Alive	Least Concern	Australian Owlet-Nightjar <i>Aegotheles cristatus</i>	1	31/03/2023	-27.8285	152.9651	X				Released into tree hollow in state forest
Diamantina Ward	31/03/2023	08:46	Riverbend – Teviot Road, Flagstone	-27.8284	152.9646	Alive	Least Concern	Squirrel Glider <i>Petaurus norfolcensis</i>	4	31/03/2023	-27.8288	152.9645	X				Released into tree hollow in state forest (several hollow-bearing trees also present around release tree.

5 Conclusion

All vegetation clearance was supervised as requested by Winslow and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

No Koalas were observed during clearance. 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/injured 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

Menkhorst, K. & Knight, F. (2011) *A Field Guide to the Mammals of Australia*. 3rd 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*, 3rd edn Sydney: New Holland Publishers.

Publishers.

7 Appendix A: Fauna Photos



Squirrel Glider
Petaurus norfolcensis



Tawny Frogmouth
Podargus strigoides



Common Brushtail Possum
Trichosurus vulpecula



Squirrel Gliders
Petaurus norfolcensis

Appendix E


Offset Area Management Report – Year 3



Aroona Station Offset Area Management Report –Year 3

EPBC 2016/7724

V1 | January 2024



QTFN acknowledges the Traditional Custodians of Country throughout Australia and their diverse and continuing connections to land, sea and community. We acknowledge they were the first conservationists and scientists and have cared for this land for future generations. We pay our respect to their Elders past, present and emerging and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

This report was prepared on the Traditional Lands of the Jagera and Turrbal Peoples.

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Disclaimer

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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.

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 third submitted to date since the approval date for the offset (EPBC 2016/7724) on the 28th 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	4 December 2023 + 3 months	Submitted January 2024
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.

Reporting period for this report is 4th December 2022 until 3rd December 2023.

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
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.	Ongoing
10. The approval holder must demonstrate the extent of weed cover across the whole Aroona Offset Site is:	Ongoing
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.	
Stock Management	
13. To facilitate the outcomes prescribed under conditions 15 -18, the approval holder must:	Ongoing
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: 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;	Ongoing
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.	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
Habitat Creation	

Approval Condition	Compliant
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. 18b. Complete all planting and direct seeding of new Koala Habitat and Grey-headed Flying-fox foraging habitat by the end of year 2.	Complete.

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 4th 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 90 km from Laidley, through Mount Mort to Thornton and Mulgowie, and encompasses 20,400 ha of land. It is an important wildlife corridor, providing habitat for several 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 highest mean maximum and lowest minimum temperature of 31.7°C and 6.3°C respectively for 2023. The annual rainfall is 572 mm up to November 2023 (BoM 2023), with the wettest month in January and the driest month in October. 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 670 m 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

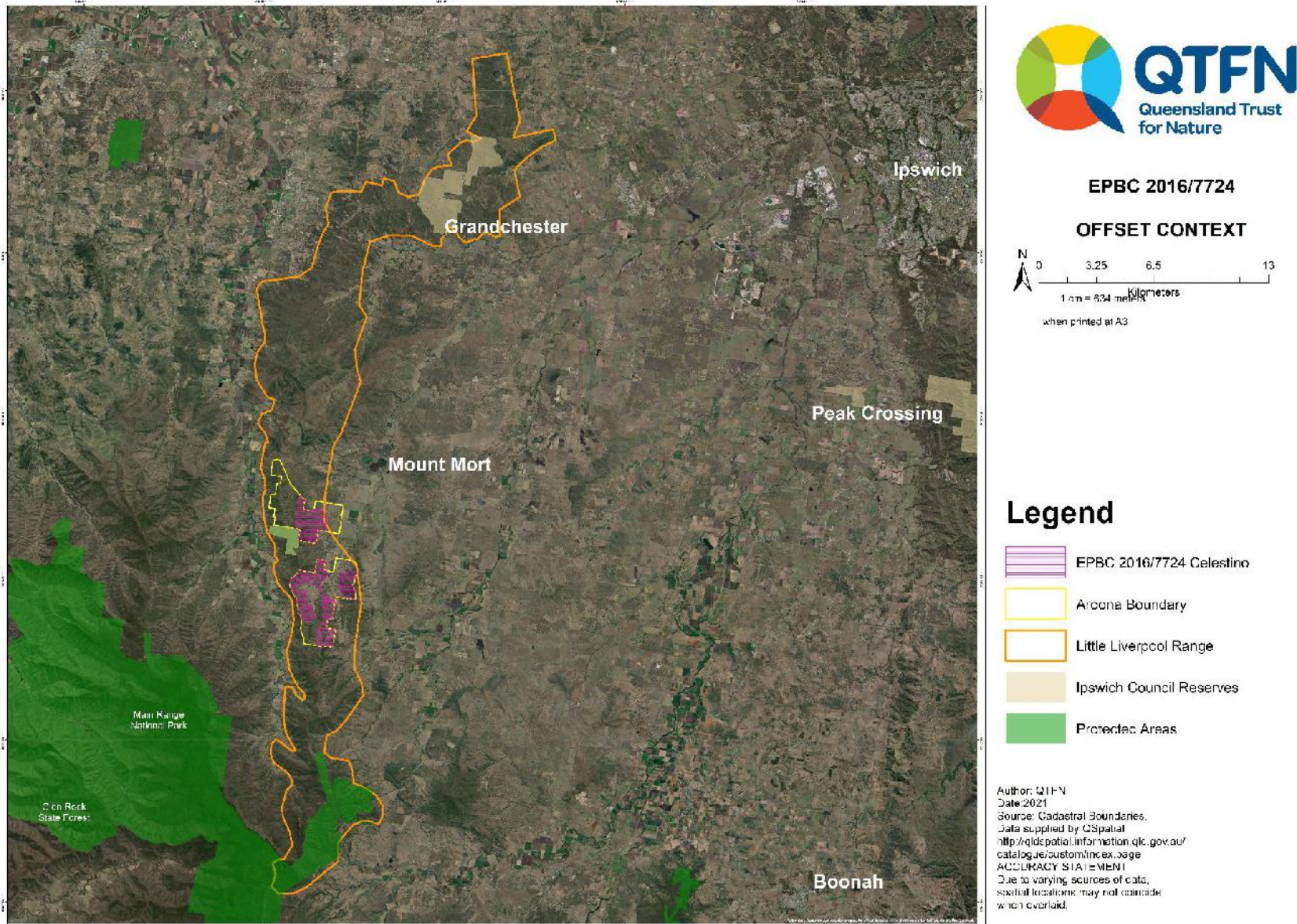
- Tit SEQ: Tertiary: trachyte (anorthoclase and riebeckite trachyte)
- Jbmk: Jurassic; lithofeldspathic labile and sublabile to quartzose sandstone, siltstone, shale, minor coal, ferruginous oolite marker
- Jbmg: Jurassic; lithic labile and feldspathic labile sandstone

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.

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 in 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 primary revegetation within the offset area have been completed and are now in maintenance phase. This includes 25.5 ha of tree planting and 40 ha of aerial seeding of the upland cleared pasture.

The extended wet season into the first half of the year has proven beneficial for the tree plantings. Saplings are showing healthy growth and high survival rates (>80%) amongst the long grass (Figure 1). Saplings range from 50 cm in height to approximately one metre across the revegetation sites. Forecasted summer rains will further assist the revegetation. Assessments will be conducted again next year to assess the requirement for infill planting.

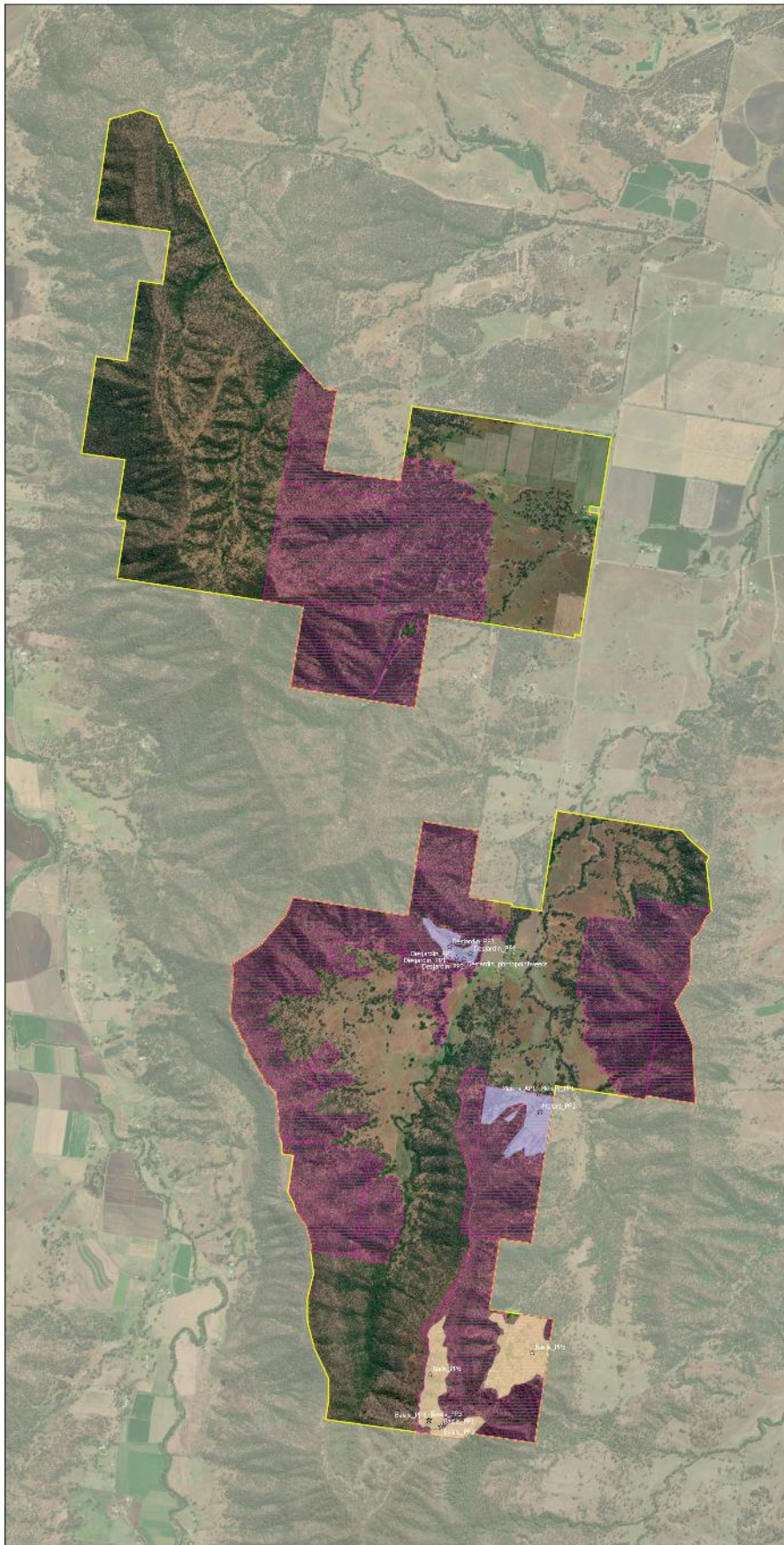
Similar is to be said about the direct seeding event. The ecological burn followed by aerial seeding of native seeds was conducted in October 2022. The ecological burn was cool and provided a substantial ash bed for native seed to germinate (Figure 6) Saplings have been observed scattered throughout the restoration site in low densities. Areas that are lacking recruitment will be supplemented with additional seed. A preliminary trial of seed bowls (Figure 1) commenced in November 2023 and will be monitored closely. Seed bowls are a conglomerate mixture of native seeds, nutrients (compost, biochar, calcium bentonite) and binding liquids (water and Seasol). They were dispersed at a density of 115 bowls per hectare within a 3ha trial plot, in the days following approximately 100 mm of rain. Monitoring of germination will be conducted. Additional seed bowls are expected to be dispersed in February 2024.

Further consideration of corrective action will be taken in the next monitoring period to ensure the direct seeding area is on track to reach Year 5 milestones. Due to the remote location and terrain of the direct seeding area, revegetation methods are limited. Hence, why direct seeding approach was initially utilized.



Figure 1. Habitat creation. Top/Middle - One year old saplings amongst grass in revegetation paddock. Bottom – seed bowl trial. .

Map 2. Habitat Creation - revegetation zones

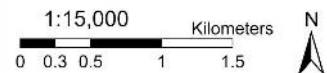


AROONA

Habitat Creation

- Aroona Station
- ▨ EPBC2016/7724
- ⊛ Reveg Photo Monitoring Points
- Revegetation Method
 - Direct Seed
 - ▨ Tube Stock Planting

Author: QTFN
Date: 2023
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.



2.2 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

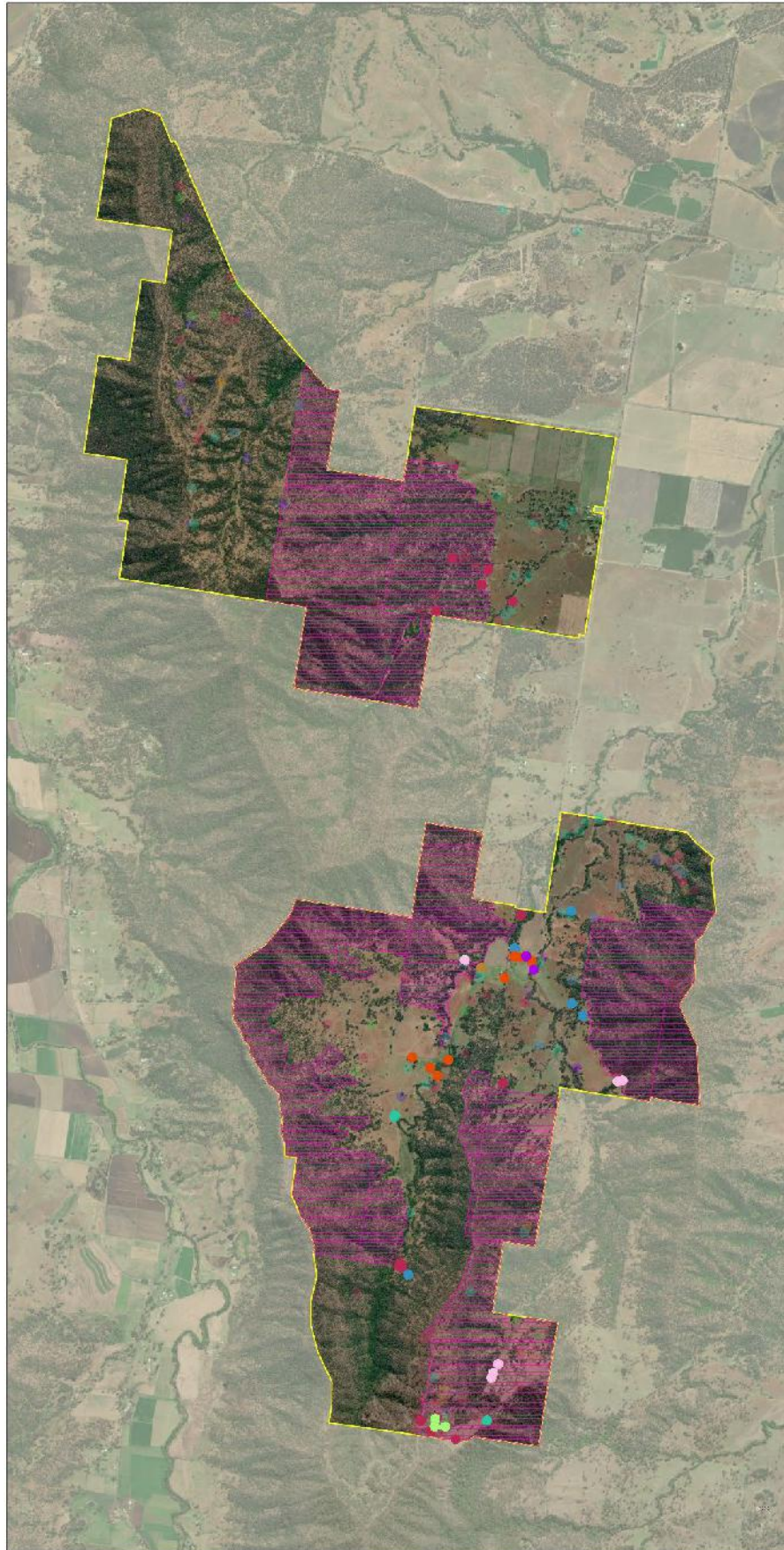
Flowering grey-headed flying fox forage trees were GPS located and recorded throughout the reporting year (Map 3) This allowed for a spatial and seasonal representation of food availability in between milestone reporting years (5 yearly). Grey-headed flying fox individuals were observed on the property in September 2023.

The abundance and coverage of flowering trees appeared lower than the previous year, perhaps related to climatic or seasonal variations. However, forage was observed year round. *Corymbia intermedia* and *Eucalyptus tereticornis* were the most dominant flowering forage tree, consistent with previous years. Further, a subspecies of *E. tereticornis*, *E. tereticornis basaltica* was observed flowering the high country during late winter.

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											X	
<i>Melia azedarach</i>	Y	Y												
<i>Corymbia intermedia</i>	Y	-			X	X	X			X				
<i>Corymbia tessellaris</i>	Y	Y												
<i>Eucalyptus crebra</i>	Y	Y				X							X	
<i>Eucalyptus melanophloia</i>	Y	Y												
<i>Eucalyptus melliodora</i>	-	Y								X				
<i>Eucalyptus tereticornis</i>	Y	Y								X	X		X	
<i>Ficus coronata</i>	-	Y												
<i>Ficus opposita</i>	Y	Y												
<i>Grevillea robusta</i>											X			

Map 3. GHFF forage trees in flower across offset area.

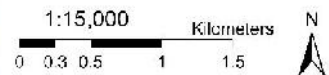


AROONA

GHFF Monitoring

- Aroona Station
- EPBC2016/7724
- GHFF Forage Food Tree
- *Corymbia intermedia*
- *Eucalyptus crebra*
- *Eucalyptus tereticornis*
- *Eucalyptus tereticornis basaltica*
- *Eucalyptus melliodora*
- *Grevillea robusta*
- *Lophostemon confertus*
- *Ficus* sp.

Author: QTFN
Date: 2023
Source: Cadastral Boundaries,
Data supplied by QSpatial
[http://oldspatial.information.qld.gov.au/
catalogue/custom/index.page](http://oldspatial.information.qld.gov.au/catalogue/custom/index.page)
ACCURACY STATEMENT
Due to varying sources of data,
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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
Opportunistic observations	Annually	Scat monitoring, wildlife camera observations, and opportunistic searches	Demonstrated presence and usage of koalas across the offset area.
SAT surveys (Phillips and Callaghan 2011)	5-yearly, at year 5, 10, 15 and 20	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

2.3.1 Management actions and species occurrence

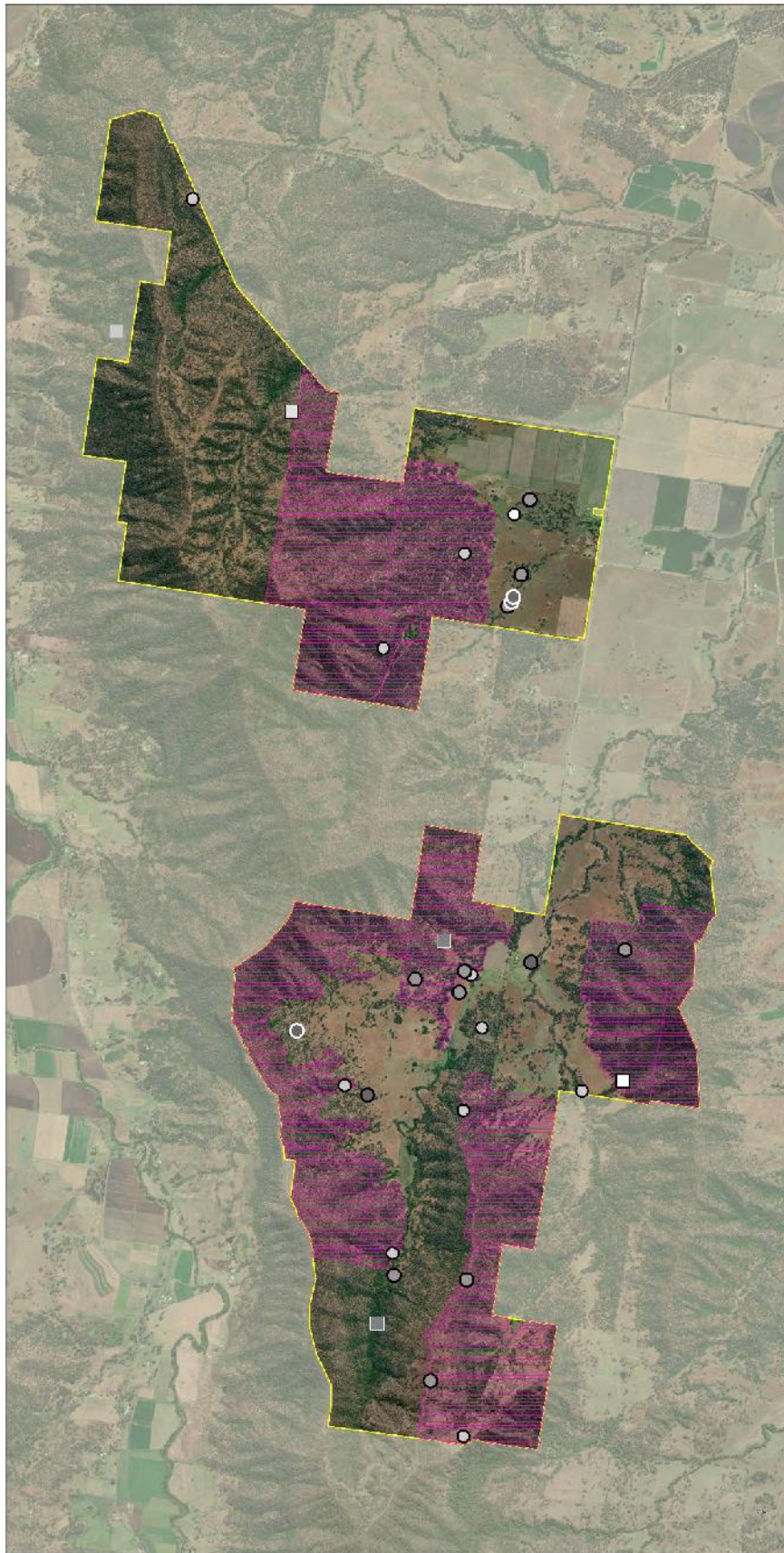
Opportunistic scat surveys were conducted across the reporting period (Map 4).

One koala was observed within the EPBC2016/7724 offset area during the routine camera trap season of winter 2023 (Figure 2).



Figure 2. Koala observed on Aroona Station.

Map 4. Koala occurrence.



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 Neldner *et al* 2022 in a 100 x 10m transect (Map 5). 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 Neldner *et al* 2022 in a 100 x 10m transect. Photo points were recorded at each transect so that the progress of the site could be monitored and are in 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 (*Dolichandra 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

Offset specific trends

An increase in *Lantana camara* extent (77%) and coverage (100%) within the offset area can be attributed to re-emergence post the ecological burn conducted as part of the direct seeding event (follow up treatment has been coordinated). While the burn provided a 50% coverage mosaic, dense patches of *Lantana camara* remain in the gullies adjacent to survey transects. A decline in *Schinus terebinthifolius* (4%) is consistent with targeted treatment along watercourses. All species remain at or below the property maximum.

Property wide trends

Across the Aroona Station property, woody weed cover remains relatively stable with mixed trends across species (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.

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.

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 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. Since rainfall has reduced and access to the property improved, weed control has been conducted across a broader scale when the pest plants are transpiring.

Cognisant of 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), QTFN has entered into a long-term contract agreement with an ecological restoration service provider. This contractor will conduct weed control in coordination with ecological burns across the offset area to ensure progress is made, and compliance with Approval Conditions maintained, to the best of our ability. Due to the large scale at which works are conducted, multiple work zones are active across the lowlands and upland forests to allow for flexibility and adaptability to weather conditions. Management during this reporting period is shown in Map 6 with progress made along Gehrke Creek alongside revegetation and moving into the high country. As access improves, and treatment windows open, a targeted and intensive management approach will be undertaken.

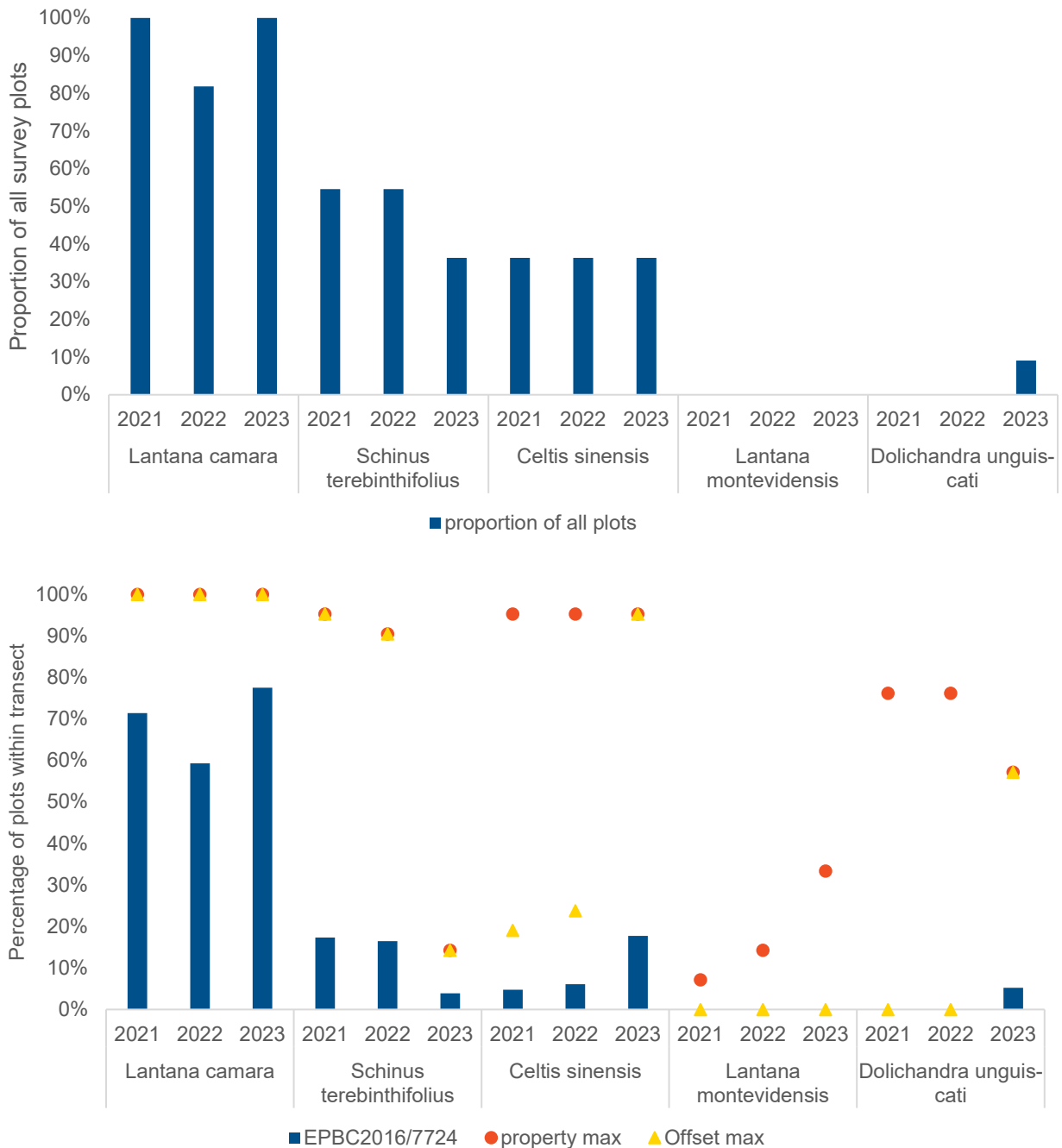


Figure 3. The percentage of the weed transects across EPBC 2016/7724 offset site with weed cover (top), and the average percent coverage of all transects across offset site (bottom) with maximum coverage across whole of property (red circle) and offset specific (yellow triangle).

Map 5. Weed extent across the property, the larger the circle the higher the density within the transect sampled, x= absent.



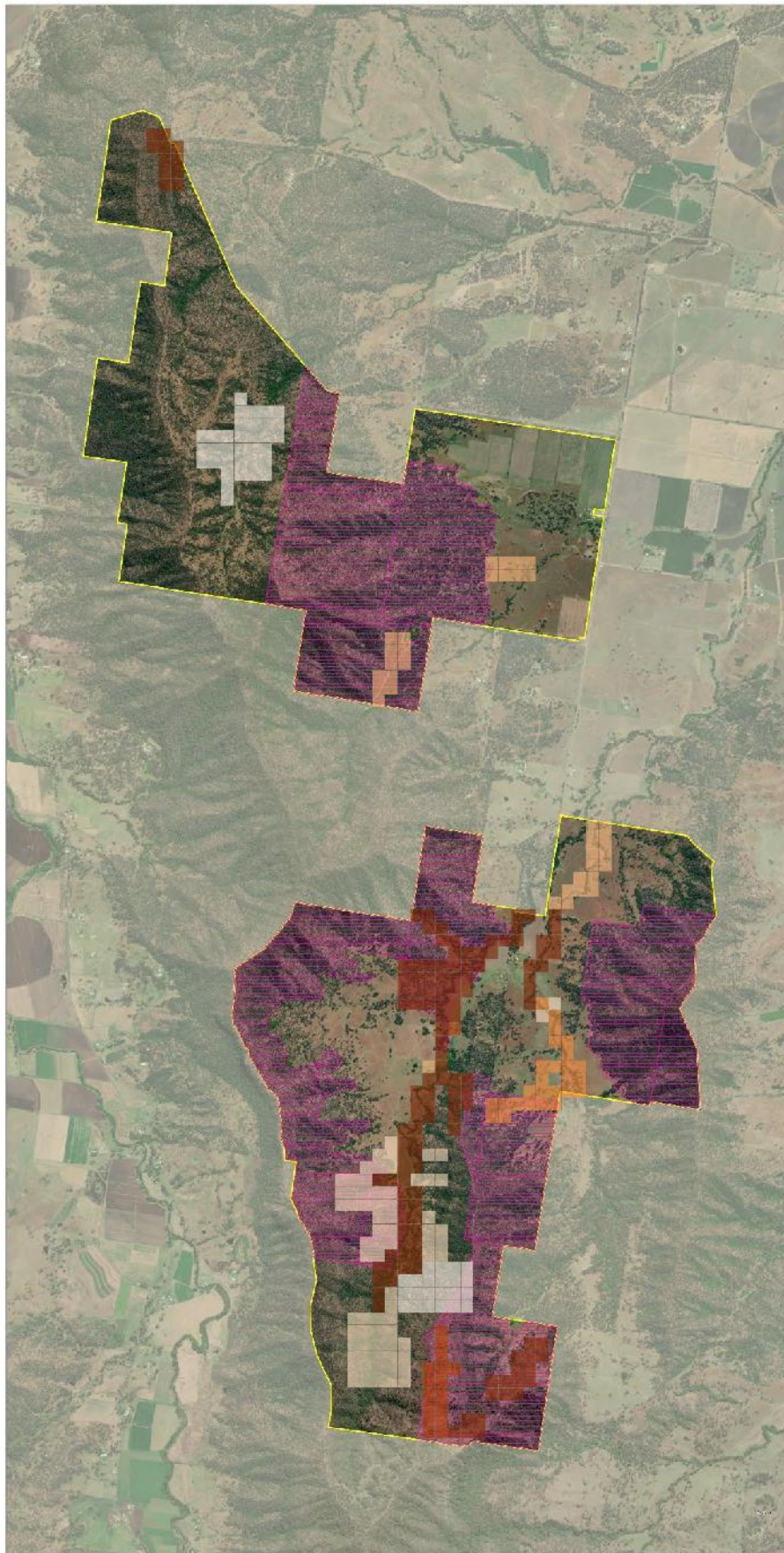
Lantana camara

Schinus terebinthifolius

Celtis sinensis

Dolichandra unguis-cati

Map 6. Weed treatment area.

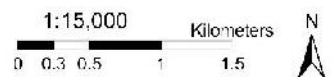


AROONA

Weed Management

- Aroona Station
- ▨ EPBC2016/7724
- ACTIVE_WeedTreatmentArea
- Treatment to date
- 2016
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023

Author: QTFN
Date: 2023
Source: Cadastral Boundaries,
Data supplied by QSpatial
<http://qldspatial.information.qld.gov.au/catalogue/custom/inccx.page>
ACCURACY STATEMENT
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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 7). 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.

Dogs (*Canis lupus familiaris/dingo*), foxes (*Vulpes vulpes*) and feral cats (*Felis catus*) have been recorded within the Aroona Station property.

A significant increase in pest fauna relative abundance is observed for the winter 2023 season, despite active management and removal of wild dog individuals. Multiple contributing factors may explain this peak, including bottom-up factors such as weather, climate, prey abundance, or top-down factors relating to behavioural response to lethal control actions.

Under the meso-predator release hypothesis, an increase in wild dogs would suggest a suppression of meso-predators such as the fox and feral cat. However, this is not observed within this sampling season, as an increase in activity was observed across all species. This inter-species trend may be attributed to a high abundance of prey available and little competition between the predatory species (Castle *et al.* 2021). Scat analysis demonstrates a low diversity of prey species consistent with findings from Tatler *et al.* 2019 stating that during boom seasons with abundant prey, wild dog diet become less diverse and includes small mammals. It should be known this interpretation is limited by a low sample size analysed. Typically, wild dogs predate on medium to large mammals, whereas foxes will consume small to medium mammals (Davis *et al.* 2015, Castle *et al.* 2021). Northern brown bandicoots contributed to a large portion of wild dog diet, according to the scat analysis during this period. This is consistent with camera trap observations suggesting a seasonal boom in the species population, not atypical for this species ecology in response to resource availability and rainfall. Despite a below average rainfall year, resources remain adequately. As we are seeing an increase in activity (high RAI scores) across all predatory species and a low diversity diet it is possible the increase is related to an abundance of easy prey following the past extensive wet seasons.

During this monitoring period, several wild dogs were actively removed from the population. Wild dogs are territorial and form packs of varying sizes from breeding pairs to family groups. Pack dynamics facilitate hunting success, with functional packs of individuals working together able to hunt larger prey species (i.e. kangaroos, cows). Fragmentation of this social structure may cause changes to their behaviour, including switching to alternative prey that is easier to capture, or increased activity of young individuals seeking to claim empty territories.

It cannot be said with certainty what caused this increase in pest fauna abundance, but it is likely that a combination of the above factors contributed. It is to be noted that no threatened species, including koala were present in scat samples, nor any predator related mortality of koalas observed.

Active management of pest fauna species will continue, and monitoring will continue to determine if this is a short-term response to active management or seasonal factors.

Pigs (*Sus scrofa*) have also been observed in the property, mimicking RAI and occupancy trends of non-native predators. There was minimal evidence of pigs in the revegetation area and no disturbance observed. Management action will continue to be taken.

Native Fauna Observed

A high abundance of wallabies was observed with active breeding, particularly red-neck wallaby (*Notamacropus rufogriseus*) and whip tail wallaby (*Notamacropus parryi*). Additionally, small-medium mammal activity is high represented by long-nosed bandicoots (*Perameles nasuta*), northern brown bandicoots (*Isodon macrourus*), brush-tailed phascogale (*Phascogale tapoatafa*), common brush-tailed possum (*Trichosurus vulpecula*) and short-eared brush-tail possum (*Trichosurus caninus*). A diversity of native birds was also observed. One koala (*Phascolarctos cinereus*) was observed at Camera F (see Section 2.3 for more information).

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
06_SUM_2022	3	3	0	1
07_WIN_2023	6	6	1	6

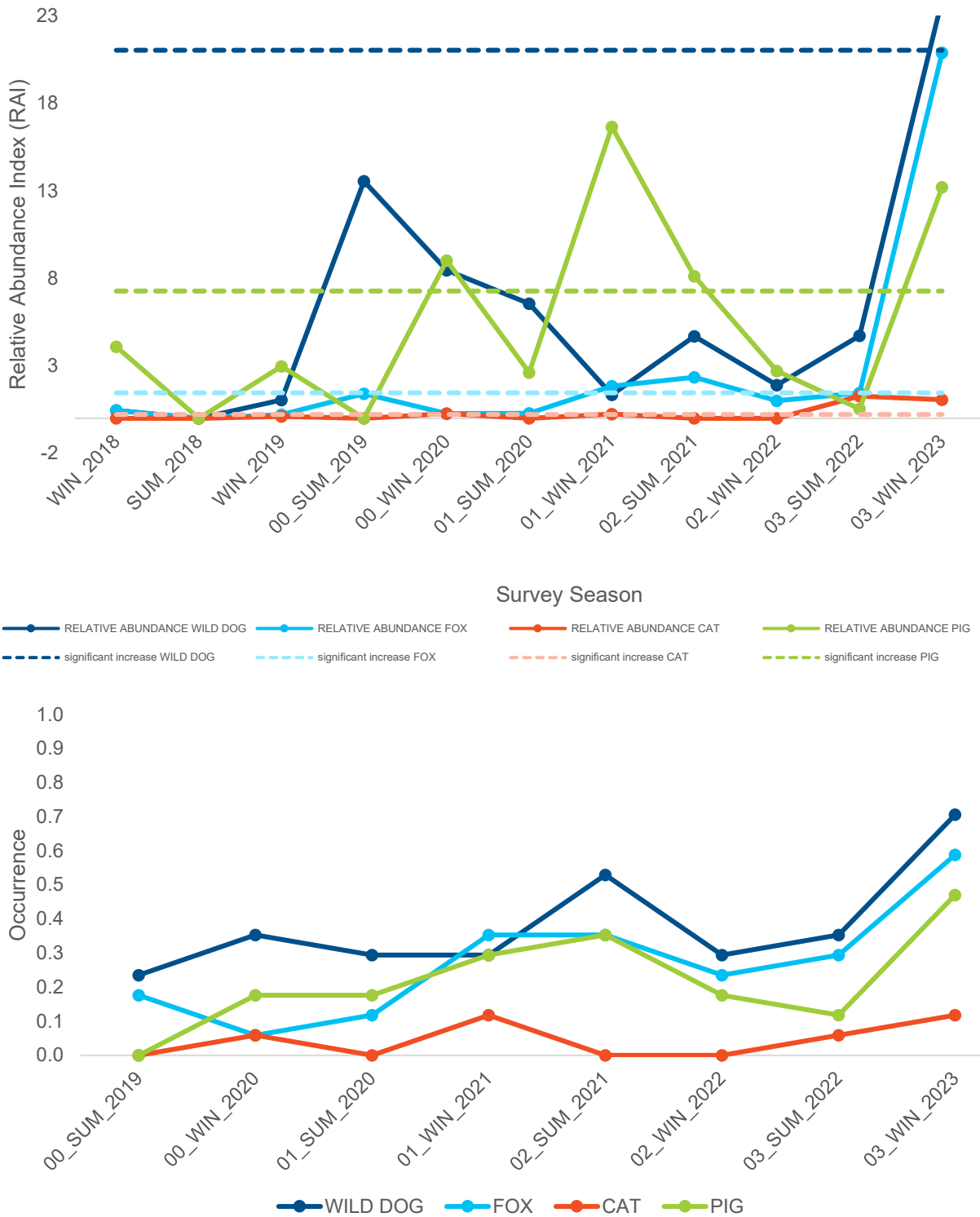


Figure 4. Relative Abundance Index (RAI) and Occupancy of predators across camera traps, and confidence limit threshold to show future deviations from the baseline.

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 seven years, macropods 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 6).

Predator scats continue to be found across the Aroona Station site and within the EPBC 2016/7724 offset area (Map 7). 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 small mammals (Table 7).

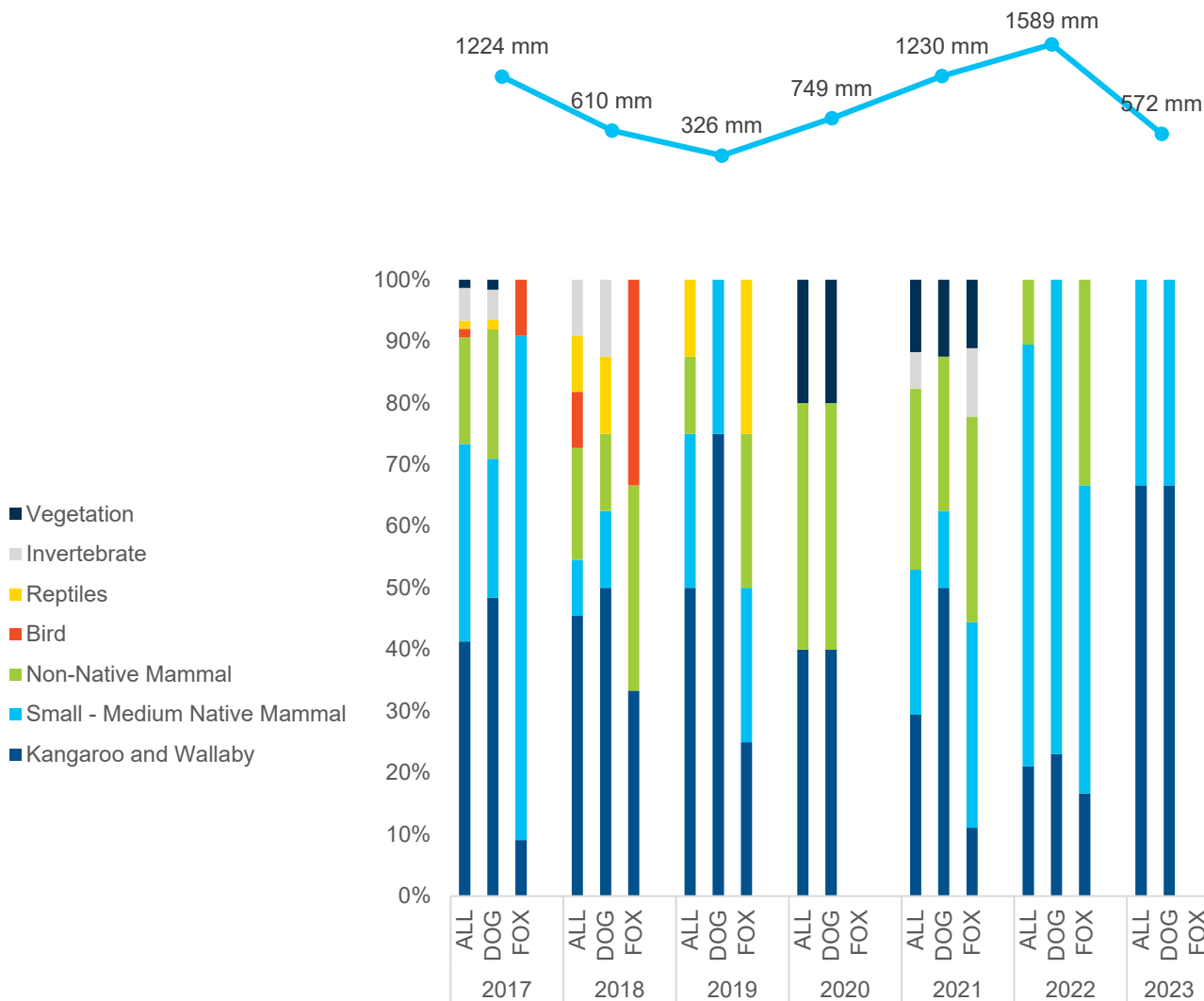


Figure 5. Long term predator diet analysis, percentage of prey type found in scat across years with annual average rainfall (points). i.e., in 2019, all reptile prey was only recorded in fox scat. No fox scats collected in 2020 and 2023.

Table 7. The types of prey item identified from fox and dog scat collected within the site from August 2022 to August 2023, sorted by the frequency of individual predators whose scat contained each prey type (e.g., Northern brown bandicoot were found in 40% of the 5 scats collected).

Common name	Species name	Frequency
Northern Brown Bandicoot	<i>Isoodon macrourus</i>	0.4
Swamp wallaby	<i>Wallabia bicolor</i>	0.4
Eastern Grey Kangaroo	<i>Macropus giganteus</i>	0.2
Red-necked Wallaby	<i>Macropus rufogriseus</i>	0.2

2.5.3 Management outcomes

A pest fauna management contractor is being engaged with a primary focus on reducing the number of dogs and foxes. 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.

During January to March, five feral dogs (two male, three female) were dispatched alongside several feral pigs. Another female wild dog was dispatched during July to September alongside two feral pigs.

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

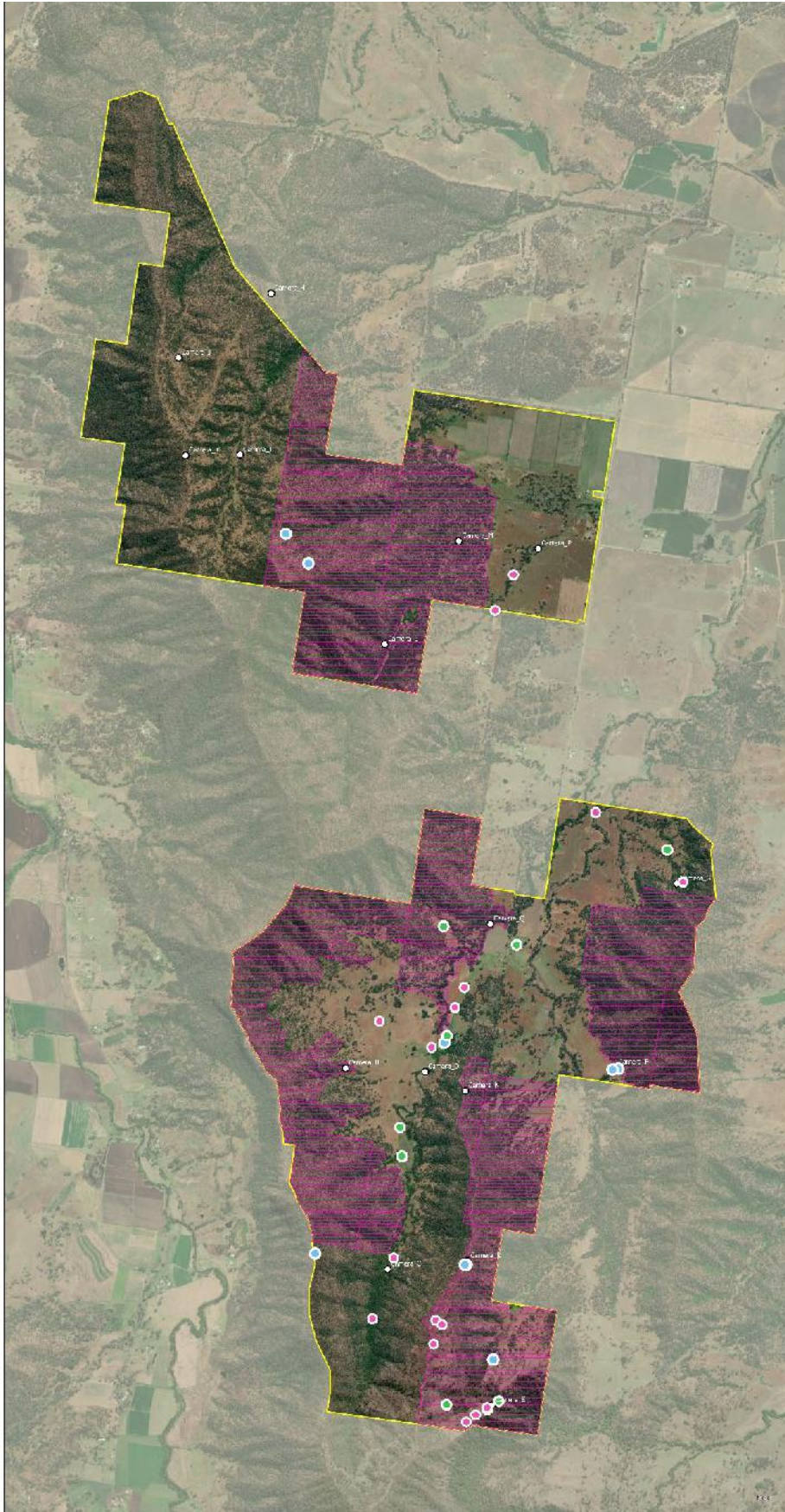
g) The number of Koala mortalities attributable to non-native predators

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 7. Non-native predators and herbivores monitoring



AROONA

Predator Monitoring

- ▭ Aroona Station
- ▨ EPBC2016/7724
- Predator Scat
- Year
- 2021
- 2022
- 2023
- Predator_Camera_Locations

Author: QTFN
 Date: 2023
 Source: Cadastral Boundaries,
 Data supplied by QSpatial
<http://cidspatial.information.qld.gov.au/catalogue/custom/index.page>
ACCURACY STATEMENT
 Due to varying sources of data,
 spatial locations may not coincide
 when overlaid.

1:15,000 Kilometers N

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. Some paddocks are large areas and grazed with open gates between adjacent paddocks. Consequently, grazing pressure is often dispersed across a large area for a longer grazing period. Grazing during the winter season provided beneficial in reducing fuel loads before pasture cured. These paddocks will be rested over the summer growing season.

A summary is provided in Table 8.

- **The timing and frequency of monitoring undertaken; and**

Fuel hazard assessments were conducted bi-annually, summer and winter (Table 8). The year 2023 has experienced below average rainfall contributing to growth and drying out of the near surface layer, reflected in the second assessment. Higher fuel hazard ratings are attributed to growth in the near surface fuel layer. Monitoring of grazing is conducted between hazard assessments and cattle removed when fuel hazard sufficiently reduced.

- **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 installed around Operational Management Unit 3 areas are monitored and maintained. 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	Cattle Hazard Reduction						Cattle Hazard Reduction					
	FHA	Triggered	Moved In	Moved Out	Head of Cattle	Days grazing	FHA	Triggered	Moved In	Moved Out	Head of Cattle	Days grazing
Basils	H		No grazing permitted in OMU3				VH		No grazing permitted in OMU3			
Desjardin	H		No grazing permitted in OMU3				H		No grazing permitted in OMU3			
Gerhke	H	Yes				0	H	Yes				0
Meiers	H		No grazing permitted in OMU3				VH		No grazing permitted in OMU3			
Mountain	H	Yes	26/01/202 3	16/04/2023	156	80	L	No	10/08/2023	26/09/2023	70	47
Townson	H	Yes	7/05/2023	26/09/2023	70	142	H	Yes				
Mt Grey	H	Yes					VH	Yes				
Spring	H	Yes	10/05/202 3	18/09/2023	60	131	H	Yes				
Wensley	H	Yes	23/03/202 3	10/04/2023	136	18	VH	Yes	28/09/2023	13/10/2023	165	15

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

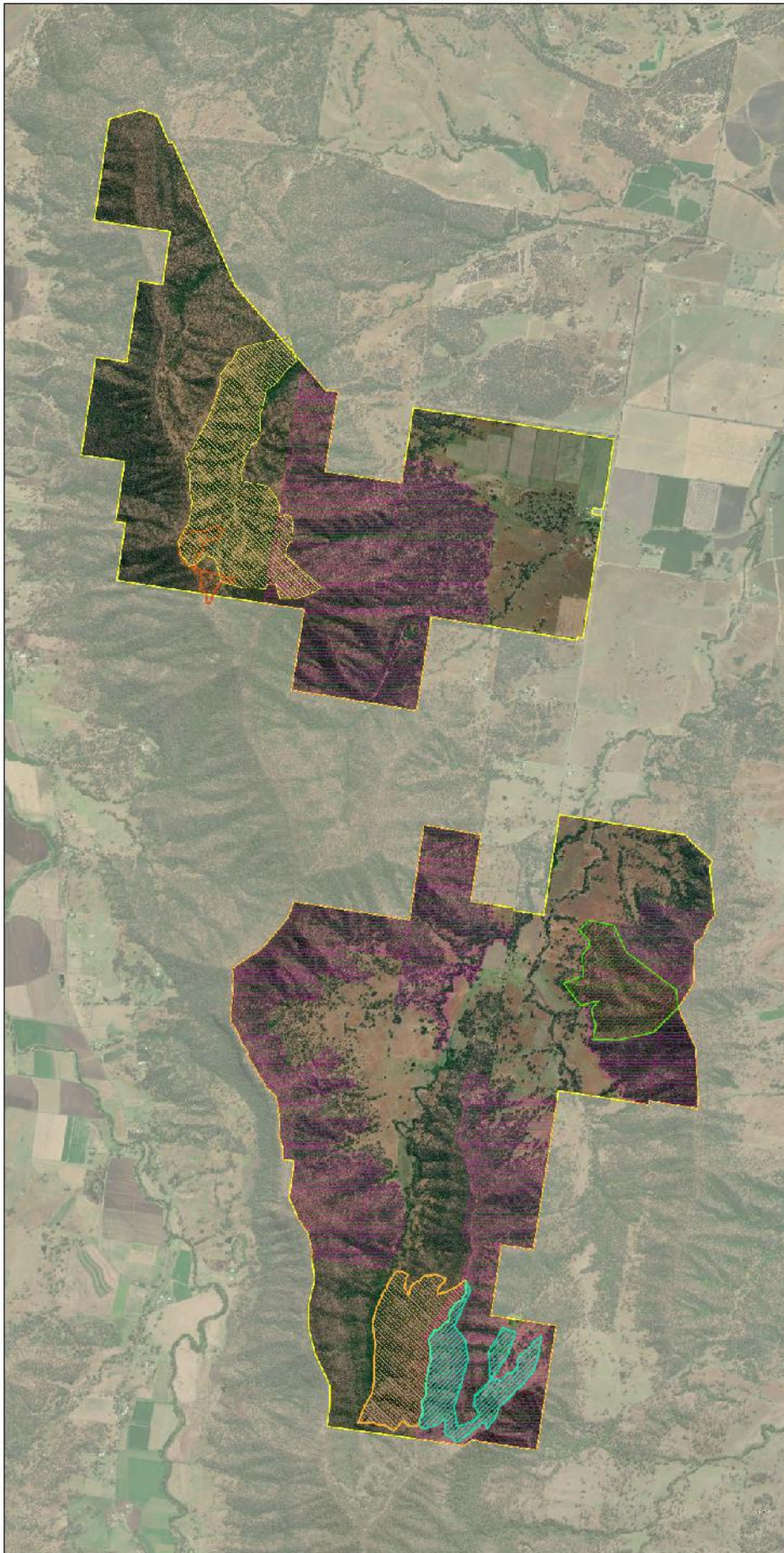
One ecological burn was conducted on Aroona Station, outside the offset area, resulting in a patchy mosaic (Map 8). Follow up monitoring of ecological burn conducted in 2022 was conducted (Figure 6).

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. Fuel loads remain high in areas of revegetation due to extensive grass growth. These areas cannot be managed with grazing or ecological burns; therefore, the surrounding areas are actively managed to reduce risk. Fire break trails were inspected and maintained at regular intervals. A new fire break trail was installed in the south-eastern portion of the property to further improve ability to implement ecological burns, defend wildfires should they occur, and protect active revegetation zones.



Figure 6. Monitoring of direct seeding before and after burn conducted in 2022

Map 8. Fire management.

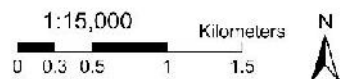


AROONA

Fire Management

- Aroona Station
- EPBC2016/7724
- 2023_Ecological Burn
- 2022_Burn and Seed
- 2021_Burn and Seed
- 2021_Cultural Burn
- 2019_Ecological Burn

Author: QTFN
Date: 2023
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.












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APPENDIX





Appendix 1. Revegetation Photo Monitoring Points

ID	Latitude	Longitude
Zone 3 - Basils		
<p>Basils_photopoint1</p> <p style="text-align: center;">2021</p>	<p>-27.86423691</p>	<p>152.41169185</p> <p style="text-align: center;">2023</p>
		
<p>Basils_photopoint2</p> <p style="text-align: center;">2021</p>	<p>-27.86423691</p>	<p>152.41169185</p> <p style="text-align: center;">2023</p>
		
<p>Basils_photopoint3</p> <p style="text-align: center;">2021</p>	<p>-27.863753050</p>	<p>152.41075111</p> <p style="text-align: center;">2023</p>
		

ID	Latitude	Longitude
<p>Basils_photopoint4</p> <p>2021</p> 	<p>-27.86377728</p> <p>2023</p> 	<p>152.41070488</p>
<p>Basils_photopoint5</p> <p>2021</p> 	<p>-27.858921</p> <p>2023</p> 	<p>152.4191222</p>
<p>Bails_photopoint6</p> <p>2021</p> 	<p>-27.8604419</p> <p>2023</p> 	<p>152.4108495</p>

ID	Latitude	Longitude
Zone 6 - Desjardin		
<p style="text-align: center;">Desjardin_photopoint1</p> <p style="text-align: center;">2021</p> 	<p style="text-align: center;">-27.83062583000</p> <p style="text-align: center;">2023</p> 	<p style="text-align: center;">152.41260929000</p>
<p style="text-align: center;">Desjardin_photopoint2</p> <p style="text-align: center;">2021</p> 	<p style="text-align: center;">-27.83062583000</p> <p style="text-align: center;">2023</p> 	<p style="text-align: center;">152.41260929000</p>
<p style="text-align: center;">Desjardin_photopoint3</p> <p style="text-align: center;">2021</p> 	<p style="text-align: center;">-27.829658</p> <p style="text-align: center;">2023</p> 	<p style="text-align: center;">152.412572</p>
<p style="text-align: center;">Desjardin_photopoint4</p> <p style="text-align: center;">2021</p> 	<p style="text-align: center;">-27.830151</p> <p style="text-align: center;">2023</p> <p style="text-align: center;">152.414288</p> 	

ID	Latitude	Longitude
<p>Desjardin_photopoint weeds</p> <p>2021</p> 	<p>-27.830537</p> <p>2023</p> 	<p>152.413741</p>
<p>Desjardin_aerialphoto1</p> <p>2022</p> 	<p>-27.830467</p> <p>2023</p> 	<p>152.413166</p>
Zone 10 - Meiers		
<p>Meiers_photopoint1</p> <p>2022</p> 	<p>-27.840266</p> <p>2023</p> 	<p>152.419733</p>

ID	Latitude	Longitude
<p>Meiers_photopoint2</p> <p>2022</p> 	<p>-27.841553</p> <p>2023</p> 	<p>152.419846</p>
<p>Meiers_aerialphoto1</p> <p>2022</p> 	<p>-27.840266</p> <p>2023</p> 	<p>152.419733</p>

Appendix 2. Weed Transect Monitoring Photos

2022

2023

Transect #1

2021



Transect #2



Transect #5



Transect #BC02



Transect #BC07

No image available



Transect #BC09



Transect #BC11



Transect #BC12



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

Pig – *sus scrofa*



Summer

Winter

Cat – *Felis catus*



Summer

Winter

