

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

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Fauna Management Plan

24 Bushman Dive and 68 Wyatt Road, Jimboomba

Prepared for Pacific International Development Corporation Pty Ltd
11 March 2019

Job No. 9245

PACIFIQ

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Document Control

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Prepared by

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Acronyms and Abbreviations

CEMP	Construction Environmental Management Plan
DAF	Department of Agriculture and Fisheries (Qld)
DES	Department of Environment and Science (Qld)
EDQ	Economic Development Queensland (Qld)
EHP	Department of Environment and Heritage Protection (Qld) (former, now DES)
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EVNT	Endangered, Vulnerable and Near Threatened (as listed in the NCWR)
FTMP	Fauna Translocation Management Plan
NCA	<i>Nature Conservation Act 1992</i> (Qld)
NCWR	Nature Conservation (Wildlife) Regulation 2006 (Qld)
NESS	Natural Environment Overarching Site Strategy
PDA	Priority Development Area
PMST	Protected Matters Search Tool
PTRP	Pre-clearing Trapping and Release Plan
SHG	Saunders Havill Group
WHIMP	Wildlife and Habitat Impact Mitigation Plan
WPMP	Wildlife Protection and Management Plan
WWBW	Waterway Barrier Works

Reference Documents

ADR	<i>Acceptable Development Requirements for operational work that is constructing or raising waterway barrier works</i> , prepared by Queensland Government (dated 3 July 2017)
FSRDM	<i>Fauna Sensitive Road Design Manual: Volume 2- Preferred Practices</i> , prepared by the Department of Transport and Main Roads (dated June 2010).
SBAR	<i>Significant Biodiversity Assessment Report (9245 Bushman Drive Issue C)</i> , prepared by SHG (dated October 2018).
The Code	<i>Code of Practice for Welfare of Wild Animals Affected by Land Clearing and Other Habitat Impacts and Wildlife Spotter /Catchers (Draft)</i> , prepared by Wildlife Warriors and Voiceless.
VMP	<i>Vegetation Management Plan (9245 Bushman Drive Issue A)</i> , prepared by SHG (dated Sept 2018).

1. Introduction

Saunders Havill Group (SHG) was engaged by Pacific International Development Corporation Pty Ltd (PACIFIQ) to prepare a Fauna Management Plan (FMP) for the proposed project site located at Lot 24 Bushman Drive and 68 Wyatt Road, Jimboomba (hereafter referred to as 'the site'). The site is located within the Greater Flagstone Priority Development Area (PDA). Refer to **Figure 1** for Site Context and **Figure 2** for Site Aerial.

This FMP has been prepared to support a development application to Economic Development Queensland (EDQ). The purpose of this FMP is to manage impacts associated with the project and protect native animals during clearing and construction.

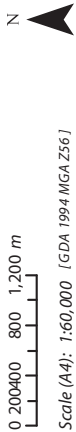
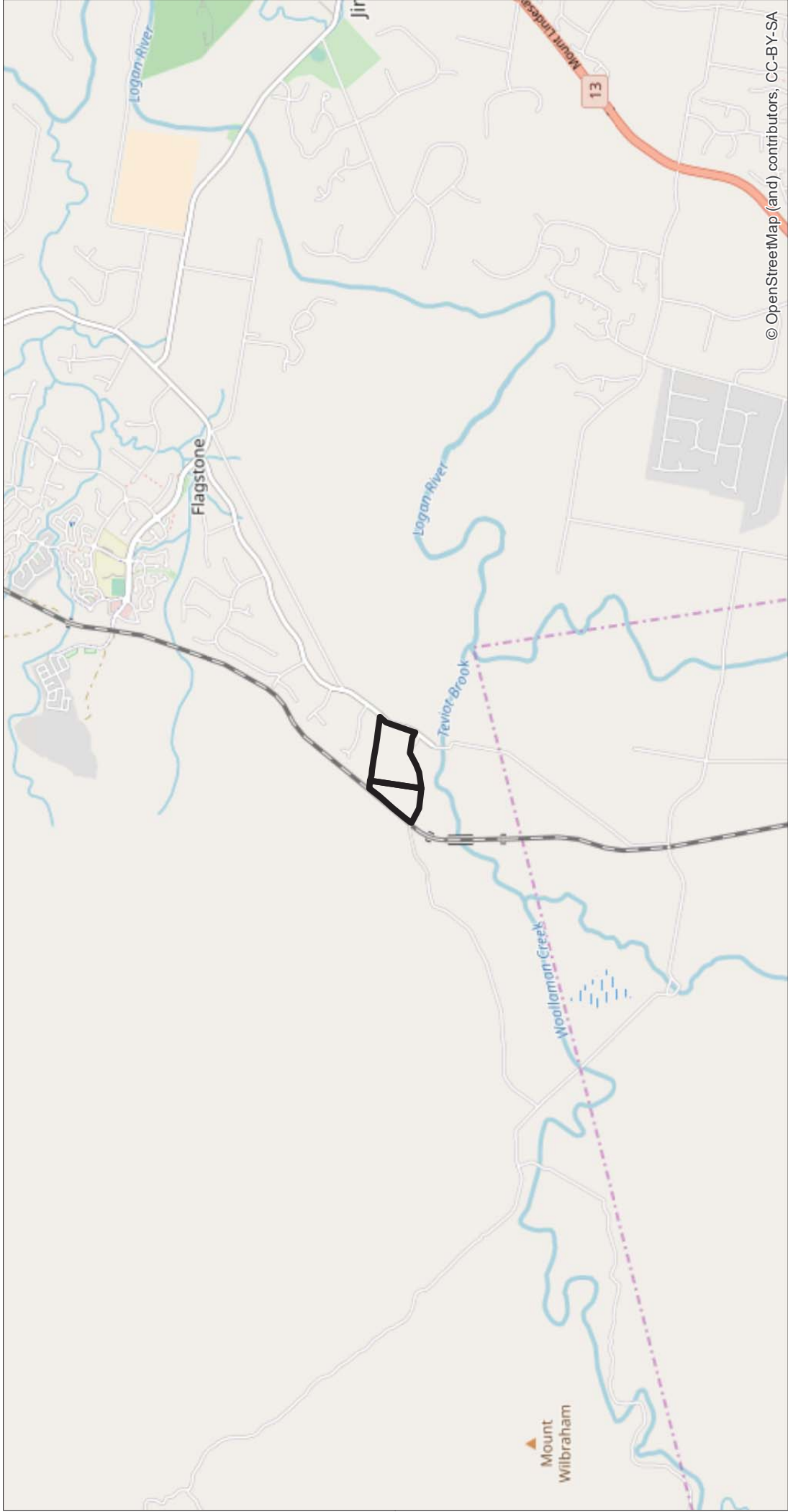
This FMP includes step by step procedures for the management of fauna prior to, during and post-vegetation clearing and construction activities to reduce potential impacts. Fauna management specifications and principles incorporated into this FMP apply generally to all native animals and focus on incorporating measures to minimise disturbance and avoid conflicts. Compliance with this FMP is compulsory and incorporates the use of expert consultants, including a registered and Department of Environment and Science (DES) approved Fauna Spotter Catcher. This FMP adopts best practice aspects of the *Code of Practice for Welfare of Wild Animals Affected by Land Clearing and Other Habitat Impacts and Wildlife Spotter /Catchers (Draft)* (the Code).

1.1. Property Summary

Key site details are provided in **Table 1** below.

Table 1: Property Summary

Address	Lot 24 Bushman Drive and 68 Wyatt Road, Jimboomba
RPD	Lot 24 on SP142997 & Lot 1 on RP49296
Local Government Area	Logan City Council
Administering Authority	Economic Development Queensland
Priority Development Area	Greater Flagstone PDA
Planning Scheme	Greater Flagstone Urban Development Area Development Scheme
Area Classification / Zone	Urban Living
Existing Land Use	Vacant



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Figure 1 Site Context

File ref.	9245 E Figure 1 Site Context A
Date	5/09/2018
Project	Bushman Drv, Jimboomba

Legend
Project Site DCD8





Scale (A4): 1:5,000 [GDA 1994 MGA 256]

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Figure 2 Site Aerial

File ref.	9245 E Figure 2 Site Aerial A
Date	5/09/2018
Project	Bushman Drv, Jimboomba

Legend

-  Project Site DCDB
-  Qld DCDB

2. Legislative Context

2.1. Environment Protection and Biodiversity Conservation Act 1999

The Australian Government's key piece of environmental legislation is the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act aims to protect and manage matters of environmental significance which include nationally and internationally important flora, fauna, ecological communities and heritage places.

A Protected Matters Search for the allotment was undertaken through the EPBC Act's online Protected Matters Search Tool (PMST). The search provides a list of wetlands of international significance, threatened ecological communities and threatened species which have the potential to be temporarily or permanently located within a 5 kilometre (km) radius of the development site. **Table 2** lists a summary of these results relevant to site fauna. The complete results of this search are included in **Appendix A**.

Table 2: EPBC Act PMST Fauna Search Results

Threatened Ecological Communities		
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland – Endangered (community may occur within area)		
Lowland Rainforest of Subtropical Australia – Critically Endangered (community may occur within area)		
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered (community may occur within area)		
Threatened Species		
Scientific Name	Common Name	Status
Birds		
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	Endangered
<i>Erythrorhynchus radiatus</i>	Red Goshawk	Vulnerable
<i>Geophaps scripta scripta</i>	Squatter Pigeon (southern)	Vulnerable
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable
<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered
<i>Numenius madagascariensis</i>	Eastern Curlew	Critically Endangered
<i>Poephila cincta</i>	Southern Black-throated Finch	Endangered
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered
<i>Turnix melanogaster</i>	Black-breasted Button-quail	Vulnerable
Fish		
<i>Maccullochella mariensis</i>	Mary River Cod	Endangered

Threatened Species		
Scientific Name	Common Name	Status
Insects		
<i>Argynnis hyperbius inconstans</i>	Australian Fritillary	Critically Endangered
Mammals		
<i>Cahlinolobus dwyeri</i>	Large-eared Pied Bat	Vulnerable
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll	Endangered
<i>Petauroides volans</i>	Greater Glider	Vulnerable
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Vulnerable
<i>Phascolarctos cinereus</i>	Koala	Vulnerable
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo	Vulnerable
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable
Plants		
<i>Bosistoa transversa</i>	Three-leaved Bosistoa	Vulnerable
<i>Cycas ophiolitica</i>	-	Endangered
<i>Dichanthium setosum</i>	Bluegrass	Vulnerable
<i>Macadamia integrifolia</i>	Macadamia Nut	Vulnerable
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut	Vulnerable
<i>Notelaea ipsviciensis</i>	Cooneana Olive	Critically Endangered
<i>Notelaea lloydii</i>	Lloyd's Olive	Vulnerable
<i>Phaius australis</i>	Lesser Swamp-orchid	Endangered
<i>Samadera bidwillii</i>	Quassia	Vulnerable
<i>Thesium australe</i>	Austral Toadflax	Vulnerable
Reptiles		
<i>Delma torquata</i>	Adorned Delma	Vulnerable
<i>Furina dunmalli</i>	Dunmall's Snake	Vulnerable
<i>Saiphos reticulatus</i>	Three-toed Snake-tooth Skink	Vulnerable

2.2. Nature Conservation Act 1992

The *Nature Conservation Act 1992* (NCA) classifies and protects significant areas (protected areas) and protects threatened plant and animal species. The Nature Conservation (Wildlife) Regulation 2006 (NCWR) lists plant and animal species presumed extinct, endangered, vulnerable, near threatened, least concern, international or prohibited. The schedules of this regulation were considered in this FMP using the DES Wildlife Online database search for a 5 km radius of the site. Fauna species listed under the NCWR with the potential to occur around the subject site are shown in **Table 3**. The complete results of this search are included **Appendix B**.

Table 3: NCA Wildlife Online Fauna Search Results

Scientific Name	Common Name	Status
<i>Phascolarctos cinereus</i>	Koala	Vulnerable

3. FMP Framework

This FMP provides a framework for fauna management within the site. This FMP should form part of the Construction Environmental Management Plan (CEMP) for the project. To assist in achieving a leading practice model for fauna management prior to, during and post the completion of the construction works for the site, all land clearing will be managed generally in accordance with the *Code of Practice for Welfare of Animals effected by Land Clearing and Other Habitat Impacts and Wildlife Spotter/Catchers (Draft)*, as prepared by the Wildlife Warriors and Voiceless (the Code). Under the Code, the procedural guide detailed in Sections 3.1.1 – 3.1.3 will be used to inform the framework for clearing works. Consideration should be given to the survey for and management of permit requirements for tampering with animal breeding places under the Nature Conservation Act.

This FMP has been informed by the *Bushman Drive Significant Biodiversity Assessment Report (9245 Issue C)*, prepared by SHG dated November 2018, (SBAR) and should be read in conjunction with that report and the *Vegetation Management Plan (9245 Bushland Drive)*, prepared by SHG, dated November 2018 (VMP), lodged separately.

Fauna management and mitigation strategies are discussed in further detail in **Section 4 – Fauna Management Plan Specifications**.

3.1.1 Pre-Clearing Survey

Action 1 – Developer to Engage a Fauna Spotter Catcher

Action 1 requires that the developer engage a Fauna Spotter Catcher with full registrations and licences issued by DES.

Action 2 – Developer to Undertake Pre-Clearing Survey

A pre-clearing survey will be undertaken by a DES approved Fauna Spotter Catcher no more than two (2) weeks prior to the commencement of clearing activities at each stage. This survey must include a fauna assessment of the site, particularly for Koalas and animals using hollows, including bats. This survey will inform the Pre-Clearing Trapping and Release Plan (PTRP) containing elements from the Code, as detailed in Section 3.1.2. Results from the pre-clearance surveys will be made available to DES and will form part of the Post-clearing report.

3.1.2 Pre-clearing Trapping and Release Plan

Action 3 – Fauna Spotter Catcher to Prepare a Pre-Clearing Trapping and Release Plan

Informed by the pre-clearing surveys, a PTRP containing a Wildlife Protection Management Plan (WPMP) and Wildlife and Habitat Impact Mitigation Plan (WHIMP) Code elements will be developed by a DES approved Fauna Spotter Catcher a maximum of two (2) weeks prior to the commencement of any clearing activities. This report will provide extensive detail of the fauna likely to be impacted by the clearing works.

The PTRP will outline the methodology for the identification, trapping and relocation of native fauna. The PTRP should include the following information:

- a description of the project with reference to impacts on wildlife and/or wildlife habitat;
- a pre-development plan of the site showing habitat areas including nests and hollows, features, corridors, riparian habitats and adjacent areas;
- results of any fauna surveys including pre-clearance surveys;
- contact details of the nearest veterinarian and agencies to be notified of injured wildlife;
- a wildlife and habitat impact assessment based on the proposed development works; and
- confirmation of the release area.

Action 4 – Fauna Spotter Catcher Role at Pre-Start Meeting

Prior to the commencement of any construction works, a pre-start meeting is to be held between the Proponent, Site Supervisor, Environmental Coordinator, Fauna Spotter Catcher and other key project personnel. At the pre-start meeting, the Fauna Spotter Catcher is to outline the clearing process and the requirements of the PTRP.

Action 6 – During Construction

The Fauna Spotter Catcher is to be on-site during all phases of construction which involve potential impacts on wildlife or habitat. This will enable the Fauna Spotter Catcher to make any necessary adjustments to the approved VMP and the PTRP to cater for any specific issues encountered during the clearing works. Should an animal encountered during vegetation clearing, clearing will cease immediately until the animal preferably moves away of its own accord.

3.1.3 Post-clearing Wildlife Management Report

Action 7 – Post Works Reporting

During the course of all site works, including the pre-clearance surveys, the Fauna Spotter Catcher is to keep an accurate record of all animals encountered and/or captured, and all incidents and disposals for each stage of the project. The records should form part of the Post-Clearing Wildlife Management Report to be issued under licence requirements to DES. The Post-Clearing Wildlife Management Report should consist of the following three (3) sections:

1. PTRP – Aspects of the planning, design, construction and ongoing operation of the project in which risks to wildlife have been identified. This plan should also include recommendations and outline the type, frequency and timeframes for monitoring, as well as updates to describe measures taken to address an incident.
2. Wildlife Capture and Disposal Plan – Should contain details of any animal/s that were caught and/or sighted and released, and the placement of any release/s as well as details of any animals that were destroyed due to injury, given to wildlife rescue groups etc. The following details for each captured animal should be included in the Wildlife Capture and Disposal Plan:
 - 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 coordinates).
 - h. State of health.
 - i. Incidents associated with capture likely to affect health.
 - j. Veterinary intervention or treatments.
 - k. Time held in captivity.
 - l. Disposal method (euthanasia, translocation, re-release).
 - m. Date and time of disposal.
 - n. Details of disposal (GPS points of release).
 - o. For released animals, location relative to point of capture.
3. Animal Injury and Euthanasia Report – similar details for the Wildlife Capture and Disposal Plan should be included in this report.

The Post-Clearing Wildlife Management Report will be provided to the Proponent and Environmental Coordinator and no more than two (2) weeks after clearing activities have ceased

3.2. Roles and Responsibilities

This section details the key roles and responsibilities for the works.

3.2.1 Proponent

Pacific International Development Corporation (PACIFIQ) is the Proponent for the works.

3.2.2 Environmental Coordinator

Saunders Havill Group (SHG) is the Environmental Coordinator for the project and is responsible for the development of this overarching FMP and documentation for overarching environmental management. SHG will be responsible for managing non-compliance by appointed contractors and sub-contractors, including establishing additional management procedures and determining if EDQ notification should be made

3.2.3 Administering Authority

Economic Development Queensland (EDQ) is the government approval authority for this project.

3.2.4 Site Coordinator

The Site Coordinator is a representative of the project team (typically the project engineer) and is responsible for coordinating the project consultants and construction contractor.

3.2.5 Site Supervisor

The Site Supervisor is a representative of the Construction Contractor (to be appointed) and responsible for overseeing all pre-clearing, clearing and construction activities are undertaken in accordance with the approved FMP, PTRP and subsequent environmental management documentation. The Site Contractor will be responsible for engaging and the commission of the DES approved Fauna Spotter Catcher.

3.2.6 Fauna Spotter Catcher

A DES approved Fauna Spotter Catcher is a person who holds a rehabilitation permit with an extended authority issued by the Department of Environment and Science (DES), formally the Department of Environment and Heritage Protection (EHP), specifying the holder may take, keep or use an animal whose habitat is about to be destroyed by a human activity. A DES approved Fauna Spotter Catcher will be engaged by the Proponent for pre-construction and construction stages of the project. It is noted that the Fauna Spotter Catcher must hold a Rehabilitation Permit and a copy of this permit along with their contact details will be passed on to EDQ and the Environmental Coordinator. The engaged Fauna Spotter Catcher will be responsible for undertaking pre-clearing surveys of the site and developing the PTRP. The Fauna Spotter Catcher must be present on site during all clearing activities and is responsible for the relocation of native fauna. A list of key contacts for the project is contained in **Section 7**.

4. Fauna Summary

4.1. Fauna Habitat Areas and Opportunities

The purpose of this FMP is to control the impacts of clearing activities on-site and to the surrounding area's fauna communities. The *Bushman Drive Significant Biodiversity Assessment Report (9245 Issue C)* (SBAR), prepared by SHG dated October 2018, identified the presence of suitable habitat observed along waterways to be retained as ecological corridors under the development proposal (refer **Plan 1**). This FMP will outline the process for tree removal and the strategy for installation of nest boxes to replace removed hollows.

This FMP should be read in conjunction with the following documents, to be lodged separately:

- Vegetation Management Plan (VMP), prepared by SHG, dated November 2018.
- Significant Biodiversity Assessment Report (SBAR), prepared by SHG, dated November 2018.

Ecological features identified on-site included vegetation with the potential to shelter koalas and a waterway traversing the site from the west to east with a tributary extending to the north. The site is not identified as including significant biodiversity corridors or biodiversity values under the Greater Flagstone PDA. The site is bordered by the Brisbane to Sydney railway line to the west, Wyatt Road to the south, Bushman Drive to the east and rural residences to the north. Areas within the site have undergone previous clearing for agricultural practices, where southern portions continue to be regularly maintained and are dominated by various grass species.

Clearing is proposed to occur within part of the existing Least Concern RE12.9-10.2 vegetation as it is determined to be impracticable to avoid development within this area. The mapped waterways are proposed to be avoided, and impacts received during the construction stage are anticipated to be minimal. During field surveys, the waterways were found to facilitate increased biodiversity and fauna observations largely occurred within or proximal to the waterways and surrounding vegetation (**Plan 1**). The balance area lacked significant ground and shrub layers, and has been susceptible to degradation from previous clearing and edge effects (i.e. weed invasion and anthropogenic impacts). Hence, the waterway and associated tributaries were identified as the most significant ecological locations on-site, and are proposed to be retained and protected within designated open space areas where some revegetation is proposed.

The following strategies have been developed as part of this FMP to mitigate the adverse impacts of development on native fauna and provide habitat enhancement and informed the VMP (to be lodged under a separate cover):

1. **Direction of Clearing Plan** – to direct clearing activities from open areas to less open areas allowing fauna to naturally seek shelter in the adjacent habitat;
2. **Fencing Management Strategy** – for the provision of permanent and temporary fencing around roads and construction areas, and
3. **Nest Box/Hollow Strategy** – for the installation of nest boxes and salvaged hollows in mature native trees in retained environmental corridors and the provision of hollow logs and branches to temporarily house translocated animals and provide permanent nesting sites. Habitat features are to be determined by the Environmental Coordinator as part of the VMP.

The below images reflect management strategies that may be adopted in this FMP.



FAUNA SPOTTERS RETRIEVING FAUNA



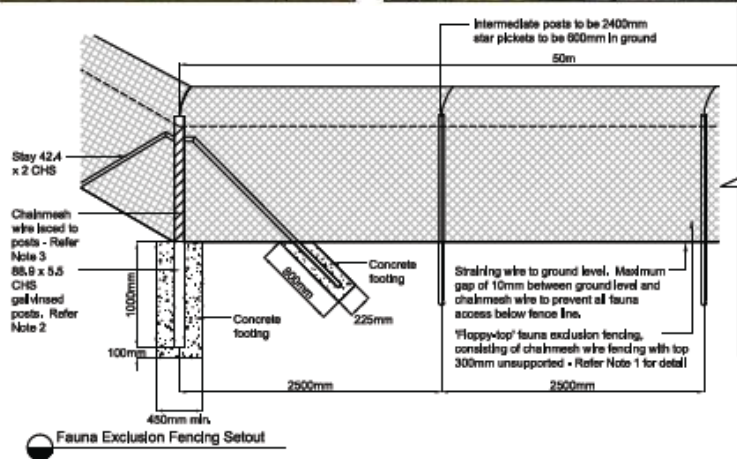
FAUNA SIGNAGE



FAUNA SPOTTER DURING TREE CLEARING



KOALA SIGNAGE



CONSTRUCTION FENCING DETAIL

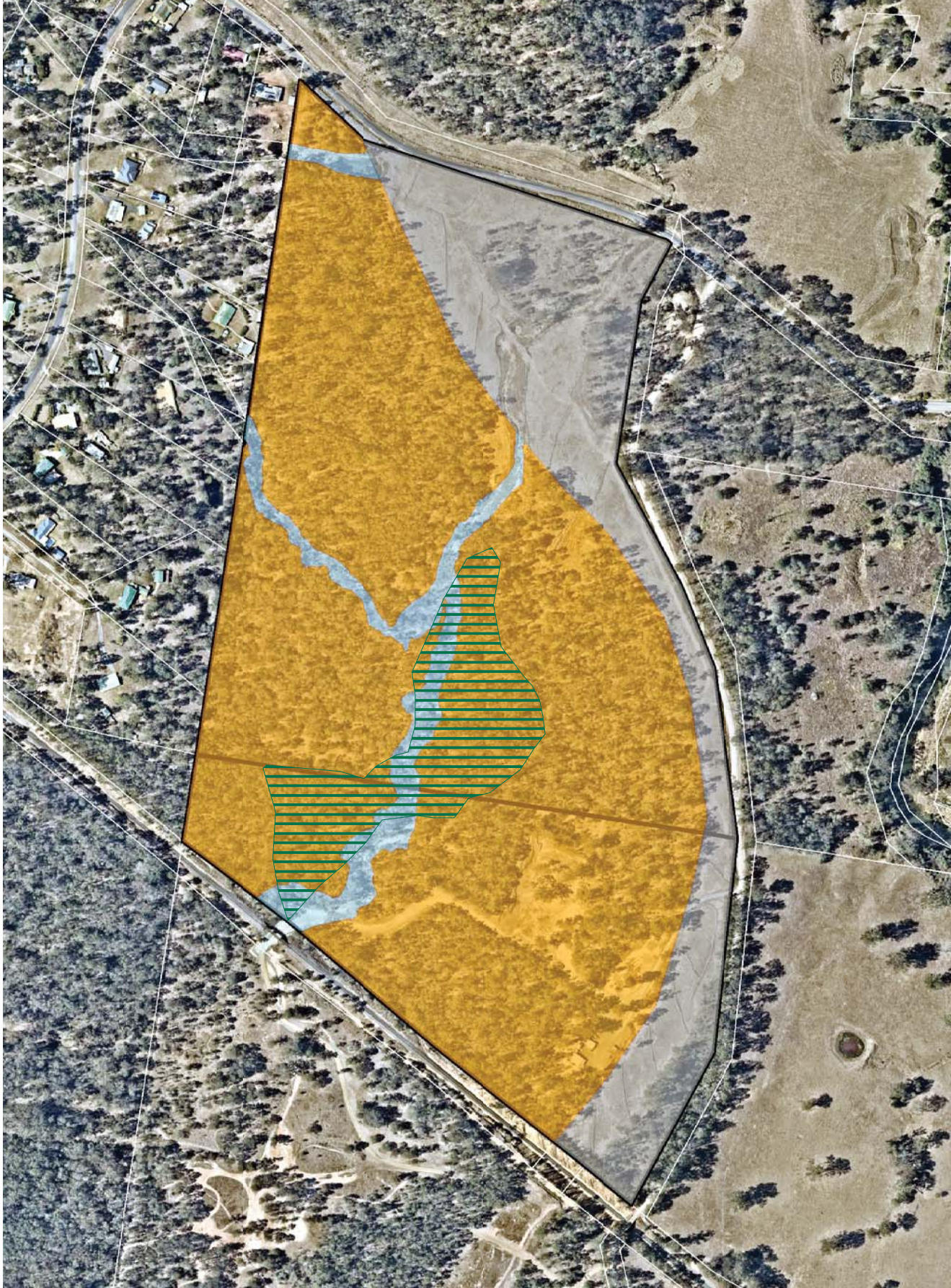


TREE PROTECTION & EROSION FENCE



SIGNIFICANT TREE PROTECTION FENCING

1. FIELD SURVEY AREAS



NOTES
This plan was prepared as a desktop assessment tool. Proper 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 information is to be used for a development application or if there may be change when a full survey is undertaken 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 using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of a accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. As a development approval falls outside of this plan, this is not an approved plan.

Layer Sources
Aerial Imagery: Google Earth
Topographic Data: Topographic Survey Data
Environmental Natural Resource Data: 2018 (Updated data available at <http://digital.naturalresources.gov.au/data.aspx>)
Aerial Imagery: © Netmap, 2018

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

Legend

Site Project DCDB

Old DCDB

Least Concern Remnant Vegetation

Assessment Zones

Central waterway and tributaries

Trunk road and SE vegetation

Balance area

Site	Date	Description	Drawn/Checked
A	08/01/2018	Preliminary	AL AD

0

50

100

150 m

Transverse Mercator (GDA 1994) Zone 56

1:4,000 @ A3

4.2. Road Crossing Strategies

The proposal involves two (2) road crossing; one over the central and one over the northern waterway. At the point of intersection these waterways are mapped as green (low risk) waterways for waterway barrier works (WWBW) by the Department of Agriculture and Fisheries (DAF). As such, all crossings will be designed either in accordance with the *Acceptable Development Requirements for operational work that is constructing of raising waterway barrier works, prepared by Queensland Government (3 July 2017)* (ADR) or obtain a State Permit for WWBW. Further, where practicable, the crossings will include fauna responsive design structures in accordance with the *Fauna Sensitive Road Design Manual: Volume 2- Preferred Practices, prepared by the Department of Transport and Main Roads (dated June 2010)* (FSRDM). It is anticipated that safe passage will be facilitated for species that area expected to occur, including dry passage and the provision of suitable furniture and targeted habitat rehabilitation (e.g. refer DEV2014/607 for Flinders Lake Drive approval).

4.3. Observed Fauna

A basic fauna assessment was conducted across the site on five (5) person days across May, June and July 2018 to identify and describe on-ground habitat features (e.g. habitat trees, fallen logs, termite mounds, roosting sites etc.), signs of fauna activity (e.g. scats, tracks, scratch marks on trees, nests etc.) and observations of species present within the area. Detailed fauna surveys were also undertaken to identify significant biodiversity values and inform this FMP. Motion sensor cameras were installed across the site from 14 to 21 June 2018, and spotlighting efforts were completed on 20 June 2018 targeting diurnal species including micro bats (refer SBAR **Plan 3** for survey locations). Consideration was also given to the ecological significance of the site in the context of the local area and the broader region. No specific surveys for reptiles (e.g. pitfall traps) were undertaken during field surveys.

The results of the survey identified twenty-four (24) bird and sixteen (16) mammal species (refer **Table 4**). The majority of these species were observed within or proximal to the waterway on-site, where a number of animals were not directly observed and instead were identified through motion camera data or audio recordings (e.g. fly-over bats). Evidence and observations of site fauna concluded that site features and habitat are only suitable for some common, relatively urbanised fauna species, including avifauna and small reptiles. The survey did not identify the presence of EPBC Act and/or NCA listed threatened fauna species.

Table 4: Observed fauna species on-site

Scientific Name	Common Name	Observation Technique
BIRDS		
<i>Anas superciliosa</i>	Pacific Black Duck	Visual
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Visual
<i>Corvus orru</i>	Torresian Crow	Visual
<i>Coturnix ypsilophora</i>	Brown Quail	Visual
<i>Cracticus nigrogularis</i>	Pied Butcherbird	Visual
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Visual
<i>Falco berigora</i>	Brown Falcon	Camera
<i>Gallinula tenebrosa</i>	Dusky Moorhen	Visual
<i>Glossopsitta pusilla</i>	Little Lorikeet	Visual

Scientific Name	Common Name	Observation Technique
<i>Gymnorhina tibicen</i>	Australian Magpie	Visual
<i>Malurus melanocephalus</i>	Red-backed Fairy Wren	Visual
<i>Manorina melanocephala</i>	Noisy Minor	Visual
<i>Microeca fascians</i>	Jacky Winter	Visual
<i>Ninox boobook</i>	Southern Boobook	Visual
<i>Petroica boodang</i>	Scarlet Robin	Visual
<i>Philemon corniculatus</i>	Noisy Friarbird	Visual
<i>Podargus strigoides</i>	Tawny Frogmouth	Visual/spotlighting
<i>Rhipidura fuliginosa</i>	Grey Fantail	Visual
<i>Taeniopygia bichenovii</i>	Double-barred Finch	Visual
<i>Threskiornis spinicollis</i>	Straw-necked Ibis	Visual
<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet	Visual
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Visual
<i>Tyto alba</i>	Barn owl	Visual/spotlighting
<i>Vanellus miles</i>	Masked Lapwing	Visual

MAMMALS

<i>Canis lupus dingo</i>	Dingo	Visual/camera
<i>Canis lupus familiaris</i>	Wild dog	Visual/camera
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	Audio
<i>Isodon macrourus</i>	Northern Brown Bandicoot	Visual
<i>Lepus europaeus</i>	Hare	Visual
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Visual/camera
<i>Macropus parryi</i>	Whiptail Wallaby	Camera
<i>Macropus rufogriseus</i>	Red-necked Wallaby	Visual/camera
<i>Petaurus breviceps</i>	Sugar Glider	Visual/spotlighting
<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	Visual/spotlighting
<i>Pteropus spp.</i>	Flying-fox	Audio
<i>Scotorepens greyii</i>	Little Broad-nosed Bat	Audio
<i>Tachyglossidae</i>	Echidna	Camera
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Visual/spotlighting
<i>Vespadelus darlingtoni</i>	Large Forest Bat	Audio
<i>Vulpes vulpes</i>	Red Fox	Camera

4.4. Potential Fauna Species (Threatened)

Table 2 and **Table 3** list endangered, vulnerable and near threatened (EVNT) species which may occur within the general proximity (5 km) of the development site (refer to **Appendices A & B** for full search results). These species have been identified through the EPBC Act's online PMST and the NCA Wildlife Online database search (discussed in **Section 2**).

A habitat suitability and risk assessment for significant fauna was undertaken by SHG in conjunction with the ecological surveys. The assessment focused on identifying habitat features typically associated with threatened species and native fauna groups. Five (5) significant fauna species were considered as possible occurrences on the site (refer to **Table 5**). As a result of the Habitat Suitability and Risk Assessment analysis (**Appendix C**), no migratory species were considered to be at risk from impacts of the proposed development. This is because no suitable habitat was identified on-site as the majority of the species were described as occurring within coastal environments, moist rainforest or lowland forests, or were strictly aerial during their migratory period over the subject area (refer **Appendix C** for detailed analysis).

Table 5: Threatened species with possible suitable habitat on-site

Scientific Name	Common Name	Habitat	EPBC Status	NCA Status
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll	The Spot-tailed Quoll has a preference for mature wet forest habitat. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage.	Endangered	Vulnerable
<i>Delma torquata</i>	Adorned Delma	In general, the species occurs on rocky hillsides on basalt and stony lithosol soils supporting open eucalypt and Acacia woodland with a sparse understorey of shrubs and tussocks or semi-evergreen vine thicket. The ground cover is predominantly native grasses such as Kangaroo Grass, Barbed-wire Grass, Wiregrass and Lomandra.	Vulnerable	Vulnerable
<i>Phascolarctos cinereus</i>	Koala	Koalas are found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland. The species is known from the surrounding area and evidence has been recorded on-site.	Vulnerable	Vulnerable
<i>Pteropus poliocephalus</i>	Grey-headed Flying Fox	Species generally roosts in camps in trees adjacent to larger permanent watercourse. The Grey-headed flying fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feed on commercial fruit crops.	Vulnerable	-
<i>Petauroides volans</i>	Greater Glider	The greater glider is largely restricted to eucalypt forests and woodlands. It is primarily folivorous, with a diet mostly comprising eucalypt leaves, and occasionally flowers. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.	Vulnerable	Vulnerable

4.5. Potential Impacts

Impacts of the proposed development can generally be summarised as the following:

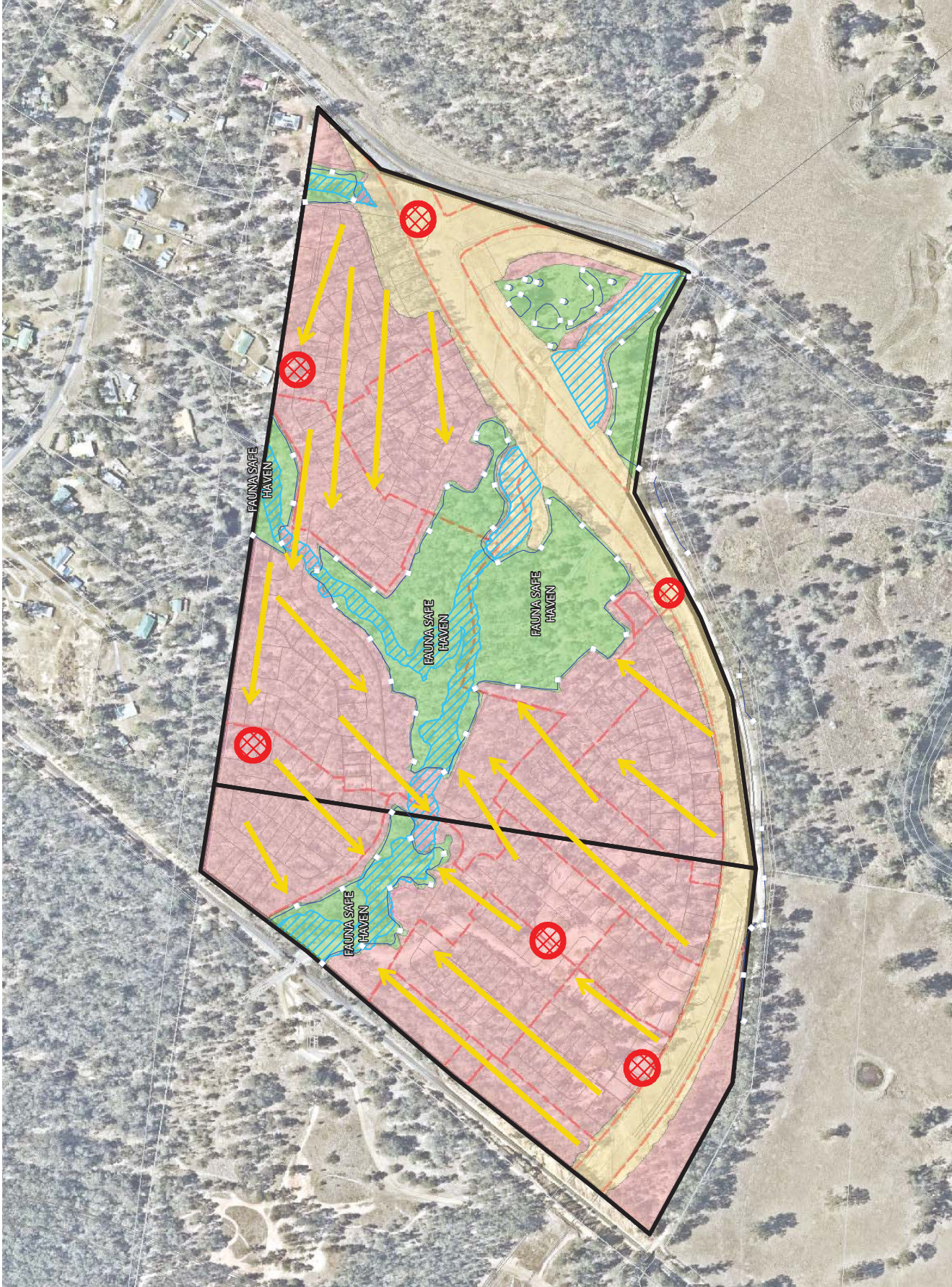
CONSTRUCTION IMPACTS	OPERATIONAL IMPACTS
- Direct removal of site vegetation - Loss of habitat - Loss of food sources - Excavation / compaction/ changes in existing ground levels - Altering of hydrological flows - Noise, vibration and dust - Fragmentation of habitat - Erosion and sedimentation - Threats associated with open cuts etc. and fauna entrapment	- Weed introduction (garden escapees) - Increased hydrology with increased hardstand - Altering of run-off chemical and nutrient components (quality) - Barriers to fauna movement - Vehicle and pedestrian movement and trespass - Introduction of domestic and predatory species

Generally, most impacts for developments are associated directly with vegetation clearing. **Plan 2** provides a development assessment plan showing the vegetation clearing over the proposed footprint.

The VMP will provide provisions for wildlife management to mitigate potential impacts during vegetation clearing and comply with legislative requirements and approval conditions. These will include:

- The Fauna Spotter Catcher (DES approved) must remain on site during all clearing works to undertake pre-clearing inspection, direct clearing activities and relocate fauna.
- Immediately prior to the commencement of clearing of native vegetation, a daily visual inspection of the area must be carried out by a qualified Fauna Spotter Catcher.
- In the event of an animal being located an area of 5 m radius should be established around the tree excluding machinery from the area until the animal has relocated (usually overnight) or, if an animal requires relocating this must be undertaken by a suitably qualified and permitted fauna expert recognised by DES.
- Any native fauna orphaned or injured by the development process must be reported to DES.
- The site supervisor is responsible for the safe management of site fauna and implementation of these specific fauna requirements.
- Dogs will be restricted on-site during construction activities to encourage fauna movement outside construction hours. Dogs brought onto the premises for security must be controlled and contained.

2. SUMMARY OF CLEARING



NOTES
This plan was prepared as a desktop assessment tool.
Property dimensions, area, 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 information is to be used for a development application and may change when a full survey is undertaken 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.
The Saunders Havill Group does not accept any liability for any loss or damage arising from the use of this plan for any purpose other than as a document prepared for the sole purpose of a development application and which may be subject to alteration beyond the control of the Saunders Havill Group.
A development approval is required for this plan to be an approved plan.

Layer Sources
This map was created using the following layers:
Department of Natural Resources and Water 2018 (data not available)
<http://data.naturalresources.qld.gov.au/cad/shapefiles/>
Aerial Imagery © Mapbox, 2018

*This map is an integral part of the plan data. Reproduction of this plan or any part of it without the prior written consent of the Saunders Havill Group is prohibited. This map is shown on such reproduction in full and not suitable for use.

Legend

- Clearing direction
- Fauna friendly fencing
- Indicative stockpile location
- Project Site DCD8
- Old DCD8
- Waterway (Top of Bank)
- CAD base (X_PLANNING BASE)
- Development design
- Proposed Development/works area
- Vegetation retention area
- Approved trunk/haul road clearing extent

Date	Drawn	Checked
A. 20/07/2018	P. 20/07/2018	AO
C. 12/11/2018	Amended layout	AO
D. 27/02/2019	Revised	AO

0

50

100

150 m

Traverse Vector (GDA 1994 Zone 56) 14,000 @ A3

5. Fauna Management Plan Specifications

5.1. Pre-Construction

Management Item	Responsibility	Timing	Reporting
4.1.1 Temporary Fencing			
Prior to the commencement of clearing activities, the applicant must fence the limits of vegetation strips and install fauna exclusive fencing. This fencing shall be inspected by the Environmental Coordinator. Fencing shall be in accordance with the specifications shown in the approved VMP and if modified by the WPMP.			
- Fencing shall be fauna friendly and erected to direct fauna towards vegetation retained along the central and northern waterway corridor. - Fencing shall be erected prior to the commencement of clearing activities and shall be removed in accordance with the WPMP to enable animals to safely move to refuge areas. - Within the tree protection zone, the following activities are not permitted: storage and mixing of materials, vehicle parking, liquid disposal, machinery repairs and/or refuelling, construction of site office or shed, combustion of any material, stockpiling of soil, rubble or debris, any filling or excavation including trenching, topsoil skimming and/or surface excavation, unless otherwise approved. - Only approved weed management, landscape and revegetation works are to occur beyond the temporary protection fencing. - Fencing shall be reinstated immediately if damaged or knocked down. - Fencing shall remain until the completion of all bulk earthworks and removed just prior to practical completion.			
4.1.2 Contractor Education and Awareness			
All site contractors and sub-contractors will be made aware of their responsibilities to protect native fauna. The Construction Contractor will be responsible for the commissioning			
Site Supervisor / Proponent.		Prior to the commencement	Site Supervisor

Management Item	Responsibility	Timing	Reporting
of the PTRP. This FMP is provided as a working document to assist on-site management and protection of native animals. This FMP will generally form part of education and training in a broader CEMP but as a minimum will include: • A copy of this FMP kept on site (Site Office). • General education and awareness notification of contractors and sub-contractors involved in activities potentially impacting native animals as part of site induction – contractors must know the location of the FMP, key phone numbers including the nominated Fauna Spotter Catcher and DES, and who to report to if potential breaches of the FMP occur. • A list of relevant contact numbers as listed in Section 8 kept in a visible and accessible location in the site office.		of construction and as part of the site induction for new staff and sub-contractors.	
4.1.3 Fauna Spotter Catcher			
A DES approved Fauna Spotter Catcher shall inspect the site no more than two (2) weeks prior to clearing works commencing on-site and prepare a PTRP. The report must include a full list of fauna species encountered during the site survey, as well as the marking and identification of significant habitat trees. The report shall be sent to the Environmental Coordinator and Proponent prior to the pre-start meeting, for approval and inspection by the Environmental Coordinator.	Site Supervisor / Proponent.	No more than two weeks prior to clearing works commencing on site.	Site Supervisor / Environmental Coordinator
In addition, the Fauna Spotter Catcher must assess the site for: • The presence of native fauna and/or supporting habitat on-site. • Available habitat suitable for likely fauna species. • The presence of any fauna that is 'protected wildlife' as defined under the <i>Nature Conservation Act 1992</i> (protected wildlife). • The presence of any species that is a 'listed threatened species' under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) (listed threatened species).			

Management Item	Responsibility	Timing	Reporting
Section 7 details the documentation and actions to be taken if the assessment finds suitable habitat present adjacent to the site or protected/listed species present and/or if the relocation of fauna is required.			
The DES approved Fauna Spotter Catcher must be present during the pre-start meeting to identify all fauna habitat trees prior to the commencement of works to ensure wildlife is unharmed at the time of tree clearing operations			
Note. The DES approved Fauna Spotter Catcher is a person who holds a rehabilitation permit with an extended authority issued by the Department of Environment and Science specifying the holder may take, keep or use an animal whose habitat is about to be destroyed by a human activity.			

5.2. Vegetation Clearing

Management Item	Responsibility	Timing	Reporting
4.2.1 Fauna Spotter Catcher	Fauna Spotter Catcher.	Must be present for pre-start meeting and during all onsite clearing.	Proponent / Site Supervisor / Environmental Coordinator
For all vegetation clearing:			
- Immediately prior to the commencement of clearing of native vegetation a daily visual inspection of the area must be carried out. - A Fauna Spotter Catcher must be present during all clearing activities and inspect trees continuously ahead of clearing for Koalas. - In the event of an animal being located, an area within a minimum 5 m radius should be established excluding machinery from the area until the animal has relocated (usually overnight). The no go zone should be determined by the Fauna Spotter Catcher dependant on the species. - If any used hollows or nests are identified from inspection by the Fauna Spotter Catcher, the hollows and nest must be removed by an experienced machinery operator and carefully lowered for inspection and fauna removal by the Fauna Spotter. - Translocation of threatened fauna is not permitted and fauna must move off at its own accord. There is no approval to translocate threatened fauna as part of operational works onsite, refer to Section 6 of this document for further details. - Any native fauna orphaned or injured by the development process must be immediately reported to DES, RSPCA and the Environmental Coordinator and Proponent. - The Site Supervisor is responsible for the safe management of site fauna and implementation of these specific requirements. - All personnel on-site must undertake all works in accordance with all direction/s given by the DES approved Fauna Spotter Catcher.			

SPECIFIC KOALA MANAGEMENT NOTES

A DES approved Koala Spotter is a person who holds a tertiary qualification in Biology or Zoology, or who is demonstrably experienced in the identification and location of Koalas

Management Item	Responsibility	Timing	Reporting
in their natural habitat, and has an authorisation from DES to conduct such activities. For example, demonstrably experienced may include a Koala keeper employed by a licenced Wildlife exhibitor (i.e. a zoo) may be capable of demonstrating competence in location Koalas. Prior to the commencement and during felling operations, it is the responsibility of the DES approved Fauna Spotter to: 1. Be present at the site of felling operations; 2. Identify any tree at the site which a Koala is present, as well as any tree that has a crown which is intermeshed or overlapping with such tree; and 3. Advise the person who is authorised to conduct the felling operation, or that person's representative, of the precise location of each such tree.			
4.2.2 Direction of Clearing	Site Supervisor / Earthworks Contractor / Sub Contractor.	As part of clearing earthworks operations.	Site Supervisor / Proponent / Environmental Coordinator
4.2.3 Monitoring of Clearing/Earthworks	DES Fauna Spotter (as Catcher as employed by the Construction Contractor.	As part of clearing earthworks operations.	Site Supervisor / Proponent / Environmental Coordinator
4.2.4 Timing of Clearing	Site Supervisor / Earthworks Contractor / Sub Contractor.	As part of clearing earthworks operations.	Site Supervisor / Proponent / Environmental Coordinator
No machinery use for vegetation clearing or damage of any kind shall occur on-site between 6 pm and 6 am.			

Management Item	Responsibility	Timing	Reporting
4.2.4 Relocation / Translocation			
Where works will result in unacceptable risks to health and safety of fauna, a range of measures may be used by the approved Fauna Spotted Catcher to minimise risks, including the temporary removal of animals from the site with the aim of returning animals back to habitat on site at the completion of risk associated works or to suitable habitat adjacent to the site. Appropriate measures are to be determined by the approved Fauna Spotter Catcher.	DES Fauna Spotter Catcher as employed by the Construction Contractor.	As part of clearing/earthworks operations.	Site Supervisor / Proponent/ Environmental Coordinator

Note: Appropriate wildlife-proof barriers must be used between adjacent habitat and risk associated structures (i.e. roads) where translocation occurs.

5.3. Excavation, Earthworks and Access

Management Item	Responsibility	Timing	Reporting
4.3.1 Minimise Entrapment			
Trenches, manholes, excavation for footings, etc. pose threats to native animal entrapment when left open and should be backfilled as soon as possible. In some locations barriers may be required overnight to eliminate the accidental capture of animals moving through the site.	Site Supervisor / Earthworks Contractor / Sub Contractor	As part of site earthworks.	Site Supervisor / Proponent / Environmental Coordinator
When trenches are not backfilled they are to be inspected at the commencement of each day for trapped or injured wildlife.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator
Note: If during the inspection injured wildlife or entrapped native fauna is observed the Site Supervisor is to contact the Fauna Spotter Catcher immediately.			
4.3.2 Regular and Defined Access			
To minimise impacts and conflicts between native animals, vehicular movement and access during construction and site access should be controlled via minimal entry and exit points.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator / EDQ.
4.3.3 Stockpile and Rubbish Locations			
Stockpiled vegetation, topsoil and other materials can quickly become temporary habitat for animals displaced during the actual clearing and earthworks. Rubbish, waste and litter provides opportunistic food source for native and exotic animals alike and often encourages predatory and feral species.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator
Locations for stockpiles, designated rubbish points etc. should occur in cleared sections of the site, away from retained areas, limiting interaction between these areas and core retention areas.			

5.4. Nest Box / Hollow Maintenance and Monitoring

Management Item	Responsibility	Timing	Reporting
4.4.1 Installation			
As part of the VMP the Environmental Coordinator will determine the number of lost habitat values (hollows) that will require replacement. The specific location of nest boxes to be installed in retained vegetation bordering along the waterways and as directed in the VMP prepared by the Environmental Coordinator. The VMP will require that all nest box locations are to be GPS recorded and coordinates provided to the Environmental Coordinator, Proponent and EDQ.	Environmental Coordinator	Nest boxes and salvaged hollows installed commensurate with clearing progression.	Site Supervisor / Proponent / Environmental Coordinator / EDQ
4.4.2 Maintenance and Monitoring			
Nest boxes are to be monitored and maintained for 12 months. Maintenance activities include, but are not limited to, the following:	Nest Box Contractor	12 months	Site Supervisor / Proponent / Environmental Coordinator / EDQ
• The replacement of failed or damaged nest boxes • The removal of invasive species • The removal of invasive species will be determined by the engaged DES Fauna Spotter Catcher or suitably qualified person.			
4.4.3 Reporting Schedule and Pro forma			
A reporting schedule and pro forma must be completed to report all nest box maintenance and monitoring activities throughout the construction period of the development. A copy of the reporting schedule and pro forma must be provided to the Environmental Coordinator and Proponent.	Nest Box Contractor	Throughout the construction period of the development.	Site Supervisor / Proponent / Environmental Coordinator / EDQ

5.5. Non-compliance, Monitoring and Reporting

Management Item	Responsibility	Timing	Reporting
4.5.1 Non-Compliance			
Despite the provisions in this FMP, in the unlikely event of a non-compliance or breach, Site Supervisor where a contractor or sub-contractor witnesses or is involved in activities which do not comply with this FMP the following procedure shall be followed:	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator / EDQ
• All breaches of the FMP must immediately be reported to the Proponent. • If possible, prior approval / or communication on the breach should be discussed with the Environmental Coordinator. The Environmental Coordinator is responsible for establishing additional management procedures or determining if EDQ notification should be made. • Non-compliance activities should be halted immediately and impacts rectified (fencing reinstalled, stock piling relocated, etc.). • Site staff should notify the site supervisor who is responsible for either rectifying actions or contacting the Environmental Coordinator. • All major breaches which fundamentally do not achieve the overall outcomes of the FMP and result in lost habitat or distress to native animals must be reported to the Environmental Coordinator, Proponent and applicable regulatory authorities.			

4.5.2 Monitoring and Reporting			
The site shall be monitored at all times. This should include:	All Site Staff	On-going	EDQ / Environmental Coordinator / Proponent
• Daily inspections by the Site Supervisor. • Periodical inspections by the Environmental Coordinator. • Random and periodical inspections by the Proponent.			

The Fauna Spotter Catcher employed during pre-construction and on-site works shall provide a Post-clearing Report, to be given to the Environmental Coordinator and Proponent no more than two (2) weeks after clearing has finished, specifying the following:

- Length and time of clearing;
- Details of any fauna that were caught and/or released and the placement of any release/s;
- Inventory of species encountered during tree removal;
- Brief summary of any fauna handling, mortalities or other relevant fauna related incidents that may have occurring during tree removal; and

The Fauna Spotter Catcher Post-clearing Report is to be submitted to the Environmental Coordinator, Proponent and EDQ following the completion of tree clearing activities and prior to commencement of the use of the premises.

4.5.3 Orphaned or Injured Fauna

All native animal fatalities must be reported immediately to the Environmental Coordinator, All Site Staff the Proponent and DES.	On-going	EDQ / DES / Environmental Coordinator / Proponent
Where any site staff (contractors or sub-contractors) witnesses or locates distressed, injured or orphaned animals they should immediately contact the Environmental Coordinator and Proponent. Works within the area of the animal must cease until further instruction is provided by one of the above authorities.		

Refer to Section 8 for a list of key contacts.

Refer to Section 8 for the contact details of responsible entities. The Environmental Coordinator’s role has been to prepare this FMP and liaise with EDQ, the Proponent and the approved Fauna Spotter Catcher (to be appointed) and the Construction Contractor (to be appointed) to achieve the outcomes of this plan.

6. Fauna Spotter Catcher Assessment

The Fauna Spotter Catcher assessment as part of the pre-clearing surveys and PTRP may reveal suitable fauna habitat on adjacent land for protected/listed species present on the site and/or the requirement for relocation of threatened fauna. The following table details the actions to be taken in these events.

Fauna Spotter Catcher required – threatened species and their habitat present adjacent to the site	If the engaged Fauna Spotter Catcher’s assessment determines that no protected wildlife or listed species are present but such threatened fauna may be present within suitable habitat existing adjacent to the site, the following must be included in the PTRP: • Fauna Spotter Catcher credentials and for handling of anticipated protected species • A list of anticipated species; and • A Wildlife Protection Management Plan (WPMP) and Wildlife Habitat Impact Mitigation Plan (WHIMP)
Fauna Spotter Catcher required – threatened species present and/or relocation required	If the Fauna Spotter Catcher’s Assessment determines that any protected wildlife or listed species are present, and/or threatened fauna are to be systematically relocated, a Fauna Translocation Management Plan (FTMP) must be prepared in accordance with the PTRP. The FTMP must be submitted to DES for endorsement. The following must then be submitted to EDQ with a development application for operational works (vegetation clearing): • Fauna Spotter Catcher credentials and for handling of anticipated protected species • A list of anticipated species; and • DES endorsement of the proposed FTMP; and • A copy of the DES endorsed FTMP.

7. Koala Habitat

The site is not identified as within a State mapped assessable Koala habitat area, however, does include Koala habitat mapped under State planning Policy and the following should be complied with as part of this FMP to ensure safe removal should any Koalas be encountered on site:

- During construction phases measures are taken in construction practices to not increase the risk of death or injuries to Koalas.
- Native vegetation clearing is undertaken as sequential clearing under the guidance of a Koala spotter where the native vegetation is a non-juvenile Koala habitat tree.
- Landscape activities provide food, shelter and movement opportunities for Koala consistent with the site design.

8. Site Contacts

Role	Contact Details
Proponent	Darwin King PACIFIQ Communities Ph. 07 5500 4887
Site Supervisor	<i>To be appointed.</i>
Environmental Coordinator	Andrew Davies Saunders Havill Group Ph. (07) 3251 9444
Administering Authority	Brandon Bouda Economic Development Queensland Ph. (07) 3452 7422
Council	Adam Avalos Logan City Council Ph. (07) 3412 4874
Construction Contractor	<i>To be appointed.</i>
Fauna Spotter and Catcher	<i>To be appointed.</i>
Veterinarian (in closest proximity to application site)	Jimboomba Veterinary Surgery 10 Euphemia St, Jimboomba QLD 4280 Mon-Fri: 8:00am – 6:30pm, Sat: 8:00am – 5:00pm, Sun: 9:00am–4:00pm Ph. (07) 5546 9079 / 1800 217 794
Department of Environmental and Science	For wildlife incidents and licensing and permits: Ph. 1300 130 372
RSPCA Queensland	For reporting injured, sick or orphaned wildlife: Ph. 1300 ANIMAL (1300 264 625)

9. Appendices

Appendix A

Protected Matters Search Tool

Environment Protection and Biodiversity Conservation Act 1999

Appendix B

Wildlife Online Search

Nature Conservation Act 1992

Appendix C

Habitat Suitability Assessment

Appendix A

Protected Matters Search Tool

*Environment Protection and Biodiversity
Conservation Act 1999*



EPBC Act Protected Matters Report

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

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

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

Report created: 31/08/18 09:21:12

[Summary](#)

[Details](#)

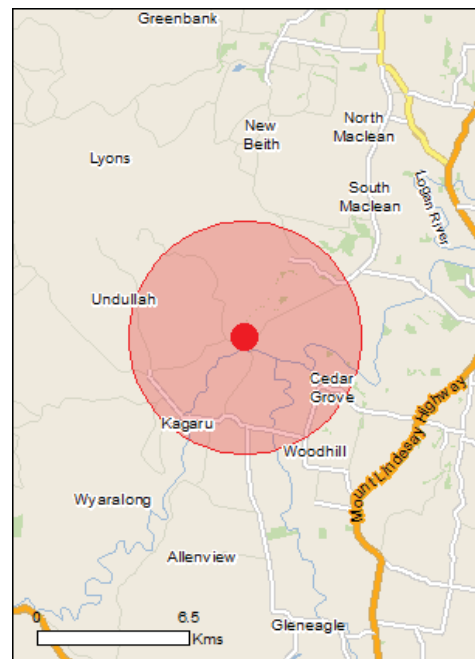
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

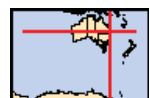
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	34
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 <http://www.environment.gov.au/heritage>

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	32
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Moreton bay	30 - 40km upstream	

Listed Threatened Ecological Communities [Resource Information]

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

Name	Status	Type of Presence
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
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]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia		
Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Dasyornis brachypterus		
Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area
Erythrorhynchus radiatus		
Red Goshawk [942]	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
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

Name	Status	Type of Presence
Poephila cincta cincta Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	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
Insects		
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Plants		
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Cycas ophiolitica [55797]	Endangered	Species or species habitat likely to occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Notelaea ipsviciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	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 likely to occur within area

Reptiles

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
Saiphos reticulatus Three-toed Snake-tooth Skink [88328]	Vulnerable	Species or species habitat may occur within area

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

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

Name	Threatened	Type of Presence
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Migratory Marine Birds

Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
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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]		Species or species habitat likely to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area

Migratory Wetlands Species

Name	Threatened	Type of Presence
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
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
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]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species

[Resource Information]

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

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area

Plants

Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Reptiles

Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake,		Species or species

Name	Status	Type of Presence
Cacing Besi [1258]		habitat may occur within area

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-27.8356 152.93297

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.

Appendix B

Wildlife Online Search

Nature Conservation Act 1992



Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point

Species: All

Type: All

Status: Rare and threatened species

Records: All

Date: All

Latitude: -27.8357

Longitude: 152.9329

Distance: 5

Email: keiragrundy@saundershavill.com

Date submitted: Friday 31 Aug 2018 09:22:13

Date extracted: Friday 31 Aug 2018 09:30:03

The number of records retrieved = 2

Disclaimer

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

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

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, 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.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	12
plants	higher dicots	Myrtaceae	<i>Melaleuca irbyana</i>			E		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 in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

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

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens). This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon. This number is output as 999 if it equals or exceeds this value.

Appendix C

Habitat Suitability Assessment

Habitat Assessment for Species Listed under the EPBC Act (occurring within 5 km radius)

Matters of National Environmental Significance						
Wetlands of International Importance		Moreton Bay	RAMSAR Listed	30-40km upstream of Moreton Bay.	The site is located approximately 30-40 kilometres directly east of Moreton Bay. There will be no measurable affect to Moreton Bay.	No Risk
Listed Threatened Ecological Communities						
Name	Status	Type of Presence	Description of Community	Likelihood of Occurrence	Risk	

Lowland rainforest of Subtropical Australia

Critically Endangered

This Threatened Ecological Community is listed as a community that may occur within the area.

Typically there is a relatively low abundance of species from the genera *Eucalyptus*, *Melaleuca* and *Casuarina*. Buttresses are common as is an abundance and diversity of vines. This community is usually associated Regional Ecosystems 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1, and 12.12.16.

No species representing these characteristics or vegetation communities were observed within the assessment area.

No Risk

White Box- Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

Critically Endangered

This Threatened Ecological Community is listed as a community that may occur within the area.

This threatened community is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs and the dominance of White Box, Yellow Box, or Blakely's Red gum trees. This community is usually associated with Regional Ecosystem 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8, and 13.12.9. It can also be a small component of Regional Ecosystem 11.3.23, 12.8.16, 13.3.4, 13.11.3 and 13.11.4.

No species representing these characteristics or vegetation communities were observed within the assessment area.

No Risk

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
Birds						
<i>Anthochaera phrygia</i>	Regent Honeyeater	Endangered	82338	Regent Honeyeaters mostly occur in dry Box-Ironbark Eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites. These areas are generally associated with creek flats and river valleys and foothills. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. They are a generalist forager, which mainly feed on nectar from a wide range of eucalypts and mistletoes.	The site contains both remnant and non - remnant vegetation communities dominated by eucalypt and Corymbia species however all riparian areas are highly disturbed. Very few mature large specimens remain throughout the majority of the site as a result of historical logging practices and vegetation clearing.	No Risk
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered	1001	The Australasian Bittern occurs in terrestrial wetlands and, rarely, estuarine habitats, mainly in the temperate southeast and southwest. It favours wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and / or reeds or cutting grass growing over muddy or peaty substrate. The Australasian Bittern occurs in the far South-East of Queensland; it has been reported North to Baralaba and West to Wyandra, although in most years it is probably confined to a few coastal swamps. It is rarely recorded in Queensland, and possibly survives only in protected areas such as the Cooloola and Fraser regions.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Calidris ferruginea</i>	Curlw Sandpiper	Critically Endangered	856	Curlw Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters	No suitable habitat was observed throughout the assessment area.	No Risk

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	Endangered	533	The Eastern Bristlebird inhabits low dense vegetation in a broad range of habitat types including sedgeland, heathland, swampland, shrubland, sclerophyll forest and woodland, and rainforest. It occurs near the coast, on tablelands and in ranges. The Eastern Bristlebird is found in habitats with a variety of species compositions, but is defined by a similar structure of low, dense, ground or understorey vegetation.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Erythroriorchis radiatus</i>	Red Goshawk	Vulnerable	942	A wide ranging and highly mobile species generally observed over eucalypt habitats. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds) and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins. Habitat has to be open enough for fast attack and manoeuvring in flight, but provide cover for ambushing of prey.	Due to a lack of records within the local area, it is unlikely that this species will occur. However, possible foraging habitat throughout the mapped remnant areas. There is no evidence of permanent residence on site and very few areas containing permanent water.	No Risk
<i>Geophaps scripta scripta</i>	Squatter Pigeon (southern)	Vulnerable	64440	This species inhabits open grasslands and woodlands typically with a native understorey although may occur in artificial pasture.	No confirmed local records. The species is now very rarely observed in southern Queensland. Not expected onsite and no direct impact from proposed actions.	No Risk
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable	470	This species inhabits Boree/ Weeping Myall (Acacia pendula), Brigalow (A. harpophylla) and Box-Gum Woodlands and Box-Ironbark Forests.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Lathamus discolor</i>	Swift Parrot	Endangered	744	Swift Parrots breed in Tasmania during spring to early summer. During autumn and winter the species migrates to the mainland where it follows a nomadic existence linked to the availability and timing of flowering of trees in various locations. While the species is very uncommon in south-east Queensland, its occurrence cannot be completely discounted. There are suitable winter flowing species present on the site which may attract birds during flowing (e.g. E. tereticornis).	Due to a lack of records within the local area and south east Queensland, it is highly unlikely that this species will occur.	No Risk
<i>Numenius madagascariensis</i>	Eastern Curlew	Critically Endangered	847	The species breeds on open mossy or transitional bogs, moss-lichen bogs and wet meadows, and on the swampy shores of small lakes; in the non-breeding season it is essentially coastal, occurring at estuaries, mangrove swamps, saltmarshes and	No suitable habitat was observed throughout the assessment area.	No Risk

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
<i>Peophila cincta</i>	Black-throated Finch (southern)	Endangered	64447	intertidal flats, particularly those with extensive seagrass (Zosteraceae) meadows. The Black-throated Finch (southern) occurs mainly in grassy, open woodlands and forests, typically dominated by Eucalyptus, Corymbia and Melaleuca, and occasionally in tussock grasslands or other habitats (for example freshwater wetlands), often along or near watercourses, or in the vicinity of water. It occurs at two general locations: in the Townsville region, where it is considered to be locally common at a few sites around Townsville and Charters Towers; and at scattered sites in central-eastern Queensland (between Aramac and Great Basalt Wall National Park). It has been absent from Brisbane and its surrounds since the 1930s.	Due to a lack of records within the local area, it is highly unlikely that this species will occur.	No Risk
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered	77037	The Australian Painted Snipe is usually found in shallow inland wetlands, either freshwater or brackish, that are either permanently or temporarily filled. The species has a scattered distribution throughout many parts of Australia, with a single record from Tasmania.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Turnix melanogaster</i>	Black-breasted Button-quail	Vulnerable	923	Typical habitat occurs in dry rainforest and vegetation immediately adjacent to rainforest. However the species has also been recorded in a variety of low coastal heathlands around Fraser Island and nearby mainland. Deep leaf litter in which the species can forage appears to be particularly favoured.	Habitats on the site are highly disturbed due to prior logging regimes, weed invasion and prior pastoral/grazing activities. Although this species is known to favour areas with a dense shrub layer, including thick Lantana camara patches, no evidence (i.e.: platelets) has been observed on site. Evidence of feral pigs and dogs may have also contributed to a lack of records.	No Risk
Fish						
<i>Maccullochella mairiensis</i>	Mary River Cod	Endangered	83806	The Mary River Cod occurs mainly in pools within relatively undisturbed tributaries. They prefer relatively large and deep shaded pools with abundant, slowly flowing water.	No suitable habitat to support this species was observed throughout the assessment area.	No Risk
Insect						

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
<i>Argyrops hyperbrius inconstans</i>	Australian Fritillary	Critically Endangered	88056	The Australian fritillary is restricted to areas where its larval food plant, <i>Viola betonicifolia</i> (the arrowhead violet), occurs (NSW Scientific Committee 2002). The arrowhead violet is widespread throughout Queensland and NSW, at both high and low altitudes. However, the Australian fritillary appears to only occupy lower altitude sites (<600m), and in these lower altitude regions there has been significant clearing for urban expansion.	No suitable habitat to support this species was observed throughout the assessment area.	No Risk
Mammals						
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Vulnerable	183	The Large-eared Pied Bat roosts on sandstone cliffs and fertile woodland valley habitat within close proximity of each other. However in South-east Queensland habitat includes rainforest and moist eucalypt forest habitats at high elevations.	No confirmed local records of this uncommon species.	No Risk
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll	Endangered	75184	The Spot-tailed Quoll has a preference for mature wet forest habitat. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. This predominantly nocturnal species rests during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage.	No suitable den sites were observed on the project site however it is recognised that suitable habitat for the species occurs within the broader Flagstone area.	Low Risk
<i>Petauroides volans</i>	Greater Glider	Vulnerable	254	The greater glider is an arboreal nocturnal marsupial, largely restricted to eucalypt forests and woodlands. It is primarily folivorous, with a diet mostly comprising eucalypt leaves, and occasionally flowers. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows/	Suitable habitat occurs within the broader area. However, the project area contains very few trees which provide suitable habitat in the form of hollows to ensure the provision of suitable shelter and protection from predators and weather conditions. In relation to significant	Low Risk
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Vulnerable	225	This species prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. Most populations have been found on north facing slopes but have occurred on south facing slopes. This species browse on vegetation in and adjacent to rocky areas eating grasses and forbs as well as the foliage and fruits of shrubs and trees.	No suitable habitat located on site.	No Risk

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
<i>Phascolarctos cinereus</i>	Koala	Vulnerable	85104	They are found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland. The species is known from the surrounding area and evidence has been recorded on-site.	Extensive searches of this species, including SAT surveys and spotlighting did not identify any individual specimens. However, some old scats were observed throughout the site in various locations. The site has been previously disturbed in areas due to clearing for agricultural purposes, and is relatively disconnected from surrounding suitable habitat due to major roads, railway lines, and new developments. The presence of weeds, such as <i>Lantana camara</i> (Lantana), has also reduced the quality of habitat for this species. However, various koala food trees are situated on-site, providing potential habitat.	Medium Risk
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo	Vulnerable	66645	Species generally prefers rainforest and adjacent to wet sclerophyll forest, coastal heathlands and similar habitats with a dense understorey. Like all Potoroos, fungi are the major component of the diet and is also known to feed on invertebrates.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Pteropus poliocephalus</i>	Grey-headed Flying Fox	Vulnerable	186	Species generally roosts in camps in trees adjacent to larger permanent watercourse. The Grey-headed flying fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feed on commercial fruit crops. The primary food source is blossom from Eucalyptus and related genera.	No camps were observed throughout the assessment area, however, food resources cover the site. This species is highly likely to occur when the eucalypts are in flower.	Low Risk
Reptiles						

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
<i>Delma torquata</i>	Adorned Delma	Vulnerable	1656	In general, the species occurs on rocky hillsides on basalt and lateritic soils supporting open eucalypt and Acacia woodland with a sparse understorey of shrubs and tussocks or semi-evergreen vine thicket.	No suitable habitat was observed throughout the assessment area.	Low Risk
<i>Furina dunmalli</i>	Dunmall's Snake	Vulnerable	59254	Dunmall's Snake has been found in a broad range of habitats, including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow other Wattles, native Cypress or Bull-oak, and various Blue Spotted Gum, Ironbark, White Cypress Pine and Bull oak open forest and woodland associations on sandstone derived soils. Dunmall's Snake occurs primarily in the Brigalow Belt region in the South-eastern interior of Queensland. Records indicate sites at elevations between 200–500 m above sea level. The snake is very rare or secretive with limited records existing. It has been recorded at Archokoorra, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Saiphos reticulatus</i>	Three-toed Snake-tooth Skink	Vulnerable	88328	The Three-toed Snake-tooth Skink has been found in loose, well mulched friable soil, in and under rotting logs, in forest litter, under fallen hoop pine bark and under decomposing cane mulch. In Queensland, the Three-toed Snake-tooth Skink has been recorded in rainforest, closed forest, wet sclerophyll forest, tall open Blackbutt (Eucalyptus pilularis) forest, tall layered open eucalypt forest and closed Brush Box (Lophostemon confertus) forest.	No suitable habitat was observed throughout the assessment area.	No Risk
Listed Migratory Species						
Migratory Marine Birds						
<i>Apus pacificus</i>	Fork-tailed Swift	Migratory	678	This species is almost exclusively aerial and mostly occur over inland plains but sometimes above foothills or in coastal areas.	Possible as a fly over species however no impact to this species is likely to occur.	No Risk
Migratory Terrestrial Species						
<i>Cuculus optatus</i>	Oriental Cuckoo	Migratory	86651	It mainly inhabits forests, occurring in coniferous, deciduous and mixed forest. It feeds mainly on insects and their larvae, foraging for them in trees and bushes as well as on the ground.	No suitable habitat was observed throughout the assessment area.	No Risk

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
<i>Hirundapus caudacutus</i>	White-throated Needle tail	Migratory	682	The White-throated needle tail is almost exclusively aerial. This species has been recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows. The species breeds in wooded lowlands and sparsely vegetated hills, as well as mountains covered with coniferous forests.	Low potential to occur on site within roosting periods.	No Risk
<i>Monarcha melanopsis</i>	Black-faced Monarch	Migratory	609	The Black-faced Monarch mainly occurs in rainforest ecosystems, including semi-deciduous vine thickets, complex notophyll vine forests, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and occasionally cool temperate rainforest.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Monarcha trivirgatus</i>	Spectacled Monarch	Migratory	610	The Spectacled Monarchs natural habitats are subtropical or tropical moist lowland forests, subtropical or tropical mangrove forests, and subtropical or tropical moist montane forests. Its preference is for thick understorey areas.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Motacilla flava</i>	Yellow Wagtail	Migratory	644	The Yellow wagtail occurs in a variety of damp or wet habitats with low vegetation, from rushy pastures, meadows, hay fields and marshes to damp steppe and grassy tundra. Outside of the breeding season it is also found in cultivated areas. The yellow wagtail typically forages in damp grassland and on relatively bare open ground at edges of rivers, lakes and wetlands, but also feeds in dry grassland and in fields of cereal crops	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Migratory	612	Satin Flycatchers inhabit heavily vegetated gullies in eucalypt dominated forests and taller woodlands, and on migration occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.	No suitable habitat was observed throughout the assessment area.	No Risk
<i>Rhipidura rufifrons</i>	Rufous Fantail	Migratory	592	The Rufous fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by Eucalypts such as <i>Eucalyptus microcorys</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus resinifera</i> and a number of other <i>Eucalyptus</i> spp.	No suitable habitat was observed throughout the assessment area.	No Risk

Habitat Assessment for Species Listed under the NCA (occurring within 5 km radius)				
Species	Common Name	Status	Description of Community / Habitat	Likelihood of Occurrence
Mammals				

<i>Phascolarctos cinereus</i>	Koala	Vulnerable	They are found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland. The species is known from the surrounding area and evidence has been recorded on-site.	Extensive searches of this species, including SAT surveys and spotlighting did not identify any individual specimens. However, some old scats were observed throughout the site in various locations. The site has been previously disturbed in areas due to clearing for agricultural purposes, and is relatively disconnected from surrounding suitable habitat due to major roads, railway lines, and new developments. The presence of weeds, such as <i>Lantana camara</i> (Lantana), has also reduced the quality of habitat for this species. However, various koala food trees are situated on-site, providing potential habitat.	Medium Risk
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