MNES Assessment Report

Hazeldean BESS

Prepared for: Enervest Pty Ltd

Date: 21/11/2024

Document Information

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1. Introduction

1.1 Background

Attexo Group Pty Ltd (Attexo) was engaged by Enervest Pty Ltd (Enervest) to undertake targeted ecological surveys within and around the indicative Project Area for the prospective Hazeldean Battery Energy Storage System (BESS), located within the Somerset Regional Council local government area. The results of this survey program assisted in determining whether the construction and ongoing operation of the Project may impact any Matters of National Environmental Significance (MNES), and therefore whether a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required for the Project.

This MNES Assessment Report includes:

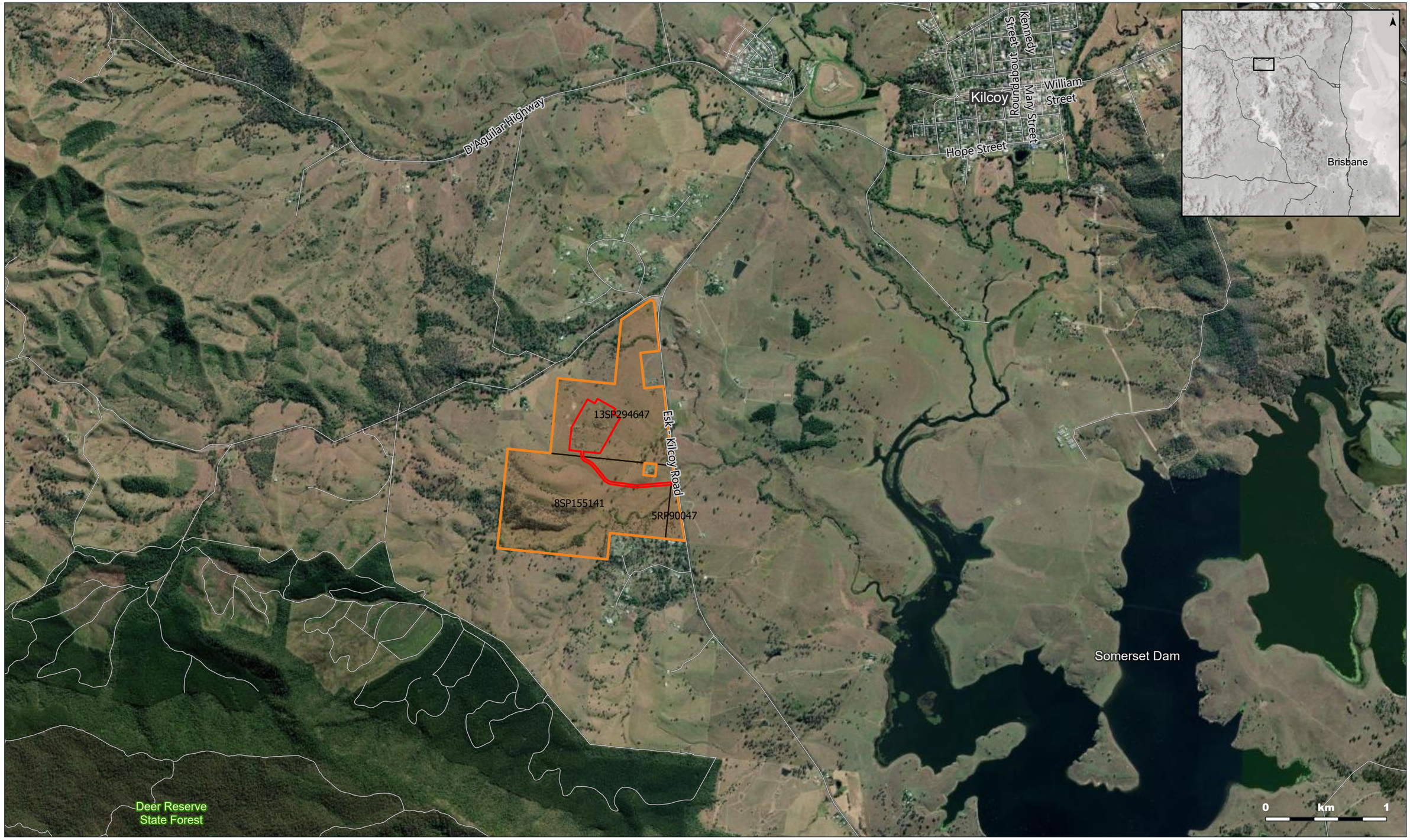
- A brief overview of the desktop information reviewed in the lead up to the targeted MNES survey program;
- A summary of the survey effort undertaken across the Project Area;
- A summary of the survey results, including a summary of the flora and fauna values observed;
- A determination of the relevant MNES applicable to the Project; and
- A consideration of potential impacts to relevant MNES, including a preliminary Significant Impact Assessment for Koala.

1.2 Proposed Action

Enervest is investigating the prospective development of the Hazeldean BESS (Project) comprising batteries, inverters and associated infrastructure, approximately 4 km southwest of Kilcoy, Queensland (**Figure 1**). The Project Footprint comprises the Project infrastructure, and an access track, which spans across three lots (Lot 13 on SP294647, Lot 8 on SP155141, and Lot 5 on RP90047). The Project Area for the purposes of this assessment is the boundary of the three lots hosting the Project Footprint. The Project Area is approximately 185.92 ha, while the Project Footprint is 22.81 ha.

Key elements of the Project design include:

- Access track;
- Batteries and inverters;
- Laydown areas;
- Transformers and circuit breakers;
- Harmonic filters; and
- Switching rooms.



Project Location

- Project Area
- Project Footprint
- Lot Type Parcel
- Roads

HAZELDEAN BESS

Attexo

REVIEWED: MW | **DRAWN:** FM | **SCALE (A3):** 1:30,000 | **DATE:** 3/07/2024 | **DWG No:** ENV-002 | **FIGURE 1**

GDA2020 MGA Zone 56

Data Source: World Hillshade: Esri, CGIAR
World Imagery: Earthstar Geographics
QldMap_Relief: © State of Queensland (Department of Resources) 2023

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2. Methodology

2.1 Desktop Assessment

A desktop assessment was undertaken to identify environmental values, landscape features, vegetation communities, threatened species and ecological communities that may potentially occur within the Project Area and surrounding landscape.

The following documents and data sources were reviewed:

- Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) of the Project Area and a 10km buffer. Accessed February 2024 (**Appendix A**);
- DCCEEW Species Profile and Threats Database (SPRAT);
- Queensland Department of Environment, Science and Innovation (DESI) WildNet database to identify previously recorded flora and fauna species within the Project Area and a 10km buffer (**Appendix B**);
- Queensland Department of Resources (DoR) regulated vegetation mapping (including remnant, high-value regrowth and non-remnant vegetation);
- Atlas of Living Australia (ALA) database;
- eBird records of threatened and/or migratory birds;
- High-resolution satellite imagery; and
- Published ecological information on threatened flora and fauna species where available.

2.1.1 Likelihood of Occurrence

A Likelihood of Occurrence assessment was then undertaken based upon the results of the desktop searches described above. This assessment refined potentially occurring species on the basis of likely presence of habitat, the proximity of nearest records (e.g., ALA database records) and the known range of species. The following categories were applied in this assessment:

- **Known to Occur:** Species or community has been recorded within the Project Area, or historical records, less than 10 years old, occur within or directly adjacent to the Project Area.
- **Likely to Occur:** For species, suitable habitat is present within the Project Area and historical records (<10 years) occur within 5 km; or historical records (>10 years) have been recorded within the Project Area. For communities, constituent regional ecosystems (REs) are present, but patches are small and/or isolated.
- **Potential to Occur:** For species, suitable habitat is present within the Project Area, historical records (<50 years) occur within 50 km and the species has not been recorded within 5 km of the Project (<10 years). For ecological communities, constituent REs are mapped adjacent to the Project Area and could be unmapped within the Project.
- **Unlikely to Occur:** For species, suitable habitat is absent from the Project Area with no records in the vicinity (>50 km), or records are considered extralimital and species occupation temporal. For communities, constituent REs are not mapped within or adjacent to the Project Area.

The full Likelihood of Occurrence assessment is provided in **Appendix C**.

2.1.2 Ecological Values

A desktop assessment of the ecological values relevant to the Project Area was undertaken to inform the likelihood of occurrence, and guide survey efforts. The assessment considered land zones and soils, hydrology, and connectivity aspects of the Project Area.

2.1.2.1 Land Zones and Soils

The Project is located within the Brisbane-Barambah Volcanics subregion of the Southeast Queensland bioregion.

Land zones are categories that describe the major geologies and associated landforms and geomorphic processes of the State of Queensland. The differences between land zones result in marked differences in the function of ecosystems and their associated biodiversity and this is due in part to the effects that geology (lithology, structure, alteration) has on landform, hydrology, and landscape processes (geomorphology and soil formation). There is one land zone mapped across the Project Area, Land Zone 12.

Land Zone 12 is described as Mesozoic to Proterozoic igneous rocks, forming in ranges, hills, and lowlands. Acid, intermediate and basic intrusive and volcanic rocks such as granites, granodiorites, gabbros, dolerites, andesites and rhyolites, as well as minor areas of associated interbedded sediments.

Soils on Land Zone 12 are greatly influenced by the lithology (mineral content). In general terms, the acidic rocks (such as granites and rhyolites) form mainly shallow Tenosols on steeper slopes with Chromosols and Sodosols on lower slopes and gently undulating areas. In high rainfall areas, Kandosols and Podosols can occur on colluvial slopes. Intermediate rocks (such as granodiorite, diorite, syenite, monzonite) form a very diverse range of soils depending on their mineral content, ranging from shallow Tenosols, Chromosols and Dermosols on steeper slopes to Sodosols and Vertosols on lower slopes.

2.1.2.2 Hydrology

The Project Area is situated entirely within the Stanley River sub-basin of the Brisbane catchment. There are several unmapped (for the purpose of the Water Act) water features within the Project Area, which generally flow west to east. These features drain into an unnamed tributary of New Country Creek, located to the east of the Project Area.

There are two areas mapped as regional ecosystems which may contain wetlands within the Project Area (see **Figure 3**). Both wetland areas are mapped as palustrine wetland systems, with vegetation composed of *Corymbia*, *Eucalyptus*, and *Melaleuca* flora species. The wetland areas are in the southern part of the Project Area, outside the Project Footprint and will not be impacted by the proposed action. In accordance with the PMST, there is one wetland of international importance (RAMSAR – Moreton Bay) 220-230 km downstream of the Project Area via the Stanley and Brisbane Rivers.

The vegetation types within the Project Area are not Groundwater Dependent Ecosystems as mapped by the State government. There is one man-made farm dam within the Project Area and the Somerset Dam is situated approximately 3 km from the Project Area.

2.1.2.3 Connectivity

Regional and Statewide Biodiversity Corridors are identified by the Queensland Government to maximise areas of connectivity between large tracts of remnant vegetation, and with a particular focus on connecting unique ecosystems and areas of high species richness and diversity.

No State or Regional Biodiversity Corridors overlap with the Project Area. The nearest State Biodiversity Corridor runs in a north to south direction, approximately 3 km to the south-west of the Project Area. The Project Footprint avoids impacts to Biodiversity Corridors.

2.2 Field Assessment

The targeted MNES survey program was focused on the detection of those species identified as "known to occur", "likely to occur" or "potentially occurring" in the initial desktop likelihood of occurrence assessment (**Table 1**). The following survey guidelines and published literature was reviewed in the development of the survey program:

- Terrestrial Vertebrate Fauna Survey Guidelines for Queensland version 4.0 (Eyre et al. 2022a);
- Survey guidelines for Australia's threatened mammals (DSEWPC 2011a):
- Survey guidelines for Australia's threatened reptiles (DSEWPC 2011b);
- Survey guidelines for Australia's threatened birds (DEWHA 2010a); and
- Flora Survey guidelines – Protected Plants (DES 2020).

The following species-specific documentation was also reviewed:

- A review of koala habitat assessment criteria and methods (Youngentob *et al.* 2021);
- Guide to greater glider habitat in Queensland (Eyre et al. 2022b); and
- Draft referral guidelines for 14 migratory birds (DOE, 2015).

Consideration was given to the seasonal suitability of the proposed survey program for each of these species; this is summarised in **Table 1**.

Table 1. Initial Likelihood of Occurrence Assessment

Common Name	Scientific Name	Optimal Survey Period	Initial Likelihood of Occurrence Assessment
Birds			
Common Sandpiper	*Actitis hypoleucos*	Jun to Aug	Possibly Occurring
Regent Honeyeater	*Anthochaera phrygia*	All year	Possibly Occurring
Fork-tailed Swift	*Apus pacificus*	Oct - Apr	Likely to Occur
Sharp-tailed Sandpiper	*Calidris acuminata*	Sep to Feb	Likely to Occur
Latham's Snipe, Japanese Snipe	*Gallinago hardwickii*	Oct to Feb	Likely to Occur
Squatter Pigeon (southern)	*Geophaps scripta scripta*	May to Oct	Possibly Occurring
White-throated Needletail	*Hirundapus caudacutus*	Oct to Apr	Likely to Occur
Caspian tern	*Hydroprogne caspia*	All year	Possibly Occurring
Swift Parrot	*Lathamus discolor*	Jun to Aug	Possibly Occurring
Yellow Wagtail	*Motacilla flava*	Nov to Mar	Possibly Occurring
Osprey	*Pandion haliaetus*	All year	Likely to Occur
Pacific Golden Plover	*Pluvialis fulva*	Sep to May	Possibly Occurring
Diamond Firetail	*Stagonopleura guttata*	All year	Possibly Occurring
Spectacled Monarch	*Symposiachrus trivirgatus*	Mar to Nov	Possibly Occurring
Amphibians			
Giant Barred Frog	*Mixophyes iteratus*	Sep to May	Possibly Occurring
Mammals			
Koala	*Phascolarctos cinereus*	All year	Likely to Occur
Greater Glider (southern & central)	*Petauroides volans*	All year	Likely to Occur
Grey-headed Flying-fox	*Pteropus poliocephalus*	All year	Likely to Occur
Plants			
Bluegrass	*Dichanthium setosum*	Oct to Feb	Possibly Occurring
Hawkweed	*Picris evae*	Oct to Feb	Possibly Occurring
Austral Toadflax	*Thesium australe*	Oct to May	Possibly Occurring

2.2.1 Survey Timing and Conditions

The targeted MNES survey program was undertaken from 11 to 13 March 2024. Weather and climatic conditions in the lead up to this program were ideal for the detection of potentially occurring MNES flora and fauna species. Weather data was collected from Bureau of Meteorology (BoM) weather stations (Station# 040697 & 040958 respectively) which are the nearest weather stations to the Project Area, located in Redcliffe (**Figure 2**).

High rainfall in the months preceding this survey program increased the likelihood that vegetative and reproductive growth would be present to aid in the identification of flora species and vegetation communities. This vegetative growth also likely improved the quantity of food resources available for resident fauna populations and produced ideal conditions for the detection of amphibian species who are dependent upon standing water microhabitats.

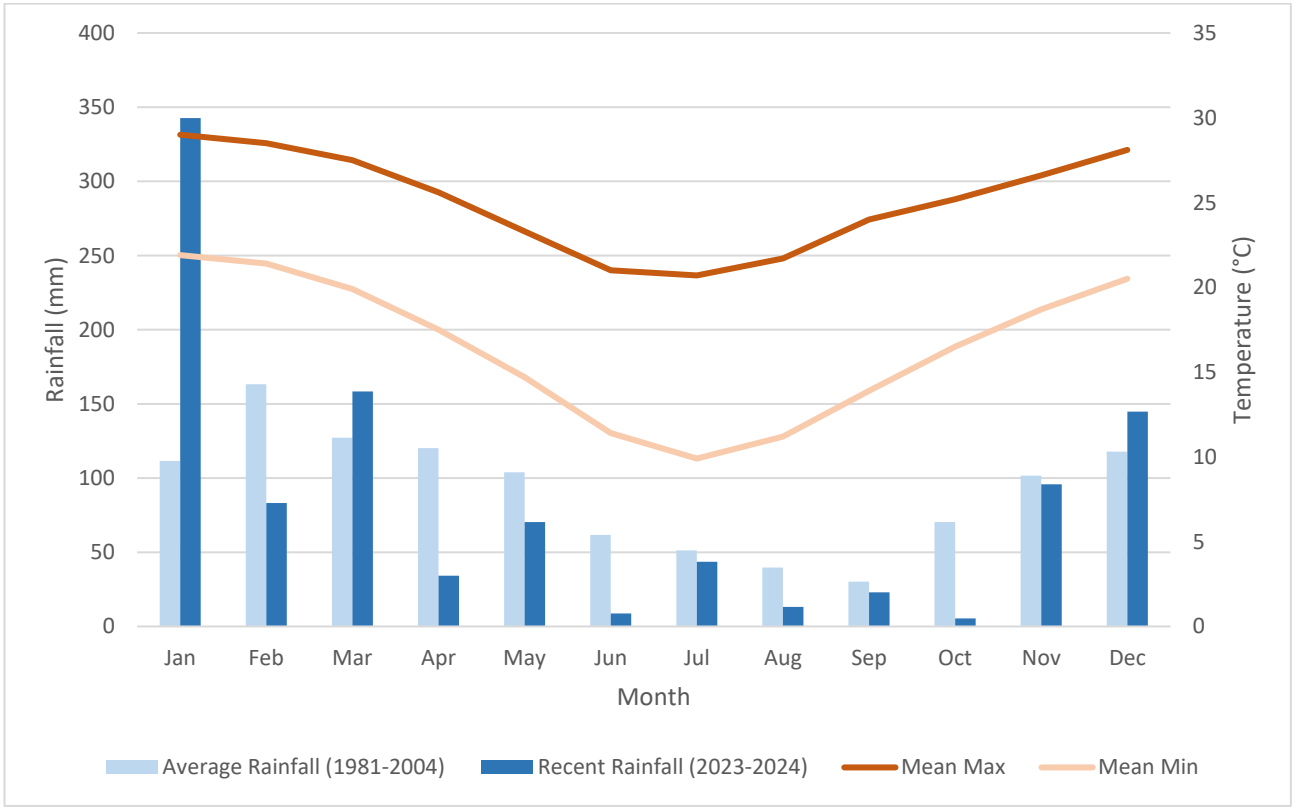

Figure 2: Weather Conditions Indicative of the Project Area (BoM Weather Station: 040697 & 040958).

2.2.2 Bird Surveys

Diurnal bird surveys were undertaken at two fixed points across the Project Area (**Figure 3**), in the early mornings and late evenings. In total, three separate bird surveys were undertaken at these two points over the course of the survey program. Birds were identified by call and sight (using binoculars to aid identification) and were recorded over a 30-minute period by two ecologists. These survey locations were chosen as they afforded the observers excellent vision across the entire Project Area and ensured that all available habitat values could be sampled. In total, 6 person-hours of bird surveys were undertaken as part of this survey program.

2.2.3 Spotlighting, Call Playback & Passive Acoustic Detection

Spotlighting transects were conducted on foot and by vehicle for nocturnal fauna across four sites within and outside of the Project Area (

Figure 3). All spotlighting transects were assessed for two consecutive nights, for approximately 30 minutes by two ecologists resulting in a consolidated survey effort of 8 person hours. In total, approximately 6.8 km of spotlighting meanders were traversed by the field team.

Spotlighting involved walking or slowly driving through areas of potential habitat (i.e. drainage gullies, regrowth vegetation, watercourses with riparian vegetation and open forest) with spotlights (1,000 lumen) and shining them into the canopy to identify eye-shine of active avian, mammal or reptile species. The spotlights were also periodically directed towards the ground to identify reptiles or amphibians that may be foraging on the ground surface.

Call playback surveys for amphibian species were also conducted during spotlighting transects undertaken within drainage gullies and watercourses. They began with a five-minute listening period for un-elicited calls, followed by broadcasting of pre-recorded calls for the Giant Barred Frog. These calls were played for three minutes, followed by a two-minute listening period then followed by a five-minute spotlighting session of the immediate area.

Passive acoustic detection was undertaken via an Anabat device deployed at one site over two nights in the north of the Project Footprint (see **Figure 3**). Note – there were two main factors considered during the placement of the Anabat detector:

- The desire to detect bat species that were actively utilising the foraging resources available within the Project Footprint. Whilst it is acknowledged that there is likely to be more suitable roosting and foraging opportunities along New Country Creek to the north of the Project Footprint, the intent was to sample those species that could be impacted by the construction of the Project.
- Farm dams that local bat populations are likely to utilise are located to the east and west of the Project Footprint. The selected sample location would capture individuals moving between these water resources, the foraging opportunities within the Project Footprint and the foraging/roosting habitat along New Country Creek.

Attexo is comfortable with the selected survey location and believes the data collected accurately reflects the microbat species that utilise resources available within the Project Footprint and that may be impacted by the Project.

2.2.4 Diurnal Meanders

Diurnal meander surveys were systematically conducted across the entire Project Footprint, and nearby adjacent habitat of value. This systematic survey approach is considered appropriate for this small Project Area (Eyre et al. 2022a). These surveys consisted of inspections of all habitat values within the Project Area, from observing hollow bearing trees for signs of activity, looking under woody debris and the identification of fauna from tracks and scats.

2.2.5 Vegetation Assessments

Given the absence of any prominent vegetation within the Project Area, formal vegetation mapping surveys were supplemented with incidental observations of all tree species identified within the Project Footprint.

2.2.6 Incidental Observations

During this survey program, incidental observations for flora and fauna species listed under the EPBC Act and the *Nature Conservation Act 1992* (NC Act) were recorded. A full list of fauna species observed during this survey program is provided in **Appendix D**.

2.3 Survey Limitations

Whilst the timing and methodologies utilised during this survey program were appropriate for most of the targeted MNES fauna species, it was scheduled outside of the ideal survey windows for several species, including Common Sandpiper, Squatter Pigeon, Swift Parrot, Bluegrass and Hawkweed. Notwithstanding, the scheduling of the survey program is not considered to be a significant limitation due to the absence of any substantial vegetation, the current land use (grazing) and abundance of pasture grasses across the Project Area.

Roberts Lane
Gregors Creek Road
Gregors Creek Road
Deer Reserve Road
Deer Reserve Road
Esk-Kilcoy Road
Brisbane
0
km
1

Survey Effort across the Project area

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Project Area
Project Footprint
Diurnal Bird count
Anabat
Spotlighting Transect
Diurnal Meander
Access_Tracks
Contains wetlands [1 to 50%]

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FIGURE 3

GDA2020 MGA Zone 56

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3. Results

3.1 Survey Effort

A summary of the consolidated survey effort undertaken across the Project Area is provided in **Table 2**.

Table 2. Summary of survey effort across the Project Area

Survey Type	Number of Sites	Total Survey Effort
Bird Surveys	2	6 person hours
Passive Acoustic detection	1	2 survey nights
Spotlighting	-	~6.8 km
Diurnal Meanders	-	~7.4 km

3.2 Site Characterisation

The Project Footprint is approximately 22.8 ha in size (inclusive of the proposed infrastructure area and an access track) and is primarily characterised by open pasture grassland that is currently being utilised for cattle grazing (**Plate 3.1**) Whilst not recognised as watercourses under the *Water Act 2000*, there are several drainage features that pass through the Project Area in an easterly direction before merging with a tributary of New Country Creek. Pooling along these drainage features was still apparent following the substantial rainfall recorded in the region in the preceding months. A farm dam is also located to the east of the Project Footprint.

Whilst there are no mapped vegetation communities within the proposed Project Footprint, there are several smaller patches of immature vegetation (covering approximately 1.4 ha) that do not meet the requirements of remnant vegetation (which requires 50% of benchmark canopy cover and 70% of benchmark height) or high value regrowth vegetation (typically 15 years old) (**Plate 3.2**).

These immature vegetation patches are dominated by *Corymbia tessellaris* and *Eucalyptus crebra*. Additionally, several large hollow-bearing trees (*Eucalyptus tereticornis*) (**Plate 3.3**) and the occasional *Eucalyptus melanophloia* and Fig tree (*Ficus* sp.) were also observed throughout the Project Area, outside of the Project Footprint. These observations are consistent with the pre-clearance Regional Ecosystem (RE) mapping that lists both RE 12.12.8 and RE 12.12.12 as dominant vegetation communities in this area.

Plate 3.1 Open Pasture Grassland within the Project Area

Plate 3.2 Immature vegetation within the Project Area

Plate 3.3 Large Relic Hollow-Bearing Trees (Paddock Trees) within the Project Area

3.3 Habitat Types

Two broad habitat types are present within the Project Area which have been summarised below. The following habitat types are found within the Project Area:

- *Eucalyptus* and *Corymbia* Open Forest and Woodland – Several patches of open forest and woodland dominated by *Eucalyptus* and *Corymbia* species (particularly *Corymbia tessellaris*, *Eucalyptus crebra*, and *E. tereticornis*) occur in the Project Area. These patches total approximately 2 ha in area. These patches of vegetation contain the occasional mature relic tree with hollows. The species composition of these patches resembles the pre-clearance Regional Ecosystem mapping that lists both RE 12.12.8 and 12.12.12 as dominant vegetation communities within the area.
- Improved Pasture (Cleared grazing land) – The majority of the Project Area is improved pasture that has historically been cleared for grazing activities. There are scattered trees and clumps of trees in some areas, representing early regeneration. Ongoing disturbance from cattle has further degraded this habitat type. A farm dam was also identified within this habitat, but it is not fringed by vegetation and supports no complex aquatic habitat.

The Project Footprint only contains areas of cleared and grazed grasslands, with some early native regeneration and relic plantation trees.

3.4 MNES

No MNES were identified during surveys across the Project Area. Based on field survey observations and desktop assessment, the Project Area and Project Footprint are considered unlikely to support an important population or an important area of habitat for any species listed as Threatened or Migratory under the EPBC Act.

Despite this, the very broad criteria currently used by DCCEEW (2024) to identify Koala habitat does capture the scattered vegetation in the Project Area as Koala habitat and further consideration of the importance of the habitat to the Koala is warranted:

> *"Habitat includes land that has attributes that support koala (such as presence of feed trees, connectivity to other habitat, located near to areas with koala populations). Unoccupied habitat may also be considered unless it is highly unlikely that the habitat would be recolonised. Koala occupancy should therefore be assumed if habitat is present, or the area is likely to be utilised for koala movement"*

Although the Project Area contains no remnant vegetation and is not known to support a Koala population - locally important Koala feed trees are present, including *Eucalyptus tereticornis* and *Eucalyptus crebra*, as well as ancillary Koala habitat trees such as *Corymbia tessellaris*. As these trees are considered Koala habitat, a detailed assessment of the Referral Guidelines for the Endangered Koala has been undertaken in **Section 6.2.1**.

3.5 Incidental observations

A total of 36 fauna species were recorded either during surveys or incidentally, of which were 2 mammals, 26 birds, 2 reptiles, 6 amphibians. A full list of these species is provided in **Appendix D**.

3.6 Revised Likelihood of Occurrence Assessment

A revised likelihood of occurrence assessment is presented in **Table 3**, which considers the results of targeted field surveys and field-based assessment of habitat values. The revised likelihood of occurrence assessment provides a basis for further consideration of impacts.

Table 3. Targeted MNES Flora and Fauna Species

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
Birds						
Common Sandpiper	*Actitis hypoleucos*	Jun to Aug	Survey period was not optimal to detect species; however, field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Regent Honeyeater	*Anthochaera phrygia*	All year	This species is a non-resident visitor to the region. Survey effort was adequate to detect this species had it been present at the time of survey. Potential habitat within the Project Footprint covers only 1.4 ha of regrowth and was adequately sampled with 6 hours of effort.	Very low quality habitat occurs in the Project Footprint. Given the limited resources available within the Project Footprint, this area is unlikely to be visited by the Regent Honeyeater.	Unlikely to occur.	No.
Fork-tailed Swift	*Apus pacificus*	Oct - Apr	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint. Potential habitat within the Project Footprint covers less than 2ha and was adequately	This species could overfly the Project Footprint, but habitat is of poor quality and of no greater value than the surrounding agricultural landscape.	Possible occurrence.	No.

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
			sampled with 6 hours of effort.			
Sharp-tailed Sandpiper	*Calidris acuminata*	Sep to Feb	Survey period was not optimal to detect species; however, field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Latham's Snipe, Japanese Snipe	*Gallinago hardwickii*	Oct to Feb	Survey period was not optimal to detect species; however, field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Squatter Pigeon (southern)	*Geophaps scripta scripta*	May to Oct	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
White-throated Needletail	*Hirundapus caudacutus*	Oct to Apr	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint. Potential habitat within the Project Footprint covers only 1.4 ha of regrowth and was	This species could overfly the Project Footprint, but habitat is of poor quality and of no greater value than the surrounding agricultural landscape.	Possible occurrence.	No.

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
			adequately sampled with 6 hours of effort.			
Caspian tern	*Hydroprogne caspia*	All year	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Swift Parrot	*Lathamus discolor*	Jun to Aug	This species is a non-resident visitor to the region. Survey effort was adequate to detect this species had it been present at the time of survey. Potential habitat within the Project Footprint covers only 1.4 ha of regrowth and was adequately sampled with 6 hours of effort.	Very low-quality habitat occurs in the Project Footprint. Given the limited resources available within the Project Footprint, this area is unlikely to be visited by the Swift Parrot.	Unlikely to occur.	No.
Yellow Wagtail	*Motacilla flava*	Nov to Mar	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No,
Osprey	*Pandion haliaetus*	All year	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that	This species could overfly the Project Footprint, but habitat is of poor	Possible occurrence.	No.

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
			suitable habitat is absent from the Project Footprint.	quality and of no greater value than the surrounding agricultural landscape.		
Pacific Golden Plover	*Pluvialis fulva*	Sep to May	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Diamond Firetail	*Stagonopleura guttata*	All year	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Spectacled Monarch	*Symposiachrus trivirgatus*	Mar to Nov	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that habitat for this species is of very low quality.	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.
Amphibians						
Giant Barred Frog	*Mixophyes iteratus*	Sep to May	Survey period was appropriate to detect species and it was not recorded. Field surveys confirmed that	There is no suitable habitat for this species in the Project Footprint.	Unlikely to occur.	No.

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
			suitable habitat is absent from the Project Footprint.			
Mammals						
Koala	*Phascolarctos cinereus*	All year	Survey period was appropriate, survey effort was adequate to detect this species and it was not recorded. Field surveys confirmed that habitat within the Project Footprint is of poor quality and connectivity is poor. It is possible that Koalas could disperse across the Project Footprint, although there are not sufficient resources to support a population.	Potential habitat is present within the Project Footprint, although the Koala was not recorded during field surveys.	Possible occurrence.	No.
Greater Glider (southern & central)	*Petauroides volans*	All year	Survey period was appropriate, survey effort was adequate to detect this species and it was not recorded. Field surveys confirmed that suitable habitat is absent from the Project Footprint. 1.7km of spotlighting transect was sampled on two separate nights and this species was not recorded. Total extent of habitat within the Project	Suitable habitat is absent from the Project Footprint. The 1.4 ha of regrowth vegetation within the Project Footprint does not support hollows and is not connected to other habitat. The Greater Glider is very	Unlikely to occur.	No.

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
			Footprint is 1.7 ha and the level of sampling was intensive given limited area.	unlikely to utilise very widely separated remnant trees in grazing paddocks, such as those that occur within the Project Footprint.		
Grey-headed Flying-fox	*Pteropus poliocephalus*	All year	Field survey effort was adequate to detect this species had it been present at the time of survey. 1.7 km of spotlighting transect was sampled on two separate nights and this species was not recorded. Total extent of habitat within the Project Footprint is 1.7ha and the level of sampling was intensive given limited area.	The Project Footprint supports very poor-quality habitat for this species. Limited foraging resources are provided by paddock trees. This species may forage on the site occasionally, no camps are present, and resources are typically of the surrounding agricultural landscape.	Possible occurrence.	No.
		Plants				
Bluegrass	*Dichanthium setosum*	Oct to Feb	Field surveys were outside the optimal survey period for this species, but confirmed that habitat quality is very	Suitable native grassland habitats	Unlikely to occur.	

Common Name	Scientific Name	Optimal Survey Period	Adequacy of Field Survey Effort	Habitat Suitability	Likelihood of occurrence	Important habitat present
			poor, particularly in light of grazing pressures.	are absent from the Project footprint.		
Hawkweed	*Picris evae*	Oct to Feb	Field surveys were outside the optimal survey period for this species, but confirmed that habitat quality is very poor, particularly in light of grazing pressures.	This species occurs in Eucalypt woodlands with a native grassland understorey. These habitats are not present in the Project Footprint.	Unlikely to occur.	No.
Austral Toadflax	*Thesium australe*	Oct to May	Survey period was appropriate for this species, but preferred habitat is absent and it was not recorded. In the study region Austral Toadflax is strongly associated with *Themeda* grasslands which do not occur in the Project Footprint.	This species occurs in Eucalypt woodlands with a native grassland understorey. These habitats are not present in the Project Footprint.	Unlikely to occur.	No.

4. Project Impacts and Mitigation

4.1 Construction

The construction of the Project may impact MNES through the following:

- Vegetation clearing
- Erosion and sedimentation
- Disturbance to wildlife
- Fauna injury and mortality; and
- Barriers to movement.

These are described in the following sections as they apply to the construction phase.

4.1.1 Vegetation Clearing

The Project Footprint associated with the siting of BESS infrastructure, substations and internal access tracks is located largely within existing cleared areas. Cleared and grazed areas contain no remnant vegetation or high value regrowth vegetation; thus, the installation of infrastructure requires no clearing of State regulated vegetation.

The Project Footprint covers an area of 22.81 ha, which wholly consists of open grassland (improved pasture) with scattered trees and clumps of trees in some areas representing early regeneration. The trees within the Project Footprint do not clearly align with described regional ecosystems and are generally too young to be mapped as high value regrowth under the Vegetation Management Framework. Much of the area within the Project Footprint has been subject to clearing for the purposes of grazing; however, there are occasional relic trees (nine within the Project Footprint) and immature regrowth which provide some limited habitat values. The impacts of vegetation clearing on individual MNES are considered in the Significant Impact Assessment (**Section 6**).

A large proportion of the Project Area (161.88 ha, or 88 %) will remain undeveloped, including all riparian corridors. In the long term, with appropriate environmental management of the Project Area, it is considered likely that fauna habitat values and landscape connectivity will improve over time under the developed scenario.

Enervest will implement a limited tree planting program using endemic locally important koala trees (LIKTs) on the border of the Project Footprint following construction. This planting program would aim to reduce impacts associated with removal of the immature vegetation within the Project Footprint during the construction of the Project.

4.1.2 Erosion and Sedimentation

Much of the Project Area has been historically cleared and is currently used intensively for grazing practices. Cleared areas are subject to erosion due to altered drainage regimes. Surface water infiltration and soil retention decreases dramatically as vegetation cover is lost, and runoff increases, but improves as vegetation cover is restored (Ludwig & Tongway 2002). The current grazing practices on the Project Area exacerbate the transportation of sediments and nutrients due to ground disturbance by cattle and a reduction in groundcover (grass). By removing this practice within the Project Footprint, a reduction of sedimentation and nutrients loads transportation is expected.

A Stormwater Management Plan will be prepared for the Project, including relevant design and management measures for stormwater quantity and quality, so that any potential impacts are minimised to as low as reasonably practicable. An Erosion and Sediment Control Plan (ESCP) will also be prepared by a Certified Professional in Erosion and Sediment Control in accordance with the Best Practice Erosion and Sediment Control guideline (IECA, 2008). Correct application of the ESCP will ensure the erosion risk associated with the construction works remain very low to low.

4.1.3 Disturbance to Wildlife

Activities associated with construction of the Project may impact resident fauna. In general, dust, noise, vibration, and light pollution are potential causes of disturbance to wildlife.

Increased dust from vegetation clearing, earthworks and vehicle movements during construction has the potential to temporarily and locally impact flora and fauna values in the vicinity of the Project Footprint. Dust is expected to only be a potential issue during vegetation clearing and construction and will be mitigated by routine environmental management measures.

Noise may adversely affect fauna by interfering with communication (e.g. territorial bird song), masking the sound of predators and prey, causing avoidance reactions and displacement from habitat. Construction noise will be generated by the Project through the use of machinery, plant and vehicles, and will vary from short intermittent noise from plant and equipment to more persistent noise from generators. Individuals that occur within the Project Area may leave the area of impact. Project construction works and therefore potential noise impacts will be temporary.

Vibration from vehicles and equipment may cause temporary disturbance to fauna.

Construction works are not proposed during the night; therefore, there is unlikely to be an impact associated with artificial lighting from construction infrastructure and machinery.

The Project's Construction Environmental Management Plan (CEMP) will consider mitigation and management measures to minimise impacts from dust, noise, vibration, and light pollution.

4.1.4 Fauna Injury and Mortality

Fauna is at risk of injury or mortality from vegetation clearing. Vehicle strikes are also a threat to wildlife during construction, although traffic volumes are not likely to be significant and night-time traffic is unlikely. To minimise the potential direct mortality of fauna, the EMP will describe practical measures be implemented prior to and during construction, including (but not limited to):

- Delineation of clearing boundaries and no-go zones;
- Spotter/Catcher oversight of all clearing activities;
- Pre-clearance surveys to locate active fauna breeding sites;
- A sequential clearing plan which affords fauna the opportunity to relocate away from the work front;
- Imposition of vehicular speed limits within work areas and access/egress from Project Area; and
- Daily inspection of any open excavations, as well as equipment/plant left onsite.

4.1.5 Barriers to Movement

Construction of the Project will present a temporary barrier to fauna movement through the landscape; however, this is short-term and will be necessary to keep wildlife away from interacting with plant and machinery during construction.

4.2 Operation

The operation of the Project may impact MNES through the following:

- Erosion and sedimentation
- Disturbance to wildlife
- Fauna injury and mortality; and
- Barriers to movement.

These are described in the following sections as they apply to the operational phase.

4.2.1 Erosion and Sedimentation

A Stormwater Management Plan will be prepared for the Project, including relevant design and management measures for stormwater quantity and quality, so that any potential impacts are minimised to as low as reasonably practicable. The operational phase of the Project poses fewer risks to the environment through erosion and sedimentation, as the landform will be stabilised and soils will not be exposed.

4.2.2 Disturbance to Wildlife

Activities associated with operation of the Project have the potential to impact resident fauna. In general, noise and light pollution are potential causes of disturbance to wildlife.

Operational noise is expected to be minimal and is unlikely to disturb fauna.

Artificial lighting from infrastructure and machinery may impact fauna within the Project Area during operation. Artificial lighting can have a range of impacts which vary between species. Artificial light can disrupt patterns of both nocturnal and diurnal species by eliciting responses. Some species may avoid brightly lit areas, potentially due to the perception of increased risk of predation. Conversely, some species such as nocturnal reptiles, frogs and bats may congregate at artificial light sources to feed on insects attracted to light. Other potential adverse impacts include disruption of breeding and migratory patterns, disorientation and potential collision with structures.

The Project's Operational Environmental Management Plan (OEMP) will consider mitigation and management measures to minimise impacts during operation of the facility.

4.2.3 Fauna Injury and Mortality

Fauna is at risk of injury or mortality from vehicle strikes during operation; however, operational traffic volumes are not likely to be significant and night-time traffic is unlikely.

4.2.4 Barriers to Movement

Although fencing exists around the boundary of the Project Area, fauna is still able to move across property boundaries as the fencing is not of a size and design that would restrict permeability of native fauna. The introduction of security fencing around the Project infrastructure may limit fauna entry to those areas, subject to fence design. To date, most empirical research on wildlife-fence interactions and fence systems has been limited in scope, often focused on single species at local spatial scales. Existing studies have largely addressed fence impacts on ungulates or at-risk species, often motivated by mortalities and barriers to known movements.

Fence impacts on wildlife are usually observed at the individual or local group level, such as individual mortalities or barriers to herd movements. Some of these impacts may be dismissed as inconsequential, especially since rates (i.e., mortality) are usually unknown.

Negative consequences of wildlife-fence interactions can be classified as direct or indirect. Direct effects involve physical contact between the individual and the fence. These include direct mortality, injuries, and hair loss, which can result in reduced individual or population level fitness. The most observable impact is direct mortality, which can happen immediately when an animal collides with fencing or slowly when animals are caught in fences and die from exposure, starvation, or predation. Direct mortality of a wide range of birds and mammals from fence collisions and entanglements has been documented worldwide.

Indirect effects of fences on wildlife manifest themselves as changes in behaviour and biology. These include heightened stress of negotiating fences, separation of neonates from mothers (Harrington and Conover, 2006), obstructed movements, habitat loss, and fragmentation. Stress occurs when animals are temporarily entangled, search frantically for a place to cross by pacing up and down the fence (Seidler et al., 2018), or must negotiate multiple fences in a landscape. These impacts can accumulate over time and contribute to increased energy expenditure, higher mortality rates, and decreased overall fitness of individuals. Young that cannot negotiate a fence and are separated from adults can die of dehydration, exposure, or predation (Harrington and Conover, 2006), and the loss of neonates reduces recruitment and potentially population size.

Given the potential extent of fencing required around proposed infrastructure, it is proposed that detailed design of the Project is informed by an exercise to select appropriate fence design specifications based on the intended purpose (fauna exclusion or fauna permeability).

5. Determination of Applicable MNES Values

In accordance with the Significant Impact Guidelines for MNES (DoE, 2023), there are nine listed MNES values. **Table 4** provides a summary of these MNES values and where they have been considered as part of this MNES report based on the desktop assessment and survey results.

Table 4. Assessment of MNES values

MNES Value	Potential Impact
World Heritage Properties	The Project Area is not a world heritage property, nor within 20 km of a world heritage property. This MNES value is not applicable to the proposed Project.
National Heritage Places	The Project Area is not a national heritage place, nor within 20 km of a national heritage place. This MNES value is not applicable to the proposed Project.
Wetlands of International Importance (often called RAMSAR wetlands under the international treaty, under which such wetlands are listed)	One wetland of international importance was identified in the PMST report, Moreton Bay, which is 220-230 km downstream of the project area via the Stanley and Brisbane Rivers. The Stanley River has been dammed at Somerset Dam, and flows into the Brisbane River, which is dammed at Wivenhoe Dam, and again at Mt Crosby Wier. due to the significant distance between the Project Area and Moreton Bay, the heavily regulated nature of the drainage system and the small contribution of stream flows from the Project Area into New Country Creek (which drains to the Stanley River system), it is considered there will be no direct or indirect impact from the proposed Project to RAMSAR wetlands.
Listed threatened species and ecological communities	Habitat that may be considered suitable for Koala has been observed within the Project Area. A significant impact assessment for the Koala is provided in **Section 6.** The Osprey, Fork-tailed Swift and White-throated Needletail could overfly the Project Footprint, but there are no resources available which are of particular value to these species, and important populations and habitat are absent. Similarly, limited foraging resources are provided for the Grey-headed Flying-fox, but important habitat, and important populations are considered absent. Impacts on these matters are not considered further.
Migratory species	The Project Area is not known to support important areas of habitat for any Migratory species in accordance with the referral guidelines (DoE, 2015). It is considered unlikely that the Project will have a direct or indirect impact upon migratory species.
Commonwealth Marine areas	The Project is not in a Commonwealth Marine area or a catchment that drains into a Commonwealth Marine area. This MNES value is not applicable to the proposed Project.
Great Barrier Reef Marine Park (GBRMP)	The Project is not in the Great Barrier Reef Marine Park or in a catchment that drains into the Great Barrier Reef Marine Park. It is considered unlikely that the Project will have a direct or indirect impact upon marine species.

MNES Value	Potential Impact
Nuclear actions (including uranium mining)	The Project does not involve any nuclear actions. This MNES value has not been considered as part of this assessment report. This MNES value is not applicable to the proposed Project.
A water resource, in relation to coal seam gas development and large coal mining development.	The current Project is not related to coal seam gas development or large coal mining development. This MNES value has not been considered as part of this assessment report. This MNES value is not applicable to the proposed Project.

6. Significant Impact Assessments

6.1 Relevant MNES

The Project Footprint is not known to support any MNES. Field surveys were conducted to target species that were considered potential occurrences within the Project Area, based on the results of a preliminary desktop Likelihood of Occurrence Assessment (**Appendix C**). No threatened species, nor evidence of threatened species (i.e., scat, scratches), were observed within the Project Area. A revised likelihood of occurrence assessment, which considers field observations, found that the Koala is the only species provided with habitat which may be considered important against current statutory guidelines.

Despite targeted field surveys, there is no evidence of Koala being present across the Project Area. While public databases such as the Atlas of Living Australia show there are several records of Koala sightings in the broader landscape, the Koala is only considered to possibly occur within the Project Area due to: a) the long-term grazing use of the Project Area, and b) the low vegetation quality within the Project Area. Notwithstanding, a conservative approach has been applied and an assessment against the EPBC Act Significant Impact Guidelines (DoE, 2013) has been provided for the species in **Section 6.2.1**.

In accordance with the PMST, one wetland of international importance, Moreton Bay, was identified 220-230 km downstream of the Project Area. A consideration of impacts to Moreton Bay is presented in **Section 6.3**.

6.2 Listed Threatened Species

6.2.1 Koala (*Phascolarctos cinereus*)

On 12 February 2022, the Koala (combined populations of Queensland, New South Wales, and the Australian Capital Territory) was listed as Endangered under the EPBC Act, being uplisted from its previous status of Vulnerable. According to DCCEEW, this update was due to the impacts of a prolonged drought, followed by the black summer bushfires, and the cumulative impacts of disease, urbanisation, and habitat loss over the past 20 years. In conjunction with this status update, the referral guidelines for the Koala were also updated (DCCEEW, 2023) to provide proponents with more guidance around what potential impacts are likely to require a referral under the EPBC Act.

The current definition of habitat for the Koala includes land that has attributes that support this species (such as the presence of feed trees, connectivity to other habitat and proximity to areas with known koala populations). Koala habitat often includes:

- Forests or woodlands, especially with a higher proportion of feed tree species, and may include remnant or non-remnant vegetation;
- Roadside and railway vegetation and paddock trees;
- Safe intervening ground for travelling between trees and patches to forage, shelter and reproduce; and
- Access to vegetated corridors or paddock trees to facilitate movement between patches.

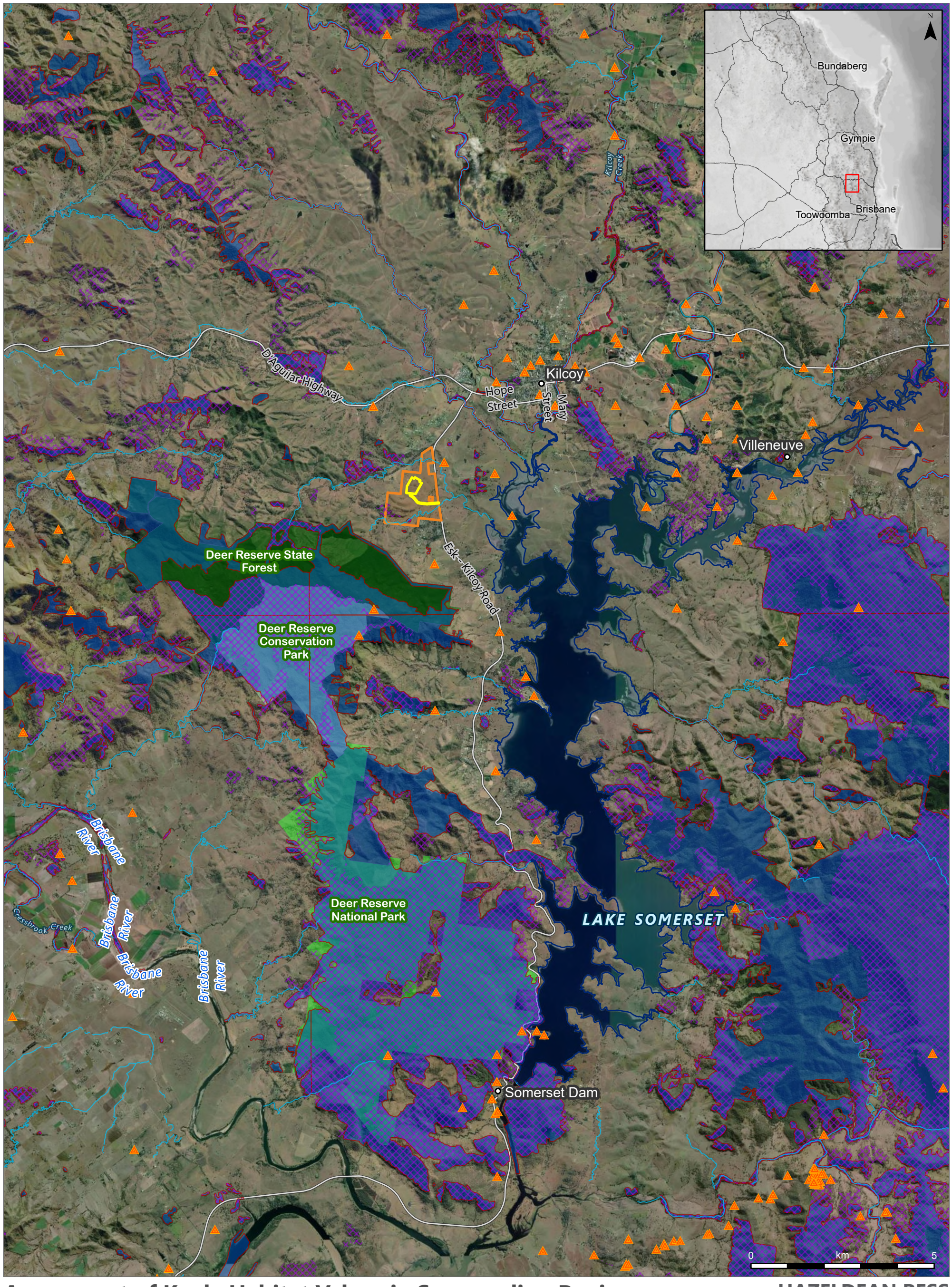
Whilst the Project Area does contain locally important food species as defined in *A review of Koala habitat assessment criteria and methods* (Youngentob, *et al*. 2021) (i.e. *Eucalyptus crebra*, *E. melanophloia*, *E. tereticornis*), these trees are relatively unconnected and isolated from the other more prominent koala habitat values in the region surrounding the Project. The Project Footprint contains only approximately 1.4 ha of very marginal koala habitat, set within a degraded and disconnected Project Area from a landscape ecological perspective. In the region surrounding the Project Area there appears to be several areas of important Koala habitat (**Figure 4**), including:

- Deer Reserve State Forest and Deer Reserve National Park to the south: a large contiguous patch (6,122 ha combined) of undisturbed vegetation that extends to the south. These areas were originally set aside as a Timber Reserve in 1920 but were later gazetted in 2006 to provide habitat for several threatened species including the Koala (DNPRSR, 2013).

- Somerset Dam to the southeast: the region's oldest and largest dam, completed in 1959. Numerous koala records (recent and historic) have been made in the vicinity of this dam and the various vegetated tributaries that flow into it.
- Tributaries of New Country Creek: there are several 3rd order tributaries of New Country Creek that flow in a west to east direction past the Project Footprint, which are comparably more connected and vegetated than the 1st order tributaries that originate within the Project Footprint. These vegetated tributaries also form direct linkages with Somerset Dam to the southeast.

Koala habitat values were also mapped in the Project Area and within the Project Footprint (Figure 6), using the following categories:

- **Dispersal Habitat** – areas of improved pasture and grazing land with occasional, isolated patches of immature trees. These areas may be used by dispersing Koalas but do not contain sufficient resources to sustain resident Koalas.
- **Remnant Foraging/Breeding Habitat** – areas of Eucalypt, Melaleuca, Corymbia or Lophostemon woodland and open forest dominated by relatively mature trees, these areas are most likely to support the Koala at any stage of its lifecycle, noting that there are no records from the Project Area or Project Footprint.
- **Regrowth Foraging/Breeding Habitat** - areas of Eucalypt, Melaleuca, Corymbia or Lophostemon woodland and open forest dominated by immature trees. These areas may support transient Koalas but are unlikely to support resident populations due to limited resource availability.



Assessment of Koala Habitat Values in Surrounding Region

HAZELDEAN BESS

- Project Area
- Project Footprint
- Koala Records
- Somerset Lake
- Essential habitat map
- Conservation Park
- National Park
- State Forest
- Roads
- RVM category B - remnant vegetation
- Watercourse

Attexo

REVIEWED: Name | **DRAWN:** Name | **SCALE (A3):** 1:98,142 | **DATE:** 3/07/2024 | **DWG No:** XXX-NNN

FIGURE 4

GDA2020 MGA Zone 56

Data Source:Earthstar Geographics, © State of Queensland (Department of Resources) 2023, Esri, USGS

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In accordance with the referral guidelines for the Endangered Koala (DCCEEW, 2023), there are several factors that should be considered before the Significant Impact Guidelines (DOE, 2013) are consulted. An assessment of these factors is included in **Table 5.**

Table 5: Preliminary Self-Assessment Factors

Factor	Project Response
Consider the scale of the action and its impacts.	The scale of the Project is relatively small, with only 22.81 ha of land within the Project Footprint. Most of this land is already devoid of vegetation but a precautionary approach has been taken and it is assumed that it could be potentially utilised by dispersing Koala populations. The Project would impact (**Figure 6**): • 21 ha of potential Koala dispersal habitat, comprising improved pasture with scattered trees. There is an additional 151 ha of dispersal habitat of similar quality in the Project Area. • No Remnant Foraging/Breeding habitat (there is a total of 22ha of this habitat type in the broader Project Area) • 1.4 ha of Regrowth Foraging/Breeding habitat (15% of this habitat type in the Project Area). The spatial arrangement of these potential habitat patches in the landscape is such that the areas most likely to support the Koala are in the south-west of the Project Area and outside of the Project Footprint. The Project Footprint is situated in an area with no direct vegetated connection with intact Koala habitat. While Koala dispersal across this area cannot be ruled out, there is no evidence that the Koala currently utilises the Project Footprint. There are insufficient resources within the Project Footprint to support even a single Koala, with only 1.4 ha of isolated regrowth vegetation present. Koalas have a smaller home range in areas with high quality habitat. As habitat quality reduces, less resources are available and the amount of area a Koala needs for a home range increase. In Southeast Queensland, the smallest home range on highly fertile soils is one hectare for female Koalas and two hectares for male Koalas (DESI 2020).
Consider the intensity of the action and its impacts.	To facilitate the construction and ongoing operation of the Project, all vegetation will need to be removed within the Project Footprint; however, within the 22.81 ha footprint there are opportunities for vegetation to be re-established in corridors between infrastructure components to facilitate movement through the Project Footprint and across the broader landscape.
Consider the duration and frequency of the action and its impacts.	The proposed BESS would be active for a minimum of 20 years, with the possibility of refurbishments and renewals extending this duration considerably.
Consider the environmental context, for example, the sensitivity, value, quality and size of the environment, the site's connectivity to other habitats in the broader landscape and its importance in the conservation of the environment.	Whilst the Project will require 22.81 ha of land to be cleared, less than 1.5 ha of this land contains potentially suitable foraging or breeding habitat for Koalas; the majority of this being immature feed trees. These patches of vegetation are functionally isolated from areas of vegetation which are large enough to support a Koala population. The majority of the Project Footprint supports potential Koala dispersal habitat only, although there is no evidence of current use. The Project is not located within any designated biodiversity corridors, nor does its position within the

Factor	Project Response
	surrounding landscape suggest that it could be within a functional biodiversity corridor. Prominent connectivity corridors exist to the east (Somerset Dam) and to the west (Deer Reserve State Forest and Tributaries of New Country Creek). The lack of any mature vegetation within the Project Area and the current land use (grazing) indicates that its potential role in the conservation of the surrounding environment is minimal.
Consider the nature of the potential impacts that are likely to result from your actions	The construction and ongoing operation of the Project will require the removal of approximately 1.4 ha of immature vegetation and several large paddock trees. The Project Footprint primarily impacts areas of improved pasture with scattered regrowth trees. The vast majority of vegetation present within the Project Area and Project Footprint will be retained. The *Draft Guide to nationally protected species significantly impacted by paddock tree removal* (DOE, 2020) identifies circumstances where Commonwealth approval is required for removal of paddock trees which are also Koala habitat, being: *Removing paddock trees where they are habitat critical to the species survival or provide the only movement opportunity / refuge to or between areas of habitat critical to the species survival.* The Draft Guide notes that there are mitigation measures for the Koala that can be adopted to avoid having to refer proposed paddock tree removal, although none are suggested. As the Project Area does not provide a link between any bushland remnants, it is considered very unlikely that it represents the only movement opportunity between areas of habitat critical to the Koala's survival.
Consider whether mitigation measures will avoid or reduce these impacts.	Enervest will implement a limited tree planting program using endemic locally important koala trees (LIKTs) on the border of the Project Footprint following construction. This planting program would aim to reduce impacts associated with removal of the immature vegetation within the Project Footprint during the construction of the Project.

An assessment was also undertaken for the Endangered Koala, in accordance with the *Matters of National Environmental Significance – Significant Impact Guidelines* (DOE, 2013), the results of which are documented in **Table 6**.

Table 6: Significant Impact Assessment for the Endangered Koala (DOE, 2013)

SIA Criteria	Project Response
Is there a real chance or possibility that the Project will lead to a long-term decrease in the size of a population?	**Unlikely** Stable breeding Koala populations are made up of a matrix of male and female Koalas with overlapping home range areas. The minimum patch size for viable Koala population will depend, to some extent, on the level of Koala habitat connectivity. For example, if several small patches of Koala habitat areas are very close together, they may function as a single larger patch if the Koalas can move freely and safely between them. However, if a patch is highly isolated, then it would need to be much larger to support a viable population. Koala habitat areas that are less than 2 ha in size, that are highly isolated due to distance, and highly modified by surrounding environments (e.g. urban development) are likely to be of little use as breeding habitat for Koalas as this equates roughly to the

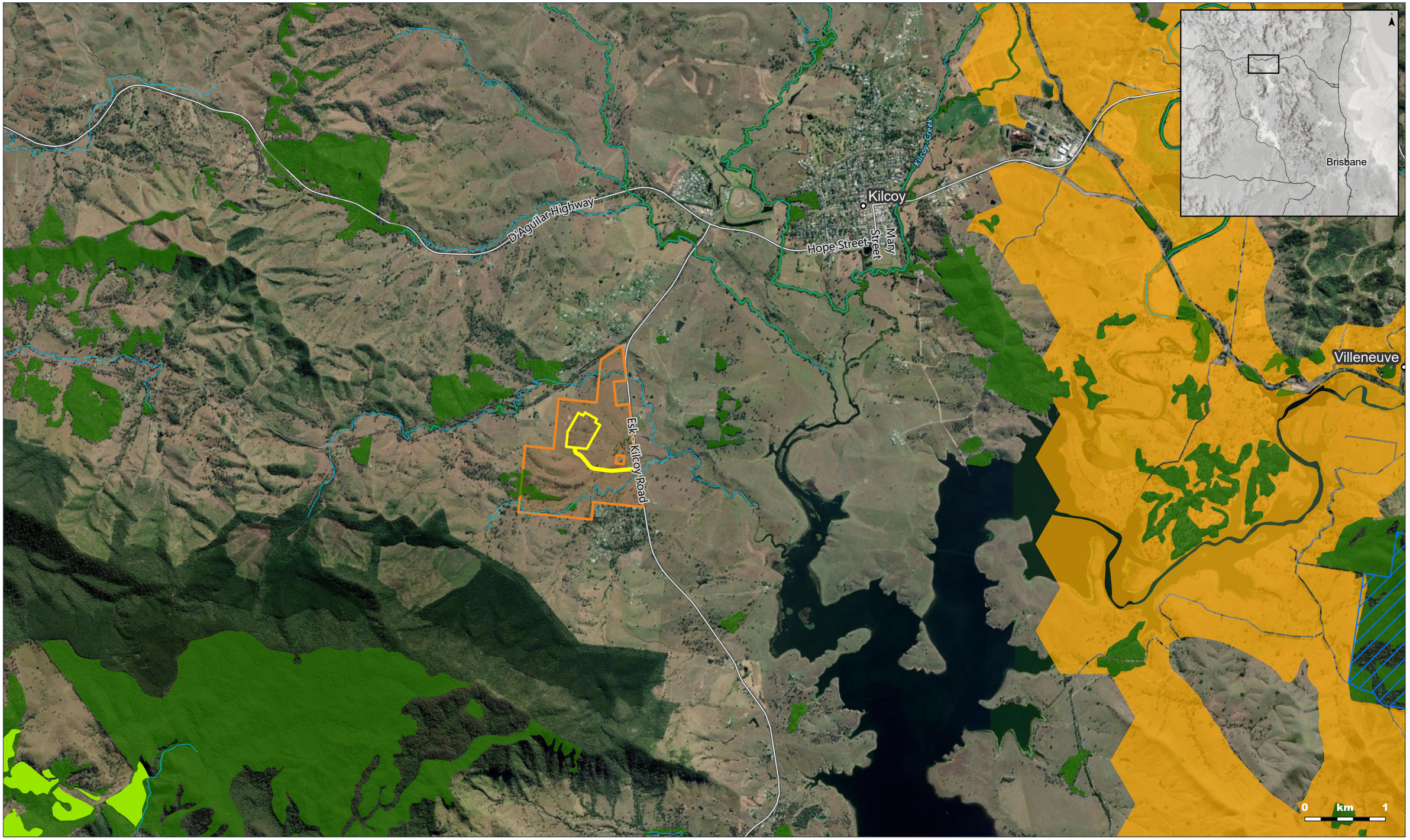
SIA Criteria	Project Response
	smallest home range size for an individual Koala in high quality habitat. Habitat within the Project Footprint, which supports less than 2 ha of regrowth habitat, is not considered large enough to support a Koala population (Qld Department of Environment, Science and Innovation (2020). Whilst numerous Koala records have been identified in the region surrounding the Project (ALA, 2024), none have been confirmed within the Project Area. Furthermore, no evidence of local Koala populations was observed within the Project Area (through direct observations or secondary evidence including scats or scratches). The occurrence of a Koala population has not been confirmed; however, the Project Footprint has been located to minimise impacts on potential Koala habitat, and avoids mature vegetation. Given this, and the absence of any connectivity to surrounding Koala habitat, it is considered unlikely that the construction and ongoing operation of the Project will lead to a long-term decrease in the size of the local Koala population.
Is there a real chance or possibility that the Project will reduce the area of occupancy of the species?	**Unlikely** Based upon calculations made during 2021, the Threatened Species Scientific Committee has estimated that the current area of occupancy for the Koala (at the time) was approximately 19,400 km^2 (DAWE, 2022). This figure was based on the mapping of point records from 2000 from state governments, museums, and CSIRO. Given that no Koalas, or evidence of Koalas was observed within the Project Area as part of the Project's targeted surveys and given the absence of historical records within the Project Area, it is considered unlikely that the construction and ongoing operation of the Project will reduce the area of occupancy for this species.

SIA Criteria	Project Response
Is there a real chance or possibility that the Project will fragment an existing population into two or more populations?	**Unlikely** The Project Footprint does not contain sufficient habitat to support a Koala population. Historical imagery from the region surrounding the Project (QI, 2024) shows that broadscale clearing for logging and pastoral activities date back to at least 1945. This historical clearing has resulted in a highly fragmented landscape. The habitat values within the Project Area are already relatively isolated from the larger preferable Koala habitats in the surrounding region. There are no areas of habitat of sufficient size to support a Koala population in the landscape immediately surrounding the Project Site, DESI (2020) acknowledge that a minimum patch size of 50 ha is required to support a viable population of Koalas. At a landscape level, interconnected patches which total more than 4000ha are required to sustain a minimum viable population of 500 Koalas at a landscape level. Given the scale of the Project and the landscape context (i.e. not connected to any surrounding habitat) development at this location is not likely to impact dispersal of the Koala. There is a broad recognition of the Koala's dispersal capabilities across cleared land (Melzer 1995; White 1999; Dique et al. 2003a; Matthews et al. 2016). In addition to regular movements across the ground between trees within their own home ranges, Koalas, particularly subadult males but also females, are known to disperse across distances of 1 to 3 km but sometimes over 10 km (Melzer 1995; White 1999; Dique et al. 2003a; Matthews et al. 2016). For mapping Koala habitat itself, the Commonwealth uses 10 km as the threshold for considering patch isolated. In the unlikely event that a Koala was to move across the Project Area, it is considered unlikely that its movement would be impeded by the relatively short expanse of unsuitable habitat created by a BESS. The Project Footprint does not provide any unique connectivity values within the Project Area and the Project will not create a barrier between two parts of a Koala population to the extent that it is permanently fragmented as a result of the Project.
Is there a real chance or possibility that the Project will adversely affect habitat critical to the survival of a species?	**Unlikely** In accordance with the Conservation Advice for the Koala (DAWE, 2022) there are several factors that constitute critical habitat for this species. Only one of these factors is potentially applicable to the Project, namely: *Habitat is used to meet essential life cycle requirements (e.g. foraging, breeding nesting, roosting, social behaviour patterns or seed dispersal processes).* There is no evidence that the Koala habitat within the Project Area is used to meet essential life cycle requirements of the species, as this species was not recorded during field surveys and there are no recent local records suggestive of a population occurring. Koala habitat mapping prepared for Southeast Queensland by the Queensland Government does not show any Koala Priority Areas, Core Koala Habitat Areas, Locally Refined Koala Habitat Areas or Koala Habitat Restoration Areas in the Project Footprint (**Figure 5**), supporting the view that the Project Footprint does not support habitat critical to the survival of the species. Enervest will implement a limited tree planting program using endemic LIKTs on the border of the Project Footprint following construction. This planting program would aim to reduce impacts associated with removal of the immature vegetation within the Project Footprint during the construction of the Project.

SIA Criteria	Project Response
	This planting program would aim to reduce or replace the immature vegetation that will require removal during the construction of the Project, mitigating this impact.
Is there a real chance or possibility that the Project will disrupt the breeding cycle of a population?	**Unlikely** As discussed above, the Project Footprint does not support sufficient areas of habitat to sustain a Koala population. The Project is located towards the centre of the known distribution for the Koala, which has different breeding seasons for northern (Dec-May) and southern (all year) populations (DAWE, 2022). It has been assumed that any locally occurring Koala populations could breed all year around. Despite this, it is considered unlikely that the construction and ongoing operation of the Project could disrupt the breeding cycle of a Koala population as there is no evidence to suggest that they occur within the Project Area.
Is there a real chance or possibility that the Project will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline?	**Unlikely** Approximately 1.4 ha of land supporting immature vegetation (and nine large relic trees) will be removed to facilitate the construction and ongoing operation of the Project. Whilst this vegetation meets the definition of habitat for the Koala, the absence of any Koala populations from the Project Area suggests that this habitat is not actively utilised and therefore unlikely to result in the decline of the species (either locally or regionally).
Is there a real chance or possibility that the Project will result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat?	**Unlikely** Feral dogs are currently listed as one of the threatening processes for the Koala (DAWE, 2022). It is unlikely that the construction and ongoing development of the Project will introduce feral dogs into the surrounding region, or exacerbate any existing feral dog population impacts.
Is there a real chance or possibility that the Project will introduce disease that may cause the species to decline?	**Unlikely** The Koala retrovirus (KoRV) and Chlamydia (*Chlamydia percorum*) are both diseases known to be prevalent amongst Koala populations (DAWE, 2022). It is unlikely that the construction and ongoing operation of the Project will lead to an increased spread of these diseases as no Koala populations have been observed within the Project Area.
Is there a real chance or possibility that the Project will interfere with the recovery of the species?	**Unlikely** The conservation advice for the Koala lists two on-ground conservation and recovery strategies (DAWE, 2022), which include: • Strategic habitat restoration • Active metapopulation management The construction and ongoing operation of the Project will require the removal of approximately 1.4 ha of immature vegetation (and nine large relic trees) which is likely to have a localised impact on habitat restoration within the Project Area. Considering that this habitat is relatively isolated and potentially unused by local Koala population however, this impact is not considered to be significant. Enervest will implement a limited tree planting program using endemic LIKTs on the border of the Project Footprint following construction. This planting program

SIA Criteria	Project Response
	would aim to reduce impacts associated with removal of the immature vegetation within the Project Footprint during the construction of the Project.
It is Unlikely that the Project will have a significant impact on the Koala.	

Based upon the outcomes of the significant impact assessment for the Koala, it is considered unlikely that the Project will result in a significant impact to the Koala.



Koala Habitat

- Project Area
- Project Footprint
- Locally refined koala habitat area
- Core koala habitat area
- Koala habitat restoration area
- Koala priority area
- Watercourse
- Roads

HAZELDEAN BESS

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REVIEWED: CC | **DRAWN:** FM | **SCALE (A3):** 1:45,000 | **DATE:** 3/07/2024 | **DWG No:** ENV-004

FIGURE 5

GDA2020 MGA Zone 56

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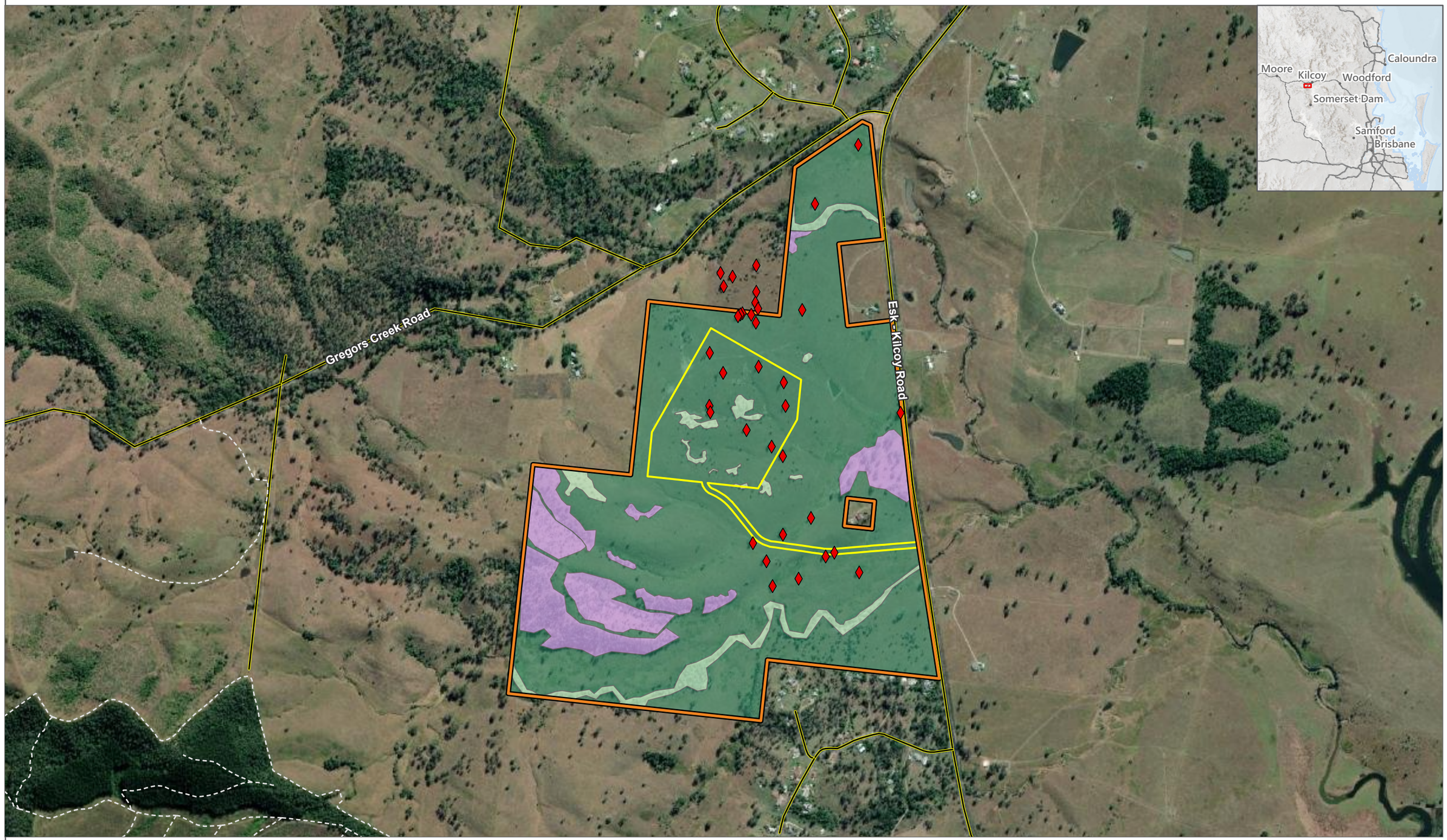

Project Area
Project Footprint
Local Road
Track

Habitat Mapping
Paddock Tree
Regrowth Foraging/Breeding Habitat
Foraging/Breeding Habitat
Dispersal habitat

Hazeldean BESS

Koala Habitat Mapping

Figure 6

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REVIEWED: CC **DRAWN:** VD **SCALE (A3):** 1:15,000 **DATE:** 5/09/2024 **DWG No:** ENV-002_005[A]

6.3 Wetlands of International Importance (RAMSAR)

The Project is traversed by unnamed tributaries of New Country Creek. New Country Creek is within the Stanley River sub-basin, within the larger Brisbane drainage basin. The Brisbane basin, which is the relevant catchment to the Project discharges into Moreton Bay, a wetland of international importance (RAMSAR).

Potential impacts of the proposed Project on Moreton Bay have been considered, and it is unlikely the proposed Project will have a direct or indirect impact on this MNES value. This determination was reached due to:

- The type of Project activities, size of the Project Footprint and small contribution to New Country Creek flow volumes is not expected to have any impact on the underlying hydrological regime relevant to Moreton Bay;
- Expected mixing with downstream inflows and mixing distance (220-230 km) being significant enough that any downstream impacts associated with the Project are not likely to have any adverse effects on Moreton Bay; and
- Mitigation measures limiting the potential for any impact to water quality.

Design has achieved appropriate separation from the Project Footprint to any waterway within the Project Area.

The Project will implement a range of mitigation measures including but not limited to:

- Minimising soil disturbance.
- Development and implementation of ESCP for the Project in accordance with relevant guidelines; and
- Implementation of appropriate soil management and reinstatement / rehabilitation measures.

Due to the reasons described above and considering the distance of the project from Moreton Bay, the proposed Project is considered **unlikely** to have direct or indirect impacts on a wetland of international important (RAMSAR).

7. Conclusion

Targeted field surveys were completed at the prospective Hazeldean BESS Project Area in March 2024, with a view to determining the likely occurrence of MNES. The Project Area is in an agricultural landscape which has been almost completely cleared of remnant vegetation. There are no substantial patches of remnant vegetation located within or adjacent to the Project Area. The Project Footprint is located within grazing land with a few scattered trees and patches of regrowth vegetation totalling 1.4 ha in area.

No MNES species were observed within the Project Area. The Project Footprint contains only approximately 1.4 ha of very marginal Koala habitat, set within a degraded and disconnected Project Area from a landscape ecological perspective. There is insufficient habitat within the Project Footprint to support a Koala population, and no evidence that the area is used by Koalas. Conservatively, a comprehensive assessment of the referral guidance for the Endangered Koala was completed. Key findings were:

- There are no current or historical records or evidence to suggest that Koalas utilise the habitat values within the Project Area or Project Footprint.
- Given the lack of records, and no evidence of Koala usage recorded during field surveys, the Project Footprint is considered unlikely to support habitat critical to the survival of the species.
- The Project Footprint is isolated from surrounding areas of Koala habitat by cleared land, rural residential development, and major rural roads, and does not provide direct connectivity between large areas of habitat.
- Despite this, a conservative approach has been taken in this assessment, and potential impacts on areas which could be considered potential dispersal, foraging and breeding habitat have for the Koala have been considered.
- The impact assessment found that there is insufficient habitat available in the Project Footprint to support a Koala population.
- Enervest will implement a limited tree planting program using endemic LIKTs on the border of the Project Footprint following construction. This planting program would aim to reduce impacts associated with removal of the immature vegetation within the Project Footprint during the construction of the Project.

In accordance with the PMST, consideration was given to potential impacts to Moreton Bay, a wetland of international importance (RAMSAR). It is considered unlikely that the proposed Project will have any direct or indirect impacts on the Moreton Bay RAMSAR wetland.

Based on field survey observations and desktop assessment, the Project Area is considered unlikely to support habitat critical to the survival, an important population, or an important area of habitat for any species listed as Threatened or Migratory under the EPBC Act. It is unlikely that the development of a BESS at this location would significantly impact any MNES.

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Appendix A

Protected Matters Search Tool Results

EPBC Act Protected Matters Report

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

Report created: 04-Mar-2024

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	69
Listed Migratory Species:	15

Other Matters Protected by the EPBC Act

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

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

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

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

Extra Information

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

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	1
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	30 - 40km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

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

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

Listed Threatened Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia			
Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Botaurus poiciloptilus			
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calyptorhynchus lathami lathami](#) South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Climacteris picumnus victoriae](#) Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
[Cyclopsitta diophthalma coxeni](#) Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Erythrotriorchis radiatus](#) Red Goshawk [942]	Endangered	Species or species habitat known to occur within area	In feature area
[Falco hypoleucos](#) Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Geophaps scripta scripta](#) Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Grantiella picta](#) Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
[Stagonopleura guttata](#) Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
[Turnix melanogaster](#) Black-breasted Button-quail [923]	Vulnerable	Species or species habitat known to occur within area	In feature area
FISH			
[Maccullochella mariensis](#) Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In buffer area only
[Neoceratodus forsteri](#) Australian Lungfish, Queensland Lungfish [67620]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
FROG			
[Mixophyes fleayi](#) Fleay's Frog [25960]	Endangered	Species or species habitat likely to occur within area	In feature area
[Mixophyes iteratus](#) Giant Barred Frog, Southern Barred Frog [1944]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
INSECT			
[Argynnis hyperbius inconstans](#) Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalinolobus dwyeri			
Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area
Dasyurus hallucatus			
Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petrogale penicillata			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus tridactylus			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Arthraxon hispidus			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat known to occur within area	In feature area
Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Coleus leiperi listed as Plectranthus leiperi [91402]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Coleus nitidus listed as Plectranthus nitidus Nightcap Plectranthus, Silver Plectranthus [91380]	Endangered	Species or species habitat may occur within area	In buffer area only
Coleus omissus listed as Plectranthus omissus [91381]	Endangered	Species or species habitat may occur within area	In feature area
Corchorus cunninghamii Native Jute [14659]	Endangered	Species or species habitat may occur within area	In buffer area only
Cossinia australiana Cossinia [3066]	Endangered	Species or species habitat may occur within area	In buffer area only
Croton mamillatus Bahrs Scrub Croton [84796]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Haloragis exalata subsp. velutina Tall Velvet Sea-berry [16839]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Leichhardtia longiloba listed as Marsdenia longiloba Clear Milkvine [91911]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Lepidium peregrinum Wandering Pepper-cress [14035]	Endangered	Species or species habitat known to occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macadamia ternifolia Small-fruited Queensland Nut, Gympie Nut [7214]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phebalium distans Mt Berryman Phebalium [81869]	Endangered	Species or species habitat may occur within area	In buffer area only
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat may occur within area	In feature area
Polianthion minutiflorum [82772]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rhaponticum australe Austral Cornflower, Native Thistle [22647]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Sarcochilus weinthalii Blotched Sarcochilus, Weinthals Sarcanth [12673]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sophora fraseri [8836]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Furina dunmalli			
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii			
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis			
Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava			
Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca			
Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Bubulcus ibis as Ardea ibis](#) Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
[Haliaeetus leucogaster](#) White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In feature area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Cressbrook	Conservation Park	QLD	In buffer area only
D'Aguilar	National Park	QLD	In buffer area only
Deer Reserve	National Park	QLD	In buffer area only
Somerset-Wivenhoe Dams	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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Attexo

Appendix B

WildNet Database Search Results

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Queensland status: All
Records: All
Date: All
Latitude: -26.9721
Longitude: 152.5268
Distance: 10
Email: natasha.lawrie@attexo.com.au
Date submitted: Monday 04 Mar 2024 09:38:58
Date extracted: Monday 04 Mar 2024 09:40:13

The number of records retrieved = 338

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	*Litoria balatus*	slender bleating treefrog		C		1
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		3
animals	amphibians	Hylidae	*Litoria chloris*	orange eyed treefrog		C		1
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		2
animals	amphibians	Hylidae	*Litoria nasuta*	striped rocketfrog		C		1
animals	amphibians	Hylidae	*Litoria wilcoxii*	eastern stony creek frog		C		2
animals	amphibians	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog		C		3
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		11
animals	birds	Acanthizidae	*Acanthiza lineata*	striated thornbill		C		1
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		2
animals	birds	Acanthizidae	*Acanthiza pusilla*	brown thornbill		C		4
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		1
animals	birds	Acanthizidae	*Gerygone olivacea*	white-throated gerygone		C		8
animals	birds	Acanthizidae	*Sericornis frontalis*	white-browed scrubwren		C		5
animals	birds	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk		C		1
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		8
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		1
animals	birds	Accipitridae	*Circus approximans*	swamp harrier		C		2
animals	birds	Accipitridae	*Circus assimilis*	spotted harrier		C		3
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		8
animals	birds	Accipitridae	*Erythrotriorchis radiatus*	red goshawk		E	E	1
animals	birds	Accipitridae	*Haliaeetus leucogaster*	white-bellied sea-eagle		C		5
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		26
animals	birds	Accipitridae	*Lophoictinia isura*	square-tailed kite		C		2
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		C		4
animals	birds	Alcedinidae	*Ceyx azureus*	azure kingfisher		C		1
animals	birds	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra		C		36
animals	birds	Alcedinidae	*Todiramphus macleayii*	forest kingfisher		C		2
animals	birds	Alcedinidae	*Todiramphus sanctus*	sacred kingfisher		C		11
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		27
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		49
animals	birds	Anatidae	*Aythya australis*	hardhead		C		12
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		44
animals	birds	Anatidae	*Cygnus atratus*	black swan		C		25
animals	birds	Anatidae	*Dendrocygna arcuata*	wandering whistling-duck		C		5
animals	birds	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck		C		6
animals	birds	Anatidae	*Malacorhynchus membranaceus*	pink-eared duck		C		3
animals	birds	Anatidae	*Nettapus coromandelianus*	cotton pygmy-goose		C		1
animals	birds	Anatidae	*Spatula rhynchotis*	Australasian shoveler		C		9
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		16
animals	birds	Anseranatidae	*Anseranas semipalmata*	magpie goose		C		3
animals	birds	Ardeidae	*Ardea alba modesta*	eastern great egret		C		14
animals	birds	Ardeidae	*Ardea intermedia*	intermediate egret		C		11
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		1
animals	birds	Ardeidae	*Bubulcus ibis*	cattle egret		C		20
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		7

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		30
animals	birds	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron		C		1
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		6
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		24
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		5
animals	birds	Artamidae	*Gymnorhina tibicen*	Australian magpie		C		48
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		5
animals	birds	Burhinidae	*Burhinus grallarius*	bush stone-curlew		C		1
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		1
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		4
animals	birds	Cacatuidae	*Eolophus roseicapilla*	galah		C		38
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		28
animals	birds	Campephagidae	*Edolisoma tenuirostre*	common cicadabird		C		1
animals	birds	Campephagidae	*Lalage tricolor*	white-winged triller		C		3
animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		4
animals	birds	Charadriidae	*Erythrogonys cinctus*	red-kneed dotterel		C		2
animals	birds	Charadriidae	*Pluvialis fulva*	Pacific golden plover		SL		1
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		13
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		28
animals	birds	Cisticolidae	*Cisticola exilis*	golden-headed cisticola		C		14
animals	birds	Climacteridae	*Climacteris picumnus*	brown treecreeper		C		1
animals	birds	Climacteridae	*Cormobates leucophaea*	white-throated treecreeper		C		1
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		9
animals	birds	Columbidae	*Geopelia placida*	peaceful dove		C		6
animals	birds	Columbidae	*Macropygia phasianella*	brown cuckoo-dove		C		3
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		14
animals	birds	Columbidae	*Ptilinopus magnificus*	wompoo fruit-dove		C		1
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		8
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		62
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		2
animals	birds	Cuculidae	*Cacomantis variolosus*	brush cuckoo		C		1
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		3
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		1
animals	birds	Cuculidae	*Chalcites minutillus barnardi*	Eastern little bronze-cuckoo		C		2
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		3
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		4
animals	birds	Dicaeidae	*Dicaeum hirundinaceum*	mistletoebird		C		7
animals	birds	Dicruridae	*Dicrurus bracteatus*	spangled drongo		C		5
animals	birds	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin		C		6
animals	birds	Estrildidae	*Neochmia modesta*	plum-headed finch		C		1
animals	birds	Estrildidae	*Neochmia temporalis*	red-browed finch		C		5
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		6
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		4
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		15
animals	birds	Falconidae	*Falco longipennis*	Australian hobby		C		4
animals	birds	Falconidae	*Falco subniger*	black falcon		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Hirundinidae	*Cheramoeca leucosterna*	white-backed swallow		C		1
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		32
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		7
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		12
animals	birds	Jacanidae	*Irediparra gallinacea*	comb-crested jacana		C		8
animals	birds	Laridae	*Chroicocephalus novaehollandiae*	silver gull		C		7
animals	birds	Laridae	*Gelochelidon macrotarsa*	Australian tern		SL		1
animals	birds	Laridae	*Hydroprogne caspia*	Caspian tern		SL		5
animals	birds	Laridae	*Thalasseus bergii*	crested tern		SL		1
animals	birds	Locustellidae	*Cincloramphus cruralis*	brown songlark		C		2
animals	birds	Locustellidae	*Cincloramphus mathewsi*	rufous songlark		C		2
animals	birds	Locustellidae	*Cincloramphus timoriensis*	tawny grassbird		C		6
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		3
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		14
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		1
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		5
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		15
animals	birds	Meliphagidae	*Manorina flavigula*	yellow-throated miner		C		1
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		39
animals	birds	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater		C		20
animals	birds	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater		C		7
animals	birds	Meliphagidae	*Melithreptus lunatus*	white-naped honeyeater		C		1
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		11
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		8
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		13
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		3
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		13
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		54
animals	birds	Monarchidae	*Myiagra inquieta*	restless flycatcher		C		8
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		3
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		1
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		2
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		5
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		23
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		6
animals	birds	Pachycephalidae	*Colluricincla megarhyncha*	little shrike-thrush		C		1
animals	birds	Pachycephalidae	*Pachycephala pectoralis*	golden whistler		C		2
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		8
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		1
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		24
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		18
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		2
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		25
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		8
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		25
animals	birds	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant		C		8

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Phasianidae	*Synoicus ypsilophorus*	brown quail		C		3
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		1
animals	birds	Podicipedidae	*Podiceps cristatus*	great crested grebe		C		3
animals	birds	Podicipedidae	*Poliocephalus poliocephalus*	hoary-headed grebe		C		1
animals	birds	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe		C		41
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		4
animals	birds	Psittaculidae	*Alisterus scapularis*	Australian king-parrot		C		2
animals	birds	Psittaculidae	*Platycercus adscitus*	pale-headed rosella		C		19
animals	birds	Psittaculidae	*Platycercus elegans*	crimson rosella		C		1
animals	birds	Psittaculidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		19
animals	birds	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet		C		42
animals	birds	Psophodidae	*Psophodes olivaceus*	eastern whipbird		C		5
animals	birds	Ptilonorhynchidae	*Ailuroedus crassirostris*	green catbird		C		1
animals	birds	Rallidae	*Fulica atra*	Eurasian coot		C		12
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		25
animals	birds	Rallidae	*Gallirallus philippensis*	buff-banded rail		C		3
animals	birds	Rallidae	*Porphyrio melanotus*	purple swamphen		C		12
animals	birds	Recurvirostridae	*Himantopus leucocephalus*	pied stilt		C		23
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		17
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		55
animals	birds	Rhipiduridae	*Rhipidura leucophrys leucophrys*	willie wagtail (southern)		C		1
animals	birds	Rostratulidae	*Rostratula australis*	Australian painted-snipe		E	E	3
animals	birds	Scolopacidae	*Calidris acuminata*	sharp-tailed sandpiper		SL	V	1
animals	birds	Scolopacidae	*Gallinago hardwickii*	Latham's snipe		SL	V	1
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		3
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		12
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		17
animals	birds	Threskiornithidae	*Plegadis falcinellus*	glossy ibis		SL		3
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		22
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		41
animals	birds	Turnicidae	*Turnix melanogaster*	black-breasted button-quail		V	V	3
animals	birds	Zosteropidae	*Zosterops lateralis*	silvereye		C		6
animals	birds	Zosteropidae	*Zosterops lateralis cornwalli*	silvereye (eastern)		C		1
animals	insects	Nymphalidae	*Acraea andromacha andromacha*	glasswing				2
animals	insects	Nymphalidae	*Danaus petilia*	lesser wanderer				1
animals	insects	Nymphalidae	*Euploea corinna*	common crow				3
animals	insects	Nymphalidae	*Hypocysta pseudirius*	grey ringlet				3
animals	insects	Nymphalidae	*Hypolimnas bolina nerina*	varied eggfly				1
animals	insects	Nymphalidae	*Junonia villida villida*	meadow argus				3
animals	insects	Nymphalidae	*Melanitis leda bankia*	evening brown				1
animals	insects	Nymphalidae	*Phaedyma shepherdi shepherdi*	white-banded plane (southern subspecies)				1
animals	insects	Nymphalidae	*Tirumala hamata hamata*	blue tiger				3
animals	insects	Nymphalidae	*Vanessa kershawi*	Australian painted lady				1
animals	insects	Papilionidae	*Papilio demoleus sthenelus*	chequered swallowtail				1
animals	insects	Pieridae	*Belenois java teutonia*	caper white				4

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	insects	Pieridae	*Catopsilia pomona*	lemon migrant				2
animals	insects	Pieridae	*Delias argenthona argenthona*	scarlet jezebel				1
animals	insects	Pieridae	*Eurema hecabe*	large grass-yellow				2
animals	malacostracans	Parastacidae	*Cherax depressus*					1
animals	mammals	Acrobatidae	*Acrobates pygmaeus*	feathertail glider		C		1/1
animals	mammals	Dasyuridae	*Antechinus flavipes flavipes*	yellow-footed antechinus (south-east Queensland)		C		1/1
animals	mammals	Molossidae	*Austronomus australis*	white-striped freetail bat		C		2
animals	mammals	Ornithorhynchidae	*Ornithorhynchus anatinus*	platypus		SL		2
animals	mammals	Peramelidae	*Isoodon macrourus*	northern brown bandicoot		C		1
animals	mammals	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum		C		2
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	140
animals	mammals	Pteropodidae	*Pteropus alecto*	black flying-fox		C		2
animals	mammals	Pteropodidae	*Pteropus poliocephalus*	grey-headed flying-fox		C	V	2
animals	mammals	Pteropodidae	*Pteropus sp.*	flying-fox		C		1
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		SL		2
animals	ray-finned fishes	Ambassidae	*Ambassis agassizii*	Agassiz's glassfish				7
animals	ray-finned fishes	Anguillidae	*Anguilla reinhardtii*	longfin eel				1
animals	ray-finned fishes	Atherinidae	*Craterocephalus marjoriae*	silverstreak hardyhead				2
animals	ray-finned fishes	Atherinidae	*Craterocephalus stercusmuscarum*	flyspecked hardyhead				6
animals	ray-finned fishes	Clupeidae	*Nematalosa erebi*	bony bream				1
animals	ray-finned fishes	Eleotridae	*Hypseleotris galii*	firetail gudgeon				13
animals	ray-finned fishes	Eleotridae	*Hypseleotris klunzingeri*	western carp gudgeon				8
animals	ray-finned fishes	Eleotridae	*Mogurnda adspersa*	southern purplespotted gudgeon				13
animals	ray-finned fishes	Eleotridae	*Philypnodon grandiceps*	flathead gudgeon				9
animals	ray-finned fishes	Eleotridae	*Philypnodon macrostomus*	dwarf flathead gudgeon				10
animals	ray-finned fishes	Melanotaeniidae	*Melanotaenia duboulayi*	crimsonspotted rainbowfish				13
animals	ray-finned fishes	Percichthyidae	*Macquaria ambigua*	golden perch				1
animals	ray-finned fishes	Percichthyidae	*Macquaria novemaculeata*	Australian bass				1
animals	ray-finned fishes	Plotosidae	*Tandanus tandanus*	freshwater catfish				12
animals	ray-finned fishes	Pseudomugilidae	*Pseudomugil signifer*	Pacific blue eye				1
animals	ray-finned fishes	Retropinnidae	*Retropinna semoni*	Australian smelt				3
animals	ray-finned fishes	Terapontidae	*Leiopotherapon unicolor*	spangled perch				8
animals	reptiles	Agamidae	*Intellagama lesueurii*	eastern water dragon		C		4
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		1
animals	reptiles	Boidae	*Morelia spilota*	carpet python		C		2
animals	reptiles	Chelidae	*Chelodina expansa*	broad-shelled river turtle		C		2/1
animals	reptiles	Chelidae	*Emydura macquarii macquarii*	Murray turtle		C		1
animals	reptiles	Colubridae	*Boiga irregularis*	brown tree snake		C		1
animals	reptiles	Colubridae	*Tropidonophis mairii*	freshwater snake		C		1
animals	reptiles	Elapidae	*Pseudechis porphyriacus*	red-bellied black snake		C		1
animals	reptiles	Elapidae	*Pseudonaja textilis*	eastern brown snake		C		2
animals	reptiles	Scincidae	*Bellatorias frerei*	major skink		C		1/1
animals	reptiles	Scincidae	*Calyptotis scutirostrum*	scute-snouted calyptotis		C		1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		1
animals	reptiles	Varanidae	*Varanus varius*	lace monitor		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
fungi	Agaricomycetes	Agaricaceae	*Chlorophyllum molybdites*	green-spored parasol		C		1/1
fungi	Agaricomycetes	Agaricaceae	*Macrolepiota dolichaula*			C		1/1
fungi	Agaricomycetes	Polyporaceae	*Perenniporia medulla-panis*			C		1/1
fungi	lecanoromycetes	Parmeliaceae	*Usnea dasaea*			C		1/1
fungi	lecanoromycetes	Parmeliaceae	*Usnea molliuscula subsp. queenslandica*			C		1/1
fungi	lecanoromycetes	Parmeliaceae	*Usnea roseola*			C		1/1
fungi	lecanoromycetes	Parmeliaceae	*Usnea rubicunda*			C		1/1
plants	land plants	Acanthaceae	*Pseuderanthemum tenellum*			C		1/1
plants	land plants	Acanthaceae	*Pseuderanthemum variabile*	pastel flower		C		1/1
plants	land plants	Anacardiaceae	*Rhodosphaera rhodanthema*	tulip satinwood		C		1/1
plants	land plants	Apocynaceae	*Alstonia constricta*	bitterbark		C		2/2
plants	land plants	Apocynaceae	*Carissa ovata*	currantbush		C		1/1
plants	land plants	Apocynaceae	*Parsonsia longipetiolata*			C		1/1
plants	land plants	Apocynaceae	*Parsonsia paulforsteri*			C		2/2
plants	land plants	Aponogetonaceae	*Aponogeton elongatus subsp. elongatus*			NT		2/2
plants	land plants	Aspleniaceae	*Asplenium attenuatum var. attenuatum*			C		1/1
plants	land plants	Asteraceae	*Brachyscome microcarpa*			C		1/1
plants	land plants	Asteraceae	*Cassinia subtropica*			C		1/1
plants	land plants	Asteraceae	*Pterocaulon redolens*			C		1/1
plants	land plants	Aytoniaceae	*Asterella*					1/1
plants	land plants	Brassicaceae	*Lepidium peregrinum*			C	E	1/1
plants	land plants	Byttneriaceae	*Commersonia bartramia*	brown kurrajong		C		1/1
plants	land plants	Casuarinaceae	*Allocasuarina torulosa*			C		3
plants	land plants	Ebenaceae	*Diospyros geminata*	scaly ebony		C		1/1
plants	land plants	Ericaceae	*Acrotriche aggregata*	red cluster heath		C		1/1
plants	land plants	Ericaceae	*Styphelia sieberi*			C		1/1
plants	land plants	Euphorbiaceae	*Baloghia inophylla*	scrub bloodwood		C		1/1
plants	land plants	Euphorbiaceae	*Croton acronychioides*	thick-leaved croton		C		1/1
plants	land plants	Euphorbiaceae	*Euphorbia dallachyana*			C		1/1
plants	land plants	Euphorbiaceae	*Excoecaria dallachyana*	scrub poison tree		C		1/1
plants	land plants	Fossombroniaceae	*Fossombronia pusilla*			C		1/1
plants	land plants	Hernandiaceae	*Hernandia bivalvis*	cudgerie		NT		1/1
plants	land plants	Lamiaceae	*Coleus graveolens*			C		1/1
plants	land plants	Lamiaceae	*Mentha satureioides*	native pennyroyal		C		1/1
plants	land plants	Lamiaceae	*Teucrium junceum*			C		2/2
plants	land plants	Leguminosae	*Acacia falcata*	sickle wattle		C		1/1
plants	land plants	Leguminosae	*Acacia fasciculifera*	scaly bark		C		2/2
plants	land plants	Leguminosae	*Acacia leiocalyx subsp. leiocalyx*			C		1/1
plants	land plants	Leguminosae	*Acacia leucoclada subsp. argentifolia*			C		1/1
plants	land plants	Leguminosae	*Acacia melanoxylon*	blackwood		C		1
plants	land plants	Leguminosae	*Crotalaria brevis*			C		1/1
plants	land plants	Leguminosae	*Crotalaria medicaginea var. neglecta*			C		1/1
plants	land plants	Leguminosae	*Erythrina numerosa*			C		1/1
plants	land plants	Leguminosae	*Glycine sp. (Marburg K.A.Williams 83006)*			C		1/1
plants	land plants	Leguminosae	*Neptunia gracilis*			C		1/1
plants	land plants	Leguminosae	*Senna barclayana*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Leguminosae	*Tephrosia rufula*			C		1/1
plants	land plants	Malvaceae	*Malvastrum americanum var. stellatum*			C		1/1
plants	land plants	Marchantiaceae	*Marchantia foliacea*			C		1/1
plants	land plants	Meliaceae	*Melia azedarach*	white cedar		C		1/1
plants	land plants	Meliaceae	*Toona ciliata*	red cedar		C		1/1
plants	land plants	Menispermaceae	*Tinospora smilacina*	snakevine		C		1/1
plants	land plants	Moraceae	*Ficus rubiginosa*	Port Jackson fig		C		1/1
plants	land plants	Myrtaceae	*Angophora floribunda*	rough-barked apple		C		1
plants	land plants	Myrtaceae	*Corymbia intermedia*	pink bloodwood		C		3
plants	land plants	Myrtaceae	*Corymbia tessellaris*	Moreton Bay ash		C		1
plants	land plants	Myrtaceae	*Eucalyptus acmenoides*			C		1
plants	land plants	Myrtaceae	*Eucalyptus biturbinata*			C		2
plants	land plants	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark		C		3
plants	land plants	Myrtaceae	*Eucalyptus melliodora*	yellow box		C		2
plants	land plants	Myrtaceae	*Eucalyptus siderophloia*			C		2
plants	land plants	Myrtaceae	*Eucalyptus tereticornis*			C		1
plants	land plants	Myrtaceae	*Lophostemon confertus*	brush box		C		1
plants	land plants	Myrtaceae	*Lophostemon suaveolens*	swamp box		C		1
plants	land plants	Myrtaceae	*Rhodamnia dumicola*	rib-fruited malletwood		E		1/1
plants	land plants	Oleaceae	*Jasminum dianthifolium*			C		1/1
plants	land plants	Oleaceae	*Jasminum dianthifolium x Jasminum simplicifolium subsp. australiense*			C		1/1
plants	land plants	Oleaceae	*Jasminum didymum subsp. racemosum*			C		1/1
plants	land plants	Oleaceae	*Jasminum simplicifolium subsp. australiense*			C		1/1
plants	land plants	Orchidaceae	*Dendrobium aemulum*	ironbark orchid		SL		1/1
plants	land plants	Orchidaceae	*Dendrobium gracilicaule*	slender orchid		SL		1/1
plants	land plants	Orchidaceae	*Pterostylis ophioglossa*			SL		1/1
plants	land plants	Phyllanthaceae	*Cleistanthus cunninghamii*	omega		C		1/1
plants	land plants	Plantaginaceae	*Callitriche muelleri*			C		1/1
plants	land plants	Poaceae	*Austrostipa verticillata*	slender bamboo grass		C		1/1
plants	land plants	Poaceae	*Setaria*					1/1
plants	land plants	Poaceae	*Sporobolus elongatus*			C		1/1
plants	land plants	Poaceae	*Sporobolus sessilis*			C		2/2
plants	land plants	Polygonaceae	*Polygonum plebeium*	small knotweed		C		1/1
plants	land plants	Polypodiaceae	*Pyrrosia rupestris*	rock felt fern		SL		1/1
plants	land plants	Porellaceae	*Porella*					1/1
plants	land plants	Proteaceae	*Macadamia integrifolia*	macadamia nut		V	V	1/1
plants	land plants	Pteridaceae	*Adiantum atroviride*			SL		1/1
plants	land plants	Pteridaceae	*Pellaea nana*			SL		1/1
plants	land plants	Pteridaceae	*Pellaea paradoxa*	heart fern		SL		1/1
plants	land plants	Pteridaceae	*Pteris tremula*			SL		1/1
plants	land plants	Pylaisiadelphaceae	*Isopterygium*					1/1
plants	land plants	Rhamnaceae	*Alphitonia excelsa*	soap tree		C		1
plants	land plants	Rhamnaceae	*Pomaderris argyrophylla*			C		1/1
plants	land plants	Rubiaceae	*Cyclophyllum coprosmoides var. coprosmoides*			C		1/1
plants	land plants	Rubiaceae	*Everistia vacciniifolia var. nervosa*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Rubiaceae	*Pavetta australiensis var. australiensis*			C		1/1
plants	land plants	Rubiaceae	*Psychotria daphnoides*			C		1/1
plants	land plants	Rutaceae	*Acronychia pauciflora*	soft acronychia		C		1/1
plants	land plants	Rutaceae	*Bosistoa transversa*	three-leaved bosistoa		C	V	1/1
plants	land plants	Rutaceae	*Coatesia paniculata*			C		1/1
plants	land plants	Rutaceae	*Flindersia australis*	crow's ash		C		1/1
plants	land plants	Rutaceae	*Flindersia collina*	broad-leaved leopard tree		C		1/1
plants	land plants	Rutaceae	*Pentaceras australe*	bastard crow's ash		C		2/2
plants	land plants	Rutaceae	*Zieria smithii*			C		1/1
plants	land plants	Salicaceae	*Homalium alnifolium*	homalium		C		1/1
plants	land plants	Santalaceae	*Notothixos incanus*			C		1/1
plants	land plants	Sapindaceae	*Alectryon tomentosus*			C		1/1
plants	land plants	Sapindaceae	*Dodonaea viscosa subsp. cuneata*			C		1/1
plants	land plants	Sapindaceae	*Elattostachys xylocarpa*	white tamarind		C		1/1
plants	land plants	Sapotaceae	*Planchonella myrsinifolia subsp. myrsinifolia*			C		2/2
plants	land plants	Sparrmanniaceae	*Grewia latifolia*	dysentery plant		C		1/1
plants	land plants	Sterculiaceae	*Brachychiton populneus subsp. populneus*			SL		1
plants	land plants	Vitaceae	*Cayratia acris*	hairy grape		C		1/1
plants	land plants	Zamiaceae	*Macrozamia lucida*	pineapple zamia		SL		2/2

CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.*
The codes are Extinct (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

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

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

Attexo

Appendix C

Likelihood of Occurrence Assessment

Scientific name	Common name	EPBC Status	NC Status	Habitat Description	Distribution	Likelihood of Occurrence	Notes
Birds							
Actitis hypoleucos	Common Sandpiper	Mi, Ma	-	Shallow, pebbly, muddy or sandy edges of rivers and streams, coastal to far inland; dams, lakes, sewage ponds; margins of tidal rivers; waterways in mangroves or saltmarsh; mudflats; rocky or sandy beaches; causeways, riverside lawns, drains and street gutters (Pizzey and Knight 1999).	45km SE (ALA, 2014) and 52km SE (ALA, 2019) near Lake Samsonvale adjacent to North Pine Dam Nature Refuge	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	There is a dam within the Study area
Anthochaera phrygia	Regent Honeyeater	CE	CR	Inhabits dry open forest, woodlands, especially red ironbark, yellow box, yellow gum, particularly along creek flats; mistletoe on river oak; trees in farmland, streets, gardens (Pizzey and Knight 1999). This species is a patchy, irregular spring-summer breeding migrant to Dubbo-Warrumbungle NP, Munghorn Gap NR-Hunter R. and Windsor regions (NSW) (Pizzey and Knight 1999).	27.5km NE (ALA, 2013)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	There are trees within farmlands, streets and gardens within the Study area
Apus pacificus	Fork-tailed Swift	Mi, Ma	-	Almost exclusively aerial species, flying from less than 1m to at least 300m above the ground. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh (SPRAT 2010).	9.25km NE (ALA, 2019)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	
Botaurus poiciloptilus	Australasian Bittern	E	E	Occurs from southern Queensland to Tasmania and south eastern South Australia. In NSW this species has been recorded along the coast as well as inland wetlands and rivers (NPWS, 1999). The Australasian Bittern occurs in estuarine and freshwater wetlands with tall dense vegetation, including sedges, spike rushes, reeds and bulrush (NPWS, 2000; NPWS, 1999). 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 Feeds mostly at night upon frogs, yabbies, spiders, insects, snails, small fish and mice (Schodde and Tidemann, 1993; NPWS, 2000).	45km SE (ALA, 1997) near Lake Samsonvale adjacent to North Pine Dam Nature Refuge	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	The species has specific habitat requirement that are not found within the Study area
Calidris acuminata	Sharp-tailed Sandpiper	V, Mi, Ma	-	The sharp-tailed sandpiper breeds in northern Siberia but migrates south to winter in Australia and New Zealand. In the non-breeding season they can be found in tidal mudflats, saltmarshes, mangroves; shallow fresh, brackish or saline inland wetlands; floodwaters, irrigated pastures and crops; sewage ponds and saltfields (Pizzey and Knight 1999).	8km N (ALA, 2021) near Kilcoy	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	
Calidris ferruginea	Curlew Sandpiper	CE, Mi, Ma	CR	Curlew 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 (Pizzey and Knight 1999). 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 generally roost on bare dry shingle, shell or sand beaches, sandpits and islets in or around coastal or near-coastal lagoons and other wetlands (SPRAT 2015).	45km SE (ALA, 2019) near Lake Samsonvale adjacent to North Pine Dam Nature Refuge	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	The species has specific habitat requirement that are not found within the Study area
Calidris melanotos	Pectoral Sandpiper	Mi, Ma	-	This species is found in shallow fresh waters, often with low grass and other herbage; swamp margins, flooded pastures, sewage ponds; occasionally tidal areas and saltmarshes (Pizzey and Knight 1999).	45km SE (ALA, 2019) near Lake Samsonvale adjacent to North Pine Dam Nature Refuge	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	The species has specific habitat requirement that are not found within the Study area
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	V	V	The Glossy Black-Cockatoo is widespread in eastern Australia from Eungella, QLD south to east Gippland VIC. They are highly dependent on the distribution of Allocasurina species and are found in woodland dominated it and in open forests where it forms a substantial middle layer. They are often confined to remnant Allocasurarina patches surrounded by cleared farmlands (www.birdsinbackyards.net).	22.5km SE (ALA, 1997) and 47km SE (ALA, 2010)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species**.**	No *Allocasuarina torulosa* trees within Study area. Therefore, the suitable relic trees with hollows are not considered potential habitat.
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	V	V	The Brown Treecreeper is endemic to south-eastern AUS from the Grampians in western VIC, through central NSW to the Bunya Mountains in QLD, and from the coast to the inland slopes of the Great Dividing Range. This species occupies dry open eucalypt forests and woodlands. This subspecies mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understory, sometimes with one or more shrub species (SPRAT, 2023).	150km S (ALA, 1999)	**Unlikely to Occur** The known range of the species does not overlap with the Project area.	Range of the species is within NSW and not within Study area
Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo	Mi, Ma	-	Within Australia, this species uses a range of vegetated habitats such as monsoon rainforests, wet sclerophyll forest, open woodlands and appears quite often along edges of forests, or ecotones between forest types (DoE, 2015; Menkhorst et al,. 2017). This cuckoo species feeds arboreal, foraging for invertebrates on loose bark on the trunks and branches of trees, and among the foliage, including in mistletoes. It will forage from the ground, but requires shrubs or trees from which it sallies and returns to consume prey items. Caterpillars have been noted as a preferred food source. Oriental Cuckoos tend to forage individually and have only been recorded foraging in pairs when infestations of caterpillars occur (DoE, 2015).	22km SE (ALA, 2022)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species**.**	Rainforest and open woodland habitat is not present within the Study area
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	CE	CR	The distribution of the Coxen's Fig-Parrot is poorly known. Based on accepted records, the core distribution extends from Gympie in south-eastern QLD to Richmond River in north-eastern NSW. They occupy habitats that occur from sea level to approximately 900m above sea level. They occur in rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral rainforests and vine forests (SPRAT 2010).	28km SE (ALA, 1866)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species**.**	Rainforest and vine forest habitat is not present within the Study area
Erythrotriorchis radiatus	Red Goshawk	E	E	The Red Goshawk is endemic to Australia where it is very sparsely dispersed across approximately 15% of coastal and sub-coastal Australia from western Kimberly to north-eastern NSW, and occasionally on continental islands. It has probably always occurred in central Australia, where three widely-spaced, recent confirmed sightings corroborate earlier, previously doubted records, however no breeding has been recorded in central Australia. This species occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia. Riverine forests are also used frequently. Such habitats typically support high bird numbers and biodiversity, especially medium to large species which the red goshawk requires for prey (SPRAT, 2023).	9km E (ALA, 1995)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species**.**	The Study area does not feature high bird numbers and biodiveristy to support prey for the Red Goshawk. There is minimal wooded land in the Study area
Falco hypoleucos	Grey Falcon	V	V	They Grey Falcon's habitat includes lightly treed inland plains; gibber deserts, sandridges, pastoral lands, timbered watercourses; seldom in driest deserts. Resident or nomadic visitor to inland parts of all mainland states (Pizzey and Knight 1999).	65km SW (ALA, 2000)	**Unlikely to Occur** The Project area contains suitable habitat, however the nearest historical record is >50 km.	The species is seldom seen on the coastline, and if present will not have a sedentary population

Gallinago hardwickii	Latham's Snipe, Japanese Snipe	V, Mi, Ma	-	Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. This species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern SA. It occurs in permanent and ephemeral wetlands up to 2000m ASL, where they usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). They can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (SPRAT, 2023).	7km E (ALA, 2013)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	There is a dam within the Study area
Geophaps scripta scripta	Squatter Pigeon (southern)	V	V	The known distribution of the Squatter Pigeon extends south from the Burdekin-Lynd divide in the southern region of Cape York Peninsula to the border Rivers region of northern NSW, and from the east coast to Hughenden, Longreach and Charleville. Their habitat is generally defined as open-forests to sparse, open woodlands and scrub that are mostly dominated by Eucalypts, Corymbia, Acacia or Callitris species. The habitat is generally remnant, regrowth or partly modified vegetation communities and within 3 km of water bodies or courses. Foraging occurs on well-drained, gravelly or loamy soils which support the open-forest to woodland communities with patchy, tussock-grassy understories (SPRAT, 2015).	39km SW (ALA, 2021) and 24km S (ALA, 1946)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	
Grantiella picta	Painted Honeyeater	V	V	Habitat includes mistletoes in eucalypt forests, box-ironbark-yellow gum woodlands, paperbarks, casuarinas, mulgas/acacias (Birds Australia, 2010; Pizzey and Knight 1999). Rare migrant/nomad with range extending across eastern Australia (Pizzey and Knight 1999). This species diet consists of mistletoe fruits, but also includes nectar and arthropods, especially in the non-breeding season (SPRAT, 2023).	45km E (ALA, 1986)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species**.**	Study area does not support dense woodland for the Painted honeyeater
Hirundapus caudacutus	White-throated Needletail	V, Mi, Ma	V	Almost exclusively aerial from heights of less than 1m up to more than 1000m above the ground. Most often recorded above wooded areas, including open forest and rainforest and also are commonly recorded over heathland and coastal cliffs (SPRAT, 2010).	3km N (ALA, 2023)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	
Hydroprogne caspia	Caspian tern	Mi, Ma	-	The Caspian Tern has a widespread occurrence and can be found in both coastal and inland habitats. They are found in coastal offshore waters, beaches, mudflats, estuaries, larger rivers, reservoirs, lakes (some inland). They usually forage in open wetlands, including lakes and rivers. They often prefer sheltered shallow water near the margins, but can also be found in open coastal waters (Pizzey and Knight 1999; SPRAT 2010).	3km NE (ALA, 1993)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	
Lathamus discolor	Swift Parrot	CE, Ma	E	The Swift Parrot is endemic to south-eastern Australia, breeding in Tasmania and migrating to the Australian mainland. It inhabits eucalypt forests and woodlands, plantations and banksias; street trees, parks and gardens (Pizzey and Knight 1999).	40km SE (ALA, 2018)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	
Monarcha melanopsis	Black-faced Monarch	Mi, Ma	-	The Black-faced Monarch is found in rainforests, eucalypt woodlands, coastal scrub and damp gullies. It may be found in more open woodland when migrating (www.birdsinbackyards.net).	5km NE (ALA, 2017) and 7km NE (ALA, 2020)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Study area does not support habitat for the Black-faced monarch
Motacilla flava	Yellow Wagtail	Mi, Ma	-	Regular summer migrant to coastal Australia, especially Darwin to Broome, but also north-eastern Queensland from November to April. Found in short grass and bare ground, swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land and town lands (Pizzey and Knight 1999).	50km S (ALA, 2021)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	
Myiagra cyanoleuca	Satin Flycatcher	Mi, Ma	-	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 (SPRAT, 2010).	35km S (ALA, 2023)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Study area does not support heavy vegetated gullies, or other habitat features
Pandion haliaetus	Osprey	Mi, Ma	-	The Osprey is thinly distributed around the coast of Australia where they forage for fish in fresh, brackish, or saline waters of rivers, lakes, estuaries and inshore coastal waters (Schodde and Tidemann, 1993; NPWS, 2000). Nests are usually located near a suitable area of foraging habitat and are a bulky structure made from piled sticks, often positioned in a tall dead tree or artificial structures such as telecommunication towers or poles (Schodde and Tidemann, 1993; NPWS, 2000). Breeding pairs defend breeding territory against other Ospreys, and active nests are usually more than 1 km apart (NPWS, 2005).	8.5km E (ALA, 2022)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	
Pluvialis fulva	Pacific Golden Plover	Mi, Ma	-	This species usually inhabits coastal habitats, though it occasionally occurs around inland wetlands. Usually occur on beaches, mudflats and sandflats in sheltered areas including harbours, estuaries and lagoons, and also in evaporation ponds in saltworks. The species is also sometimes recorded on islands, sand and coral cays and exposed reefs and rocks. Breeding occurs in dry areas of tundra away from the coast, usually on slopes of low hills, knolls or foothills vegetated with lichen and moss, or in bare, stony areas (SPRAT, 2010).	8km N (ALA, 1965) and 25km E (ALA, 2018)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	
Rhipidura rufifrons	Rufous Fantail	Mi, Ma	-	The Rufous Fantail occurs in coastal and near coastal districts of northern and eastern Australia. In eastern Australia they inhabit wet sclerophyll forests often in gullies dominated by eucalyptus species, usually with a dense shrubby understory often including ferns. They also occur in subtropical and temperate rainforests (SPRAT 2017).	9km NE (ALA, 2021)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	The Study area does not feature wet sclerophyll forest
Rostratula australis	Australian Painted Snipe	E, Ma	E	Inhabits well-vegetated shallows and margins of wetlands, dams, sewage ponds and other water courses; wet pastures, marshy areas, irrigation systems, lignum, tea-tree scrub and open timber (Geering et al., 2007; Pizzey and Knight 1999). Occurs mostly in south-eastern Australia but dispersive in response to rainfall. The species has a broad range of distribution throughout Australia but has a close association with brackish or freshwater terrestrial wetlands, especially temporary ones which have muddy margins. (www.birdlife.org.au)	9km E (ALA, 2013)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	There are no brackish wetlands within the Study area
Stagonopleura guttata	Diamond Firetail	V	V	Diamond Firetails occur on the south-east mainland of Australia from south-east QLD to Eyre Peninsula, SA and about 300 km inland from the sea. This species occurs in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees. They tend to prefer areas with relatively low tree density, few large logs, and little litter cover but high grass cover (SPRAT, 2023).	50km S (ALA, 2017)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	

Symposiachrus trivirgatus	Spectacled Monarch	Mi, Ma	-	The Spectacled Monarch prefers dense vegetation, mainly in rainforest but also in moist forest or wet sclerophyll and occasionally in other dense vegetation such as mangroves, drier forest and woodlands (www.birdsinbackyards.net).	14.39km E (ALA, 2023)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	
Thalasseus bergii	Greater Crested tern	Mi, Ma	-	The Greater Crested Tern can be found on islands and coastlines of the tropical and subtropical Old World, ranging from the Atlantic Coast of South Africa, south around the Cape and continuing along the coast of Africa and Asia almost without break to the south-east Asia and Australia. This species remain sedentary in their breeding areas or disperse locally, although some are more migratory. The species breeds in large dense colonies, or in small groups of less than 10 pairs amidst colonies of other species (Bird Life Australia).	5km E (ALA, 1990) and 38km E (ALA, 2023)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	The species uses sandy islands, coastal sandy or tidal flats
Tringa nebularia	Common Greenshank, Greenshank	E, Mi, Ma	-	In Queensland, the species is widespread in the Gulf country and eastern Gulf of Carpentaria (SPRAT, 2010). Found in mudflats, estuaries, saltmarshes, margins of lakes, wetlands, claypans, fresh and salines, commercial saltfields, sewage ponds (Pizzey and Knight 1999).	45km SE (ALA, 2019) near Lake Samsonvale adjacent to North Pine Dam Nature Refuge	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable aquatic habitat for the species
Turnix melanogaster	Black-breasted Button-quail	V	V	Inhabits leaf-litter in drier rainforests, vine thickets; scrubby woodlands of eucalypts, she-oaks, bottle-brushes, brush box, Brigalow and other Acacias; thickets of lantana on rainforest fringes, hoop pine plantations; grain stubbles (Pizzey and Knight 1999). Its distribution is patchy in southeast QLD to northern NSW (Pizzey and Knight 1999).	5km SW (ALA, 2019) in Deer Reserve State Forest	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable habitat
Fish							
Maccullochella mariensis	Mary River Cod	E	-	The Mary River cod inhabits the Mary River system of southeast Queensland. More specifically, the species occurs within the Tinana-Coondoo Creek upstream from Tinana Barage, Six Mile Creek downstream from Lake McDonald, and upper Obi Obi Creek (TSSC, 2016). Mary River cod have been stocked in impoundments, both within and outside the Mary River system (Simpson and Jackson, 1996).	-	**Unlikely to Occur** The known range of the species does not overlap with the Project area	No aquatic habitat
Neoceratodus forsteri	Australian Lungfish, Queensland Lungfish	V	-	The Queensland Lungfish is endemic to Australia and restricted to south-eastern QLD. The species natural distribution is the Mary, Burnett and Brisbane River systems and possibly the Pine River System. They require still or slow-flowing, shallow, vegetated pools with clear or turbid water in which to spawn (SPRAT 2003).	-	**Unlikely to Occur** The known range of the species does not overlap with the Project area	No aquatic habitat
Frogs							
Mixophyes fleayi	Fleay's Frog	E	E	Associated with montane rainforest and open forest communities adjoining rainforest. Occurs along stream habitat and is not found in ponds or ephemeral ponds. Adults may be found in leaf litter and along watercourses in rainforest and adjoining wet slerophyll forests (SPRAT, 2010).	20km SE (ALA, 2015)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable habitat
Mixophyes iteratus	Giant Barred Frog, Southern Barred Frog	V	V	Occurs in uplands and lowlands in rainforest and wet sclerophyll forest, including farmland or adjacent to disturbed areas (Ingram and McDonald 1993).	10km SE (ALA, 2015)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	No suitable habitat
Mammals							
Dasyurus hallucatus	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]	E	-	The northern quoll occurs across much of northern Australia, from south-eastern Queensland to the south-west Kimberley, with a disjunct population in the Pilbara. In the Northern Territory it is restricted to the Top End. The species occupies a diversity of habitats across its range which includes rocky areas, eucalypt forest and woodlands, rainforest, sandy lowlands and beaches, shrubland, grasslands and desert. The habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal (SPRAT 2012).	No confirmed sighting of the Northern Quoll within 100km radius	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable habitat
Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	E	E	The Spotted-tailed Quoll occurs along the east coast of Australia from south east Queensland to South Australia and Tasmania. The Spotted-tailed Quoll has been recorded in a wide range of habitat types including dry and moist sclerophyll forests and woodlands, rainforest, coastal heathland, and riparian forest. This species been occasionally sighted in treeless areas, rocky outcrops and grazing lands (NPWS, 1999; NPWS, 2000; Strahan, 2008). The Spotted-tailed Quoll shelters and dens in small caves, fallen logs with large hollows and tree hollows and may utilise numerous dens within its home range which has been estimated to be between 800 ha to 20 km2 (NPWS, 2000; NPWS in prep, 1999). The Spotted-tailed Quoll is partly arboreal and feeds upon a variety of prey species including birds, rodents, lizards, small wallabies, and even insects. The Spotted-tailed Quoll is also known to scavenge and feed upon carrion, road kills including wild dogs, and litter (Strahan 1998; NPWS 2000).	22.9km NE (ALA, 1991)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable habitat
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	E	E	The Koala is endemic to Australia. The biological species range extends from north-eastern QLD to the south-east corner of SA. Koalas naturally inhabit a range of temperate, subtropical and tropical forests, woodland and semi-arid community's dominated by Eucalyptus species. Their habitat can broadly be defined as any forest or woodland containing species that are a known Koala food tree, or shrubland with emergent food trees (SPRAT 2017).	2km S (ALA, 1983) and 6.5km SE (ALA, 2016)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	
Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat	E	E	It is found in a variety of dryer habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Daytime roosts include caves, mine tunnels and the abandoned, bottle-shaped mud nests of Fairy Martins. In caves it often selects positions close to the cave entrance where individuals huddle together. It is believed to forage for small flying insects below the forest canopy. Its distribution of mostly limited to NSW with a few records in SE Queensland (Strahan, 2002).	100km S (ALA, 1994)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable habitat, and records start 100km south of Study area
Petauroides volans	Greater Glider (southern and central)	E	E	The central Greater Glider occurs in mid Queensland from Eungella Range to just north of Townsville. This species was origionally grouped with P. volans but has since been split from this group (McGregor, et.al 2020). This species is largely restricted to eucalypt forests and woodlands of eastern Australia. It is typically found in highest abundance in taller, montane, moist eucalypt forests on fertile soils, with relatively old trees and abundance hollows. It is likely that only a proportion of forest in potential habitat areas is suitable for the species, as the structural attributes of the forest overstorey and forage quality it relies on vary considerably across the landscape (TSSC Conservation Advice, 2022).	27km E (ALA, 2021)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	Species on Gregory creek rd
Pteropus poliocephalus	Grey-headed Flying-fox	V	-	The Grey-headed Flying-fox occurs in a range of habitats including subtropical and temperate rainforests, dry and wet sclerophyll forests, Banksia woodland, heaths and Melaleuca swamps (Duncan et al, 1999; NPWS, 2001).	4.42km NE (ALA, 2023)	**Likely to Occur** For species, suitable habitat for species is present within the Project area and historical records exist within 10 km of the Project area (<20 years).	Roost in Kilcoy with a roost size of 2,500-9,999 individuals

Petrogale penicillata	Brush-tailed Rock-wallaby	V	V	This species is restricted to south-eastern QLD, eastern NSW and patches throughout VIC. This species prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky cliffs, gorges and isolated rock stacks. It also utilises tree limbs. While rocky outcrops appear crucial to current habitat selection, vegetation structure and composition is also important. They have been known to associate themselves with dense arboreal cover, especially fig trees. They are also associated with dense rainforests, wet sclerophyll forest, vine thicket, dry sclerophyll forest and open forests (SPRAT 2016).	12km E (ALA, 2015)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No suitable habitat
Macroderma gigas	Ghost Bat	V	E	Ghost bats occur in a wide range of habitats from rainforest, monsoon and vine scrub, to open woodlands in arid areas. These habitats are used for foraging, while root habitat is more specific. Favoured roosting sites of the ghost bat are undisturbed caves or mineshafts which have several openings. Ghost bats occur in tropical regions in Queensland, and along the ventral and northern coast, from Rockhampton north to Cape York (DEHP 2017).	>100km N (ALA, n.d)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No cave features, no records in South-east Queensland
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	V	V	The Yellow-bellied Glider is found in tall mature Eucalypt Forest and they feed on a range of sources including winter-flowering Eucalypts which provide nectar and pollen. They also feed upon the sap of Eucalypts in which they chew V-shaped incisions to collect the sap. Yellow-bellied Gliders den in large tree hollows (NPWS, 2000).	22km N (ALA, 2021) in Conondale National Park	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No eucalyptus woodland suitabe for species
Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)	V	V	Common in Tasmanian, rare and patchy on mainland from coastal southwest Vic to southeast Qld. Inhabits subtropical and warm temperate rainforest, wet sclerophyll forest and coastal heathy woodland with dense understorey and light, sandy soils (Menkhorst and Knight 2004).	37km N (ALA, 2014) in Imbil State Forest	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No subtropical or temperate rainforest, wet sclerophyll forest or coastal heath.
Reptiles							
Hemiaspis damelii	Grey Snake	E	E	Queensland, records are known from near Goondiwindi and the adjacent Darling-Riverine Plain, from the Darling Downs and from the Lockyer Valley. Several isolated records also occur in the Rockhampton area. It favours woodlands, usually on heavier, cracking clay soils, particularly in association with water bodies. They shelter under rocks, logs and other debris as well as in soil cracks (SPRAT 2011).	49km S (ALA, 1979)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No heavy black clay in Study area
Delma torquata	Adorned Delma, Collared Delma	V	V	Under rocks and in soil cracks on heavy, stony and lightly timbered soils near Kenmore, Brookfield and Mt Crosby. Endemic to South-east Queensland. Also found in numerous disturbed habitats throughout Southeast Queensland (Cogger 2000).	54km S (ALA, 1985)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Occurs near Kenmore, Brookfield and Mt Crosby
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	V	-	The Three-toed Snake-tooth Skink occurs on the coast and ranges from the Macleay valley in NSW to south-eastern Queensland. It is very uncommon south of Grafton. They Prefer Rainforest and occasionally moist eucalypt forest, on loamy or sandy soils. They live in loose soil, leaf litter and rotting logs, and feed on earthworms and beetle grubs. Also found in garden beds and urban yards under leaf litter on alluvial soils (NSW Threatened Species).	40km NE (ALA, 2024) in the Mary Cairncross Scenic Reserve	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rainforest habitat within the Study area
Furina dunmalli	Dunmall's Snake	V	V	The distribution of the Dunmall's Snake extends from near the QLD border through the Brigalow Belt South and Nandewar bioregions, as far south as Ashford in NSW. In QLD this species occurs primarily in the Brigalow Belt region in the south-eastern interior of QLD. Records indicate sites at elevations between 200-500 m above sea level. The snake is very rare of secretive with limited records existing. It has been recorded at Archokoora, 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. It has been found in a broad range of habitats including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow; and other various Blue Spotted Gum, Ironbark, White Cypress and Bulloak open forests and woodland associations on sandstone derived soils (SPRAT).	73km W (ALA, 1996) and 95km SW (ALA, n.d)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	The range of the species is west of the Study area in black cracking clay which is not present in the Study area
Insects							
Argynnis hyperbius inconstans	Australian Fritillary	CE	-	The Australian fritillary usually occurs around river estuaries or open, swampy coastal areas. The Species is restricted to areas where the larval food plant, Viola betonicifolia (the arrowhead violet), occurs. The arrowhead violet is a small perennial herb which usually grows in damp, shaded forest habitats and often grows in association with Lamandra longifolia and Imperata cylindrical. The Australian fritillary butterfly has been recorded in south-eastern QLD and north-eastern NSW between Gympie and Port Macquarie. There are only four extant populations left as their range has contracted by 80% (DEHP 2018).	>100km S (ALA, 1981) in NSW	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Check for larval food plant presence in the Study area, but highly unlikely
Plants							
Aponogeton elongatus subsp. elongatus	-	-	NT	Aponogeton elongatus subsp. elongatus is a tuberous, aquatic perennial plant with mainly submerged leaves and a few floating leaves. Aponogeton elongatus subsp. elongatus grows in rivers and streams with thick sediments or in floodplain billabongs (DEWHA 2008a).	10km NE (ALA, 1958)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Arthraxon hispidus	Hairy-joint Grass	V	V	Arthraxon hispidus is a slender-tufted creeping grass that roots at the nodes, with erect to semi-erect stems. The species was once considered an annual, however is now though to be a perennial that tends to due down in winter. The grass grows around freshwater springs on coastal foreshore dunes, in shaded small gullies, on creek banks, and on sandy alluvium in creek beds in open forests. The species has been recorded from scattered locations throughout Queensland, and occurs far south as Kempsey, and west to Glenn Innes, New South Wales, and in Queensland it occurs north to Port Douglas and west to Carnarvon National Park. Most occurrences however are from Noosa southwards (DEWHA, 2008b).	45km NE (ALA, 1939)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart	V	-	Three-leaved Bosistoa is found from the Nightcap Range north of Lismore in north-east NSW to Mount Larcom (near Gladstone) in south-east QLD. The species is described in herbarium collection records as locally abundant at Natural Bridge-Springbrook NP and Coalstoun Lakes NP in QLD. This species typically grows in lowland subtropical rainforest. Has been found in closed forests on steep slopes, rainforests along creek lines, on reddish loam over basalt rock on very steep slopes and in notophyll vine forests (SPRAT Profile).	10km E (ALA, 2006) in Mount Archer D'Aguilar National Park	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	

Cadellia pentastylis	Ooline	V	V	Ooline occurs on the north-west slopes of NSW and in central and southern QLD where it is found within the 500 mm and 750 mm rainfall isohyets. This species is of considerable biogeographic interest as it is a relic of an extensive rainforest vegetation that covered much of Australia in the past. This species grows in semi-evergreen vine thickets and sclerophyll vegetation on undulating terrain of various geology, including sandstone, conglomerate and claystone. It forms a closed or open canopy, as a dominant or commonly with White Box and White Cypress Pine, with an open understory and leaf litter dominating the forest floor (SPRAT Profile).	>100km	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Range is west of the Study area in central and southern QLD
Coleus leiperi	-	V	V	Plectranthus leiperi is a strongly aromatic herb to 50 cm tall with square stems. Leaves are opposite, fleshy, oval-shaped, silvery-green and hairy above, paler green below, with 11–17 teeth on each margin (DEWHA, 2008c). Plectranthus leiperi is known from a restricted area near the Wivenhoe and Somerset dams in the Brisbane Valley, Queensland. It occurs in eucalypt forest on rhyolite and granite rock outcrops and pavements. It has an extent of occurrence of less than 200 km² and an area of occupancy of several hectares (Forster, 1994). At one locality there are six disjunct small populations of each with fewer than 100 individuals (Forster, 1994). It occurs as scattered individuals on rhyolite and granite rock outcrops and pavements in eucalypt forest (Forster, 1994). One population occurs under a power line (DEWHA, 2008c).	19km SE (ALA, 2023) in Mount Mee Forest Reserve	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Range is within the Mount Mee Forest Reserve on granite and rhyolite rocky outcrops
Coleus nitidus	Nightcap Plectranthus, Silver Plectranthus	E	E	Nightcap Plectranthus is restricted to south-east QLD and north-east NSW where it occurs from the Nightcap Range north to the McPherson Ranges. It has a distributional range of approximately 60 km. This species occurs on rocky cliff faces or amongst outcrops and boulders. Sites are often damp and sheltered or may be shaded by adjacent canopy. This species is associated vegetation that is usually subtropical rainforest or ecotones between open forest and rainforests to altitudes of 180 m ASL. This species co-occurs with Flea Bush (Plectranthus graveolens) and Crofton Weed (Ageratina adenophora) (SPRAT Profile).	50km SE (ALA, 2022)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Subtropical rainforests do not occur within Study area
Coleus omissus	-	E	E	Coleus omissus is known from only four sites between Gympie and Gayndah, QLD. All sites were previously under state forest tenure but are currently protected as forest reserves. While active timber harvesting has ceased in these reserves, public access is increasing. This species grows on rock outcrops in eucalypt open forest and adjacent to vine forest (SPRAT Profile).	33.5km NE (ALA, 1994)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Corchorus cunninghamii	Native Jute	E	E	The Native Jute occurs in the ecotone of wet sclerophyll forest and dry to dry-subtropical rainforest, and in Hoop Pine plantations. It often occurs on hill crests, exposed slopes, ridges or upper slopes of hilly terrain on south or south-east aspects. It also occurs on sheltered slopes, gullies and on lower slopes, depending on the topographic position of the sclerophyll-rainforest margin. In 2004, the Native Jute was described as occurring at 6 locations over a range of 120 km throughout QLD and NSW. In Queensland, the Native Jute has a total population of approximately 6000 individuals, with the largest population in Wilkie Scrub (SPART Profile).	40km NE (ALA, 2017)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Cossinia australiana	Cossinia	E	E	Cossinia australiana is known from fragmented remnant patches of Araucarian vineforests or fine thickets on fertile soils in central and southern QLD. This species' distribution is from Rockhampton to Kingaroy, east of the Dividing Range, a distance of approximately 300km. At most sites it is recorded as uncommon, usually as scattered individuals. This species occurs from 20-520 m in altitude and appears to prefer ecotonal situations around dry rainforest edges, although it also occurs as scattered individual plants within closed forest communities (QLD - Species Profile).	85km N (ALA, 2011)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Croton mamillatus	Bahrs Scrub Croton	CE	CR	Croton mamillatus is known from a restricted and disjunct distribution in the Caboolture, Beenleigh and Boonah localities, near Brisbane in the South Eastern Queensland bioregion. Croton mamillatus grows as an understorey shrub in remnants of dry microphyll or notophyll vineforest on red rocky soils derived from chert, often on hillsides near rainforest margins Croton mamillatus was first collected from the Mt French area in 1984, with subsequent collections in the Bahrs Scrub area from 2000-2003 (Queensland Herbarium 2020). An additional subpopulation was recorded in 2006 near Caboolture (Campbells Pocket Road). There are two recent, unvouchered records from Bahrs Hill (P. Forster, G. Leiper, pers. comm. 2020). Croton mamillatus is currently known from three subpopulations; at Bahrs Scrub (Bahrs Hill, Belivah and Shenandoah/Ponderosa), Mount French (Moogerah Peaks NP and private tenure) and Caboolture (Collingwood, 2020).	30km E (ALA, 2006)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Cryptostylis hunteriana	Leafless Tongue-orchid	V	-	The Leafless Tongue-orchid extends from Orbost in east Gippsland in VIC through coastal NSW and up to Tin Can Bay area of southern QLD. This species has been reported to occur in a wide variety of habitats including heathlands, healthy woodlands, sedgelands, dry sclerophyll forests, forested wetlands, freshwater wetlands, grasslands, grassy woodlands, rainforests and wet sclerophyll forests (SPRAT Profile).	16km N (ALA, 2022)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	V	V	Cupaniopsis shirleyana is restricted to south-east Queensland, from Brisbane, north to Bundaberg. This species occurs at 20-550m in elevation and has been recorded in a variety of rainforest types including vine thicket and dry rainforest. It occurs on hillsides, mountain tops, lower slopes of valleys, stream beds and along riverbanks. it grows in a variety of soil types (QLD - Species Profile).	78km N (ALA, 2009)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Dichanthium setosum	bluegrass	V	V	Dichanthium setosum is associated with heavy basaltic black soils and red-brown loams with clay subsoil. Associated species include but are not limited to the following; Eucalyptus albens, E. melanophloia, E. melliodora, E. viminalis, Myoporum debile, Aristida ramosa, Themeda triandra, Bothrichloa ambigua, B. decipiens, Macrozamia stenomera and Medicago minima. This species is often found in moderately disturbed areas such as cleared woodlands, grassy roadside remnants and highly disturbed pasture. This species may tolerate or benefit from disturbance, otherwise, disturbance is indicative of threatening processes in its habitat (SPRAT Profile).	33km S (ALA, 2000)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	Depending on soil type at Study area
Fontainea venosa	-	V	V	Fontainea venosa (Southern Bluchwood) occurs in notophyll vine forests and vine thickets with a mean annual rainfall of 1000-1100mm on soil derived from and containing abundant andesitic rocks, often on rocky outcrops or along creeks. Associated species include Backhousia citriodora, Actephila lindleyi, Bosistoa medicinalis, Diospyros fasciculosa, Barkly syringifolia, Araucaria cunninghamii, Owenia venosa, Aphananthe philippinensis, Argyrodendron trifoliolatum, Croton acronychioides, Pentaceras australe and Planchonella myrsinoides (wetlandinfo.des.qld.gov.au)	75km NW (ALA, 2014)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	

Haloragis exalata subsp. velutina	Tall Velvet Sea-berry	V	V	Haloragis exalata subsp. Velutina occurs in south-east QLD, from Brisbane west to the Bunya Mountains, with an isolated occurrence in Carnarvon National Park. This species is locally common in some areas such as Bunya Mountains NP, but is often recorded in low numbers. This species occurs within the Bunya Mountains NP, D'Aguilar NP, Deer Reserve NP and Yarraman State Forest. This species has been recorded from eucalypt forests from rainforest margins and grasslands from near sea-level to 1000m. They have been recorded growing on brown heavy clay, shallow rock loam and basaltic soils. They are commonly associated with Eucalyptus tereticornis, Angophora subvelutina and Acacia irrorata (QLD - Species Profile).	14km SW (ALA, 1994) in Deer Reserve National Park	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Species grows on brown heavy clay, shallow rock loam and basaltic soils - check if Study area features the same habitat.
Hernandia bivalvis	Cudgerie	-	NT	Hernandia bivalvis is restricted to the central coastal and south-east QLD. It is known from Dryander Creek (near Proserpine) south to Mt Tamborine (north-east of Beaudesert). It is also recorded from Mt Colosseum National Park. This species mainly grows in rainforest on rock pavements and outcrops with shallow soils. Most Queensland Herbarium records are from either vine thicket or microphyll vine forest. It occurs up to 620 m in altitude (QLD - Species Profile).	4km S (ALA, 1967) and 40km NE (ALA, 2012)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rainforest habitat within the Study area
Leichhardtia longiloba	Clear Milkvine	V	V	The Clear Milkvine is known from scattered sites on the NSW north coast from Hastings River northwards to Mount Nebo in QLD. It is conserved within the Lamington National Park, Main Range National Park, Mt Barney National park and Toonumbar National Park. This species grows in open eucalypt forest, or margins of subtropical and warm temperate rainforest, and in areas of rocky outcrops. It is associated with the following species: E. crebra, E. microcorys, E. acmenoides, E. saligna, E. propinqua, C. intermedia and Lophostemon confertus (SPRAT Profile).	45km SE (ALA, 2022)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Lepidium peregrinum	Wandering Pepper-cress	E	-	Lepidium peregrinum occurs from the Bunya Mountains, south-east QLD, to near Tenterfield in northern NSW. At Clifton, this species grows in riparian open forest dominated by Eucalyptus camaldulensis and Casuarina cunninghamiana with a variably dense shrubby understory. This species was most abundant in the tussock grassland fringe of the riparian open forest, with some plants scrambling to a height of 2m in thickets of Hymenanthera. It also occurs in shade under shrubs close to the creek bank, where most plants were small, about 30 cm in height (Approved Conservation Advice).	4km SW (ALA, 2007)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No dense shrubby uncderstorey riparian open forest habitat within the Study area
Macadamia integrifolia	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak	V	V	The Macadamia Nut is found in remnant rainforest in northern NSW and SE QLD. The species is known from Mt Bauple (north of Gympie) to Currumbin Valley (Gold coast hinterland). Along with the Rough-shelled Bush Nut (Macadamia tetraphylla) this species forms the basis of the commercial macadamia nut industry. This species prefers to grow in mild, frost-free areas with a reasonably high rainfall. Vegetation communities in which this species is found range from complex notophyll mixed forest, extremely fall closed forest, simple microphyll-notophyll mixed mid-high closed forest with Araucaria and Argyrodendron emergents (SPRAT Profile).	12km E (ALA, 2017)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rainforest habitat within the Study area
Macadamia ternifolia	Small-fruited Queensland Nut, Gympie Nut	V	V	The small-fruited Queensland Nut is endemic to QLD. Following extensive habitat clearing, the species it now considered extremely rare in the wild and is restricted to an area between Mt Pinbarren and Mary Cairncross Park near Maleny (distance of about 50km). The extent of occurrence of the Small-fruited Queensland Nut is estimated to be approximately 8000 km2 and the area of occupancy of the species is approximately 5 km2. Its remaining habitat is fragmented and found within lowland warm complete notophyll vine forest and Araucarian notophyll vine forest on basic and intermediate volcanic soils and alluvia in higher rainfall areas of south-east QLD. Mainly occurs in south-facing gullies (SPRAT Profile).	23km E (ALA, 2007)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rainforest habitat within the Study area
Macadamia tetraphylla	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut	V	V	The rough-shelled Bush Nut occurs from northern NSW to south-east QLD. Both Macadamia tetraphylla and Macadamia integrifolia are hybridised to form the basis of the commercial Macadamia Nut industry in Australia and Hawaii. This species is rare and generally occurs in subtropical rainforest and complex notophyll vineforest, at the margins of these forests and in mixed sclerophyll forest. It can grow on moderate to steep hill slopes on alluvial soils at well-drained sites (SPRAT Profile).	41km NE (ALA, 2020)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rainforest habitat within the Study area
Notelaea lloydii	Lloyd's Olive	V	V	Lloyd's Native Olive is known from eight sites at five locations within south-eastern QLD including: Mt Crosby area on the western outskirts of Brisbane, the Boonah district, Moggill State Forest, State Forest 637 and Moogerah Peaks National Park. This species occurs on undulating to hilly terrain either in moist gullies or on gentle to steep dry slopes but is rarely found on rocky outcrops. This species occurs in the ecotone between eucalypt open forests and vine tickets at 80-480 ALS. The more frequent tree species recorded with this species include Narrow-leaved Ironbark (Eucalyptus crebra), Spotted Gum (Corymbia maculata), White Mahogany (E. acmenoides), Lemon-scented gum (C. citriodora) and Curracabah (Acacia concurrens) with associated trees and shrubs of Kurrajong (Brachychiton populneus), Red Ash (Alphitonia excelsa), Brown Salwood (A.aulacocarpa), Burra (A. falcata) and Ebony (Diospyros ferrea var. geminata) (SPRAT Profile).	13.45km S (ALA, 1989)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rocky outcrops
Persicaria elatior	Knotweed, Tall Knotweed	V	V	Tall Knotweed is an erect herb known from the North Coast, Central Coast and South Coast Botanical Subdivisions in NSW and Moreton Pastoral District in south-east QLD. There is also a single disjunct record from the Barron River, Mareeba in north-eastern QLD, though this record possibly represents a misidentification. Knotweed normally grows in damp places, including: coastal and swampy areas along watercourses, streams and lakes, swamp forest and disturbed areas (SPRAT, 2020).	20.5km NE (ALA, 2023)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Check for swampy areas along watercourse, streams and dams but it is highly unlikely
Phebalium distans	Mt Berryman Phebalium	E	E	Phebalium distans occurs in a few isolated patches around Mt Berryman near Laidley, the Walla Range at Coalstoun Lakes, the Mt Jones Plateau comples of the Booie Range at Kingaroy and the plateay complex of the Speedwell Range near Proston. This species is found on red soils in vineorest, semi-evergreen vine thicket and open forest ecosystems and ecotones, generally above 200 m above sea level (www.des.qld.gov.au/species-search).	85km S (ALA, 2022)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Out of range
Picris evae	Hawkweed	V	V	Picris evae occurs north of the Inverell area in NSW and has been collected at Elsmore, Oxley Park, and Dangars Falls in Oxley Wild Rivers National Park in the NSW northern tablelands. In QLD, this species occurs at 30 sites in the Darling Downs and Moreton pastoral districts in the south-east. This species occurs in Eucalyptus open woodland with a grassy understory composed of Dichanthium spp. Upper stratum species include Eucalyptus melliodora, E. crebra, E. populnea, E. albens, Angophora subvelutina, Allocasuarina torulosa, and Casuarina cunninghamiana. Collections have been made along roadsides and in cultivated areas such as paddocks, on black, dark grey or red-brown soils, reddish clay-loam or medium clay soils. The distribution of this species overlaps with several EPBC listed TEC's (SPRAT).	29km (ALA, 1994)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	Can grow in cultivated areas, roadsides. Needs Eucalyptus open woodland with Dicanthium understorey however

Planchonella eerwah	Shiny-leaved Condoo, Black Plum, Wild Apple	E	E	Endemic to QLD the Shiny leaved Condoo was discovered at Ivory's Knob southwest of Ipswich. It is restricted to 3 locations within SE QLD: Nambour-Maleny district, Beenleigh-Ormeau-Pimpama district and Ipswich-Beaudesert district. This species grows in subtropical rainforest, dry rainforest and Hoop Pine vine scrub. All known areas in which this species is found are warm and subtropical with an annual rainfall of between 650-1000 mm (SPRAT 2019).	48km NE (ALA, 2007)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	No rainforest habitat within the Study area
Polianthion minutiflorum	-	V	V	Polianthion minutiflorum is known from Redcliffe vale, about 110 km west of Mackay, south to Kingaroy, covering a distance of approximately 800 km. This species is usually found in forest and woodland on sandstone slopes and gullies with skeletal soil, or sometimes deeper sands adjacent to deeply weathered laterite (www.des.qld.gov.au/species-search).	66km W (ALA, 1979)	**Unlikely to Occur** The Project area contains suitable habitat, however the nearest historical record is >50 km	
Rhaponticum australe	Austral Cornflower, Native Thistle	V	V	The Austral Cornflower is currently confined to Queensland. The species was known to previously occur in NSW and VIC, but is now presumed extinct in those locations (2008). The current distribution of the Austral Cornflower extends from Allora (north of Warwick) to Callide (north-west of Biloela), QLD. This species usually grows on heavy black or red-brown clay, or clay loams derived from basalt. Populations are often confined to roadsides and cultivation headlands. Locations where the species occurs range in altitude up to 480 m above sea level. The species is often found in woodland and grassland and in association with Eucalyptus crebra, E. Orgadophila, E. populnea, E. tereticornis, E. melanophloia, Angophora subcelutina, A. floribunda, Dichanthium sericeum and Themeda triandra (SPRAT, 2019).	75km NW (ALA, 2004)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Rhodamnia dumicola	Rib-fruited malletwood	-	E	Whilst there is little habitat information available for the Rib-fruited Mallewood, local records are all located within Araucarian complex microphyll to notophyll vine forests or cleared areas within the Bulburin National Park (no reference).	4km SW (ALA, 2023) in Deer Reserve State Forest	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood	CE	CR	The Smooth Scrub Turpentine is known from a sub-coastal distribution, with a narrow range from the Springbrook region in QLD, to the west of Ballina in NSW, in the south-eastern QLD Bioregion. Across its distribution, this species occurs patchily in suitable habitat with the largest subpopulation thought to be 150 mature individuals at Springbrook National Park. This species occurs in subtropical rainforest on basaltic soils, including red-brown loams and clay loams. It can be locally common on slopes and in gullies, growing from 40-600 m ASL. It often occurs in disturbed fragments and along edges of simple to complex notophyll vine forest, in the ecotone with adjacent wet eucalypt forest. Associated species include Davidsonia sp., Alphitonia petriei, Planchonella australis, Elattostachys nervosa, Endiandra globosa, Stenocarpus sinuatus, Archidendron muellerianum, Syzygium smithii and Elaeocarpus obovatus (SPRAT).	17km E (ALA, 2021)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Rhodomyrtus psidioides	Native Guava	CE	CR	In NSW Rhodomyrtus psidioides is currently known to occur from Broken Bay to the QLD border. Populations of this species extend north to Gympie QLD. Populations are typically restricted to coastal and sub-coastal areas of low elevation however the species does occur up to 120 km inland in the Hunter and Clarence River catchments. It grows in warmer rainforests and its margins with sclerophyll vegetation, often near creeks and drainage lines. (NSW Scientific Committee 2019).	30km NE (ALA, 2021)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Samadera bidwillii	Quassia	V	V	Quassia is endemic to QLD and is currently known to occur in several localities including: Scawfell Island, Mackay, Goomboorian and north of Gympie. This species mainly occurs in lowland rainforest margins, but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses (SPRAT 2019).	Previous records north of Gympie	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	Out of range
Sarcochilus weinthalii	Blotched Sarcochilus, Weinthals Sarcanth	V	E	Sarcochilus weinthalii grows on the upper branches of rainforest trees. It occurs in the dry rainforest of sub-coastal ranges and associated foothills well inland from the coast and to approximately 700m above sea level. It grows in araucarian microphyll vine forest, araucarian notophyll vine forest or in patches of isolated scrub (wetlandinfo.des.qld.gov.au). This species is found in the coastal and sub-coastal ranges predominantly north from the Richmond River in north-east NSW, to south of Gympie in Queensland and may occur as far south as Dorrigo National Park (DEH, 2020).	38km NE (ALA, 1987)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Sophora fraseri	-	V	V	This species is widespread but not common through south-east Queensland. It grows in moist habitats, often in hilly terrain at altitudes from 60-660 m on shallow soils along rainforest margins in eucalypt forests or in large canopy gaps in closed forest communities (Conservation Advice 2008 - EPBC).	12km S (ALA, 2022)	**Unlikely to Occur** Where historical records exist within 50 km, the Project area does not contain suitable habitat for the species.	
Thesium australe	Austral Toadflax, Toadflax	V	V	Austral Toadflax occurs in NSW, ACT, QLD and CIV. Its current distribution is sporadic but widespread, occurring between the Bunya Mountains in SE QLD to NE VIC, and as far inland as the southern, central and northern tablelands in NSW and the Toowoomba region. It is a semi-parasitic species found on roots of a range of grass species, notably Kangaroo Grass. It occurs in subtropical, temperate and subalpine climates over a wide range of altitudes. It occurs on soils derived from sedimentary, igneous and metamorphic geology on a range of soils including black clay loams to yellow podzolics and peaty loams. It occurs in shrubland, grassland or woodland, often in damp sites (SPRAT 2018).	33km E (ALA, 2021)	**Possibly Occurring** For species, suitable habitat for species is present within the Project area and historical records occur 10 - 50 km.	

Attexo

Appendix D

Fauna Species List

Table 7: D.1: [Enter Caption]

Common Name	Scientific Name	Detection Method
Amphibians		
Broad-palmed Rocket Frog	*Litoria latopalmata*	Spotlighting
Green Tree Frog	*Litoria caerulea*	Spotlighting
Naked Tree Frog	*Litoria rubella*	Spotlighting
Ornate Burrowing Frog	*Platyplectrum ornatum*	Spotlighting
Spotted Marsh Frog	*Limnodynastes tasmaniensis*	Spotlighting
Striped Marsh Frog	*Limnodynastes peronii*	Spotlighting
Birds		
Australasian Pipit	*Anthus novaeseelandiae*	Bird Surveys
Australian Magpie	*Gymnorhina tibicen*	Bird Surveys
Black Kite	*Milvus migrans*	Bird Surveys
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	Bird Surveys
Brown Falcon	*Falco berigora*	Bird Surveys
Common Myna	*Acridotheres tristis*	Bird Surveys
Crested Pigeon	*Ocyphaps lophotes*	Bird Surveys
Galah	*Eolophus roseicapilla*	Bird Surveys
Leaden Flycatcher	*Myiagra rubecula*	Bird Surveys
Magpie Lark	*Grallina cyanoleuca*	Bird Surveys
Nankeen Kestral	*Falco cenchroides*	Bird Surveys
Pacific Black Duck	*Anas superciliosa*	Bird Surveys
Pale-headed Rosella	*Platycercus adscitus*	Bird Surveys
Pheasant Cougal	*Centropus phasianinus*	Bird Surveys
Pied ButcherBird	*Cracticus nigrogularis*	Bird Surveys
Rainbow Lorikeet	*Trichoglossus moluccanus*	Bird Surveys
Red-backed Fairy-wren	*Malurus melanocephalus*	Bird Surveys
Silvereye	*Zosterops lateralis*	Bird Surveys
Southern Boobook	*Ninox boobook*	Spotlighting
Sulphur-crested Cockatoo	*Cacatua galerita*	Bird Surveys
Torresian Crow	*Corvus orru*	Bird Surveys
Wedge-tailed Eagle	*Aquila audax*	Bird Surveys
Whistling Kite	*Haliastur sphenurus*	Bird Surveys
White-breasted Woodswallow	*Artamus leucorynchus*	Bird Surveys
White-throated Gerygone	*Gerygone olivacea*	Bird Surveys

Common Name	Scientific Name	Detection Method
Mammals		
Common Brushtail Possum	*Trichosurus vulpecula*	Spotlighting
Eastern Grey Kanagroo	*Macropus giganteus*	Diurnal Search
Reptiles		
Elegant Snake-eyed Skink	*Cryptoblepharus pulcher*	Diurnal Search
Water Dragon	*Intellagama lesueurii*	Spotlighting