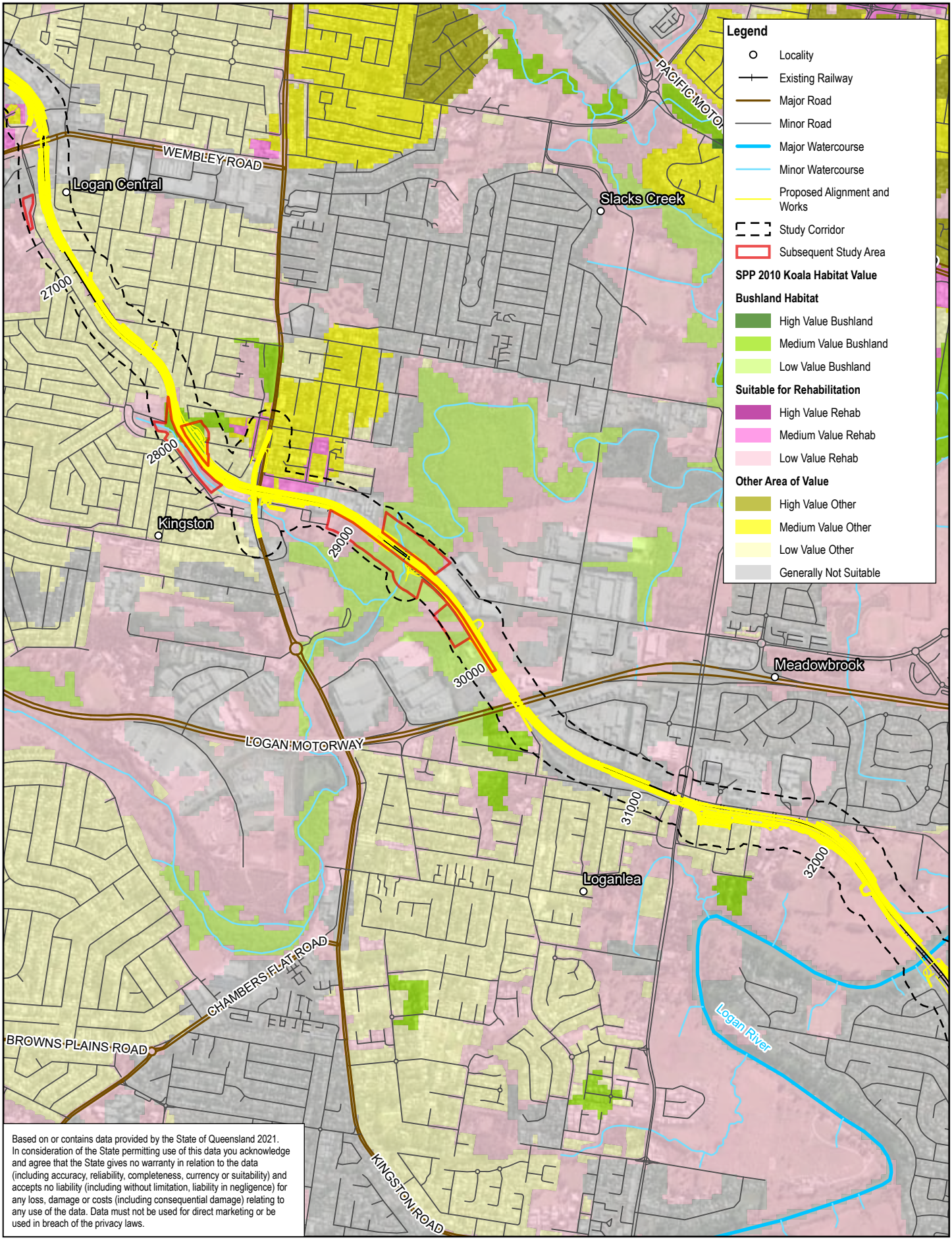

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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(Kuraby to Beenleigh) Project

Distribution of koala habitat mapping within the subsequent study areas

Project No. **12534697**
Revision No. **2**
Date **18/06/2021**

FIGURE 3-7b

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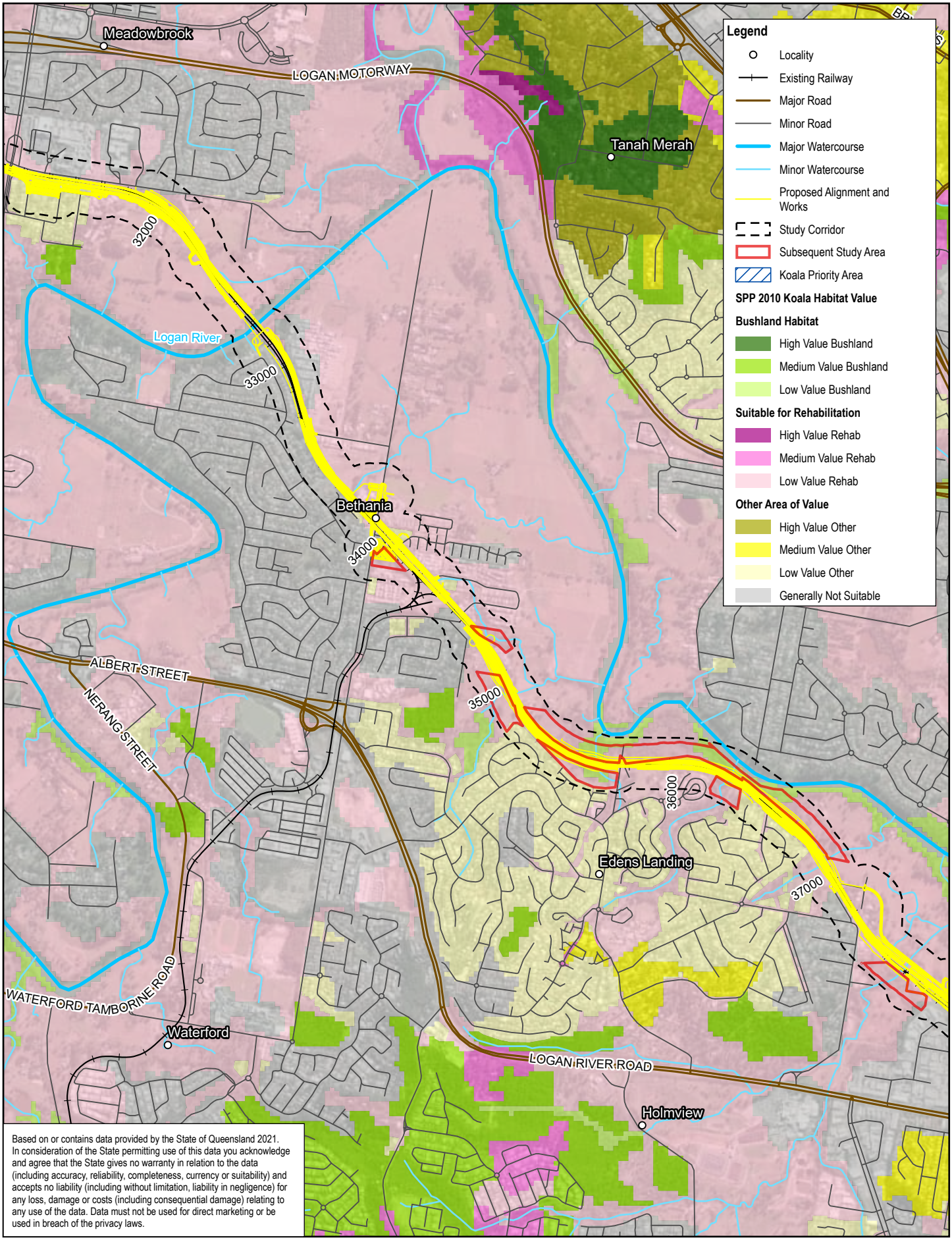
Print date: 09 Aug 2021 - 16:18

Data source: DoR: Locality, Roads, Railway, Watercourse (2020); DES: Koala SPP Habitat Value (2010); Koala Priority Area (2020); GHD: Proposed Alignment, Study Area (2021); ESRI World Imagery: Maxar. Created by: xlee



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Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Department of Transport and Main Roads
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(Kuraby to Beenleigh) Project

Distribution of koala habitat mapping within the subsequent study areas

Project No. **12534697**
Revision No. **2**
Date **18/06/2021**

FIGURE 3-7c

N:\AU\Brisbane\Projects\41\12534697\GIS\Maps\Working\12534697_ESR.aprx\12534697_009_ESR_KoalaHab
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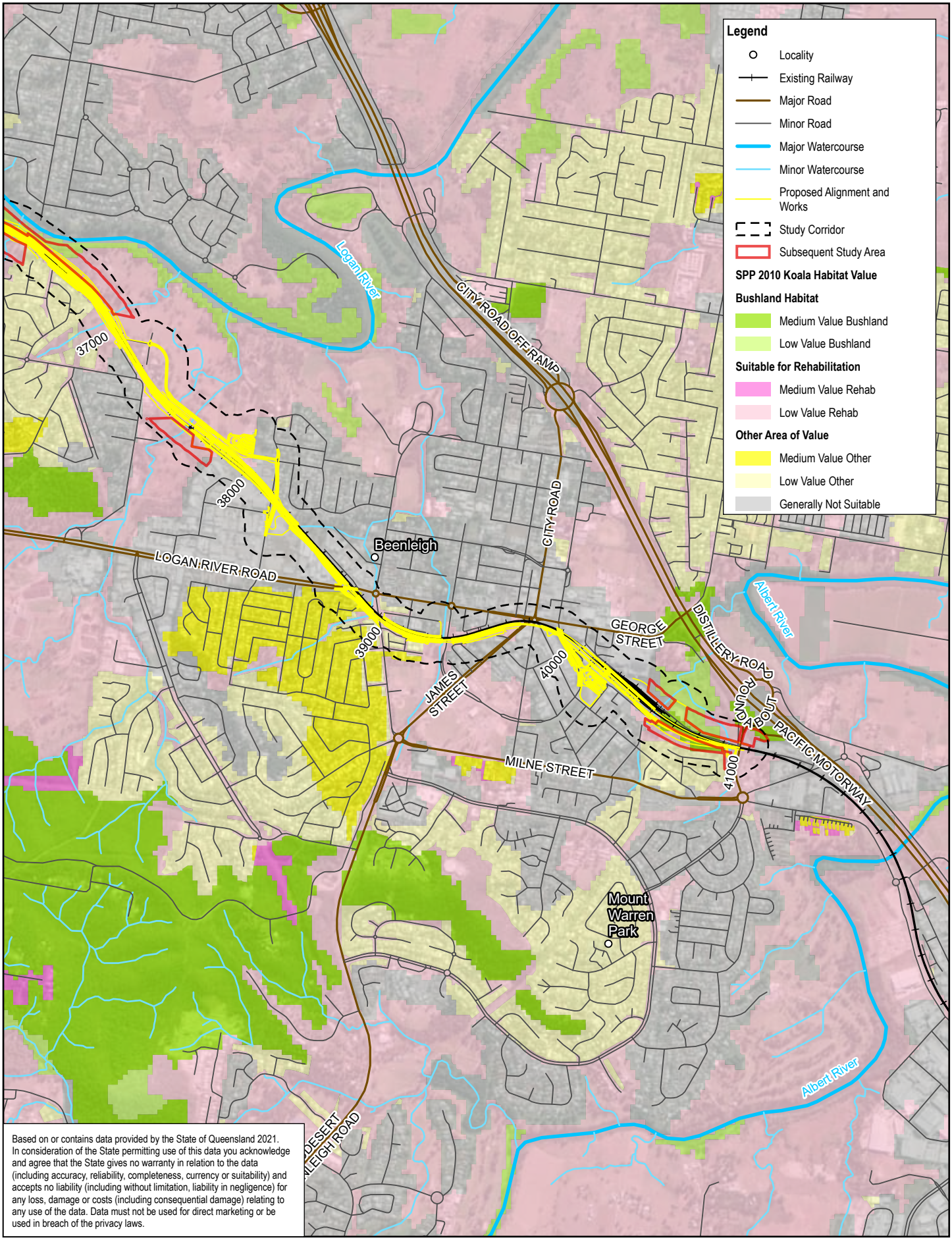
Data source: DoR: Locality, Roads, Railway, Watercourse (2020); DES: Koala SPP Habitat Value (2010); Koala Priority Area (2020); GHD: Proposed Alignment, Study Area (2021); ESRI World Imagery: Maxar. Created by: xlee



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Grid: GDA 1994 MGA Zone 56

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Department of Transport and Main Roads
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Distribution of koala habitat mapping within the subsequent study areas

Project No. **12534697**
Revision No. **2**
Date **18/06/2021**

FIGURE 3-7d

N:\AU\Brisbane\Projects\41\12534697\GIS\Maps\Working\12534697_ESR.aprx\12534697_009_ESR_KoalaHab
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Data source: DoR: Locality, Roads, Railway, Watercourse (2020); DES: Koala SPP Habitat Value (2010); Koala Priority Area (2020); GHD: Proposed Alignment, Study Area (2021); ESRI World Imagery: Maxar. Created by: xlee

3.9 Animal breeding places

The Subsequent study areas contain a diverse range of fauna habitat features that supported a variety of terrestrial species commonly associated with urban and woodland habitats. Due to the mosaic of different habitats present within the Subsequent study areas (e.g. grasslands, woodland and wetlands), breeding places for a range of different fauna taxa were encountered during field surveys. More broadly, almost all native and introduced vegetation within the Subsequent study areas provides a range of microhabitat features (woody vegetation at different strata, ground cover, litter, soils) that contribute to the breeding, shelter and roosting habitat for terrestrial fauna. In general, key active, potential or significant habitat features encountered included:

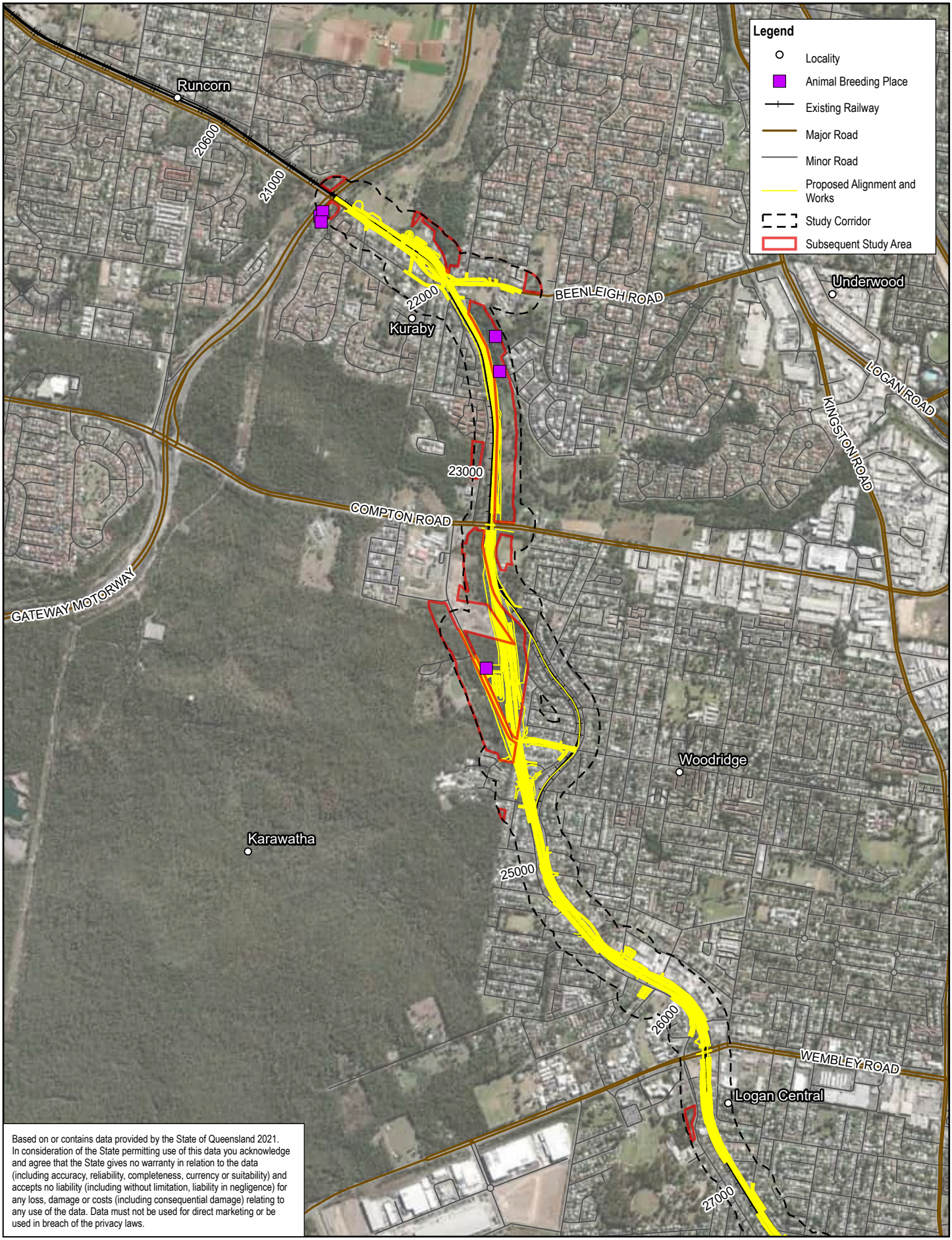
- Permanent and ephemeral waterbodies, wetlands and depressions that provide habitat for amphibians, aquatic reptiles and wetlands / migratory birds.
- Mature eucalypt forests which provide nesting habitat for large avifauna and denning habitat for arboreal mammals.
- Abandoned arboreal termite mounds that facilitate nesting woodland birds.

In total, six animal breeding places were recorded within the Subsequent study areas, which consisted of arboreal termite mounds, tree hollows and a nesting box (Appendix E). Arboreal termite mounds were the most frequently encountered animal breeding place (Plate 3-14) and are likely to provide nesting habitat for small avifauna (e.g. pardalotes and kingfishers) and/or denning and refuge habitat for arboreal mammals (e.g. gliders) and reptiles (e.g. *Varanus* spp.). Tree hollows were also encountered within the mature woodland habitats (Plate 3-15), though these were generally uncommon within the Subsequent study areas. These features have the potential to support small arboreal mammals (e.g. possums and gliders) and a range of hollow-dependent woodland birds (e.g. cockatoos, owls and lorikeets). Hollow-bearing trees are recognised as a limited resource within Australian ecosystems, with the loss of tree hollows considered to be a major threat to Australia's biodiversity (Gibbons and Lindenmayer, 2002). In the absence of hollows, nest boxes are recognised as an effective alternative to mitigate the loss of nesting features (Goldingay et al., 2020: 2015). Therefore, nest boxes could be considered to be of high ecological value. One nesting box was recorded within the Subsequent study areas (Plate 3-15), which was located within a remnant patch of eucalypt woodland at Wally Tate Park.

The distribution of animal breeding places within the Subsequent study areas is displayed in Figure 3-8 and presented in Appendix E.

Plate 3-14 Hollowed arboreal termite mounds within the Subsequent study areas

Plate 3-15 Tree hollow and constructed nestbox within the Subsequent study areas



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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Distribution of animal breeding places within the subsequent study area

Project No. **12534697**
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FIGURE 3-8a

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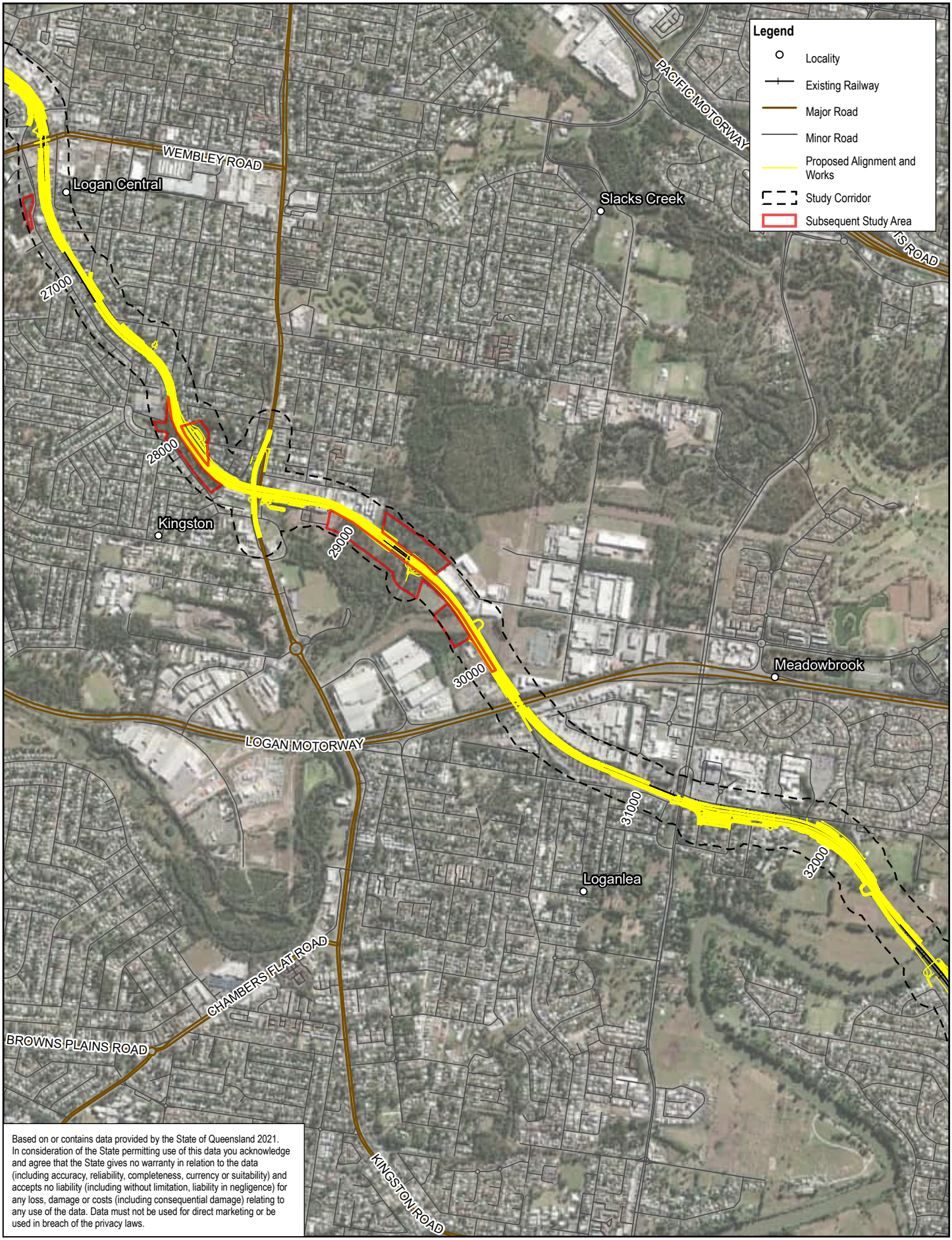

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Map Projection: Transverse Mercator
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Grid: GDA 1994 MGA Zone 56

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Department of Transport and Main Roads
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(Kuraby to Beenleigh) Project

Distribution of animal breeding places within the subsequent study area

Project No. **12534697**
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FIGURE 3-8b

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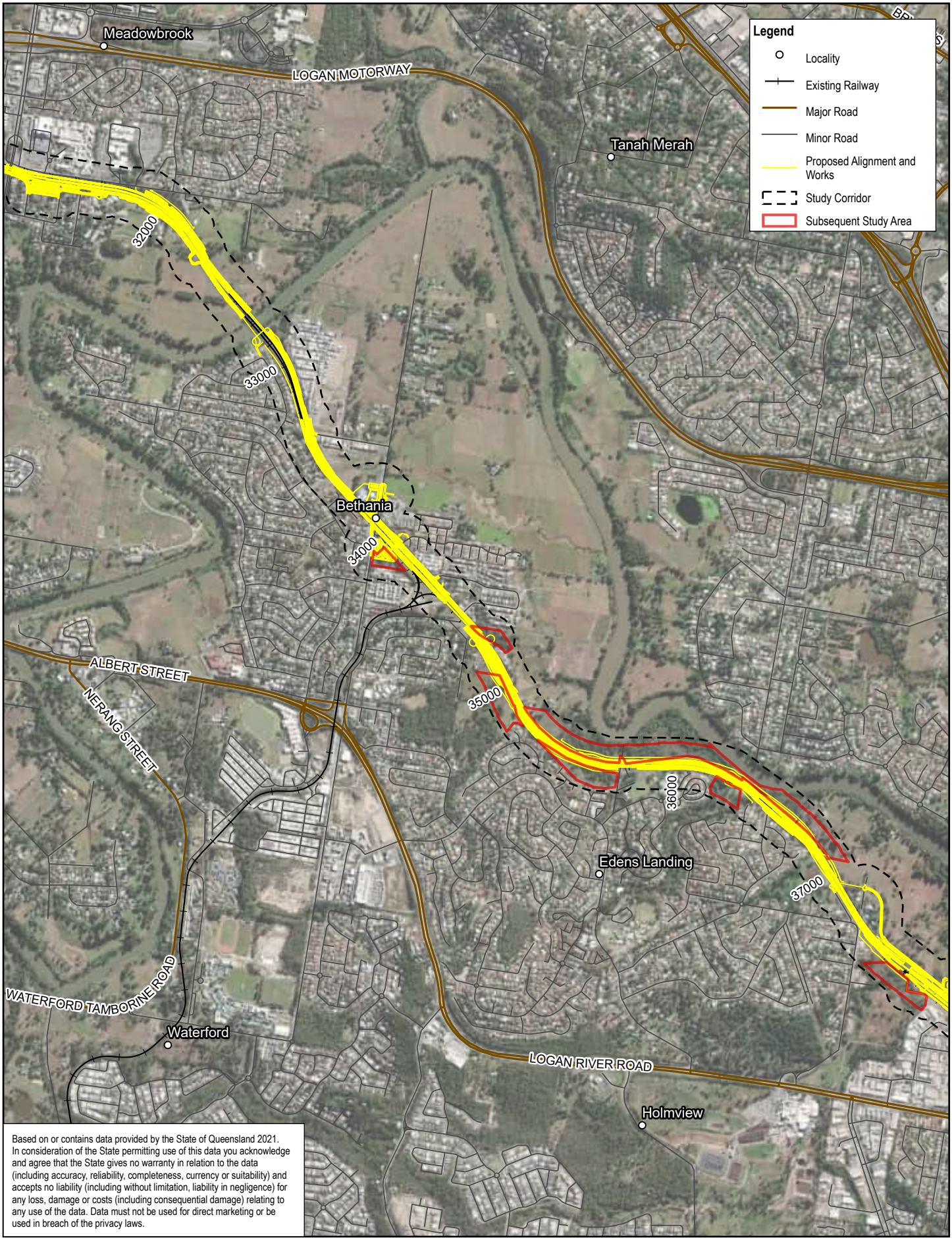

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Grid: GDA 1994 MGA Zone 56

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Department of Transport and Main Roads
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(Kuraby to Beenleigh) Project

Distribution of animal breeding places within the subsequent study area

Project No. **12534697**
Revision No. **2**
Date **9/08/2021**

FIGURE 3-8c

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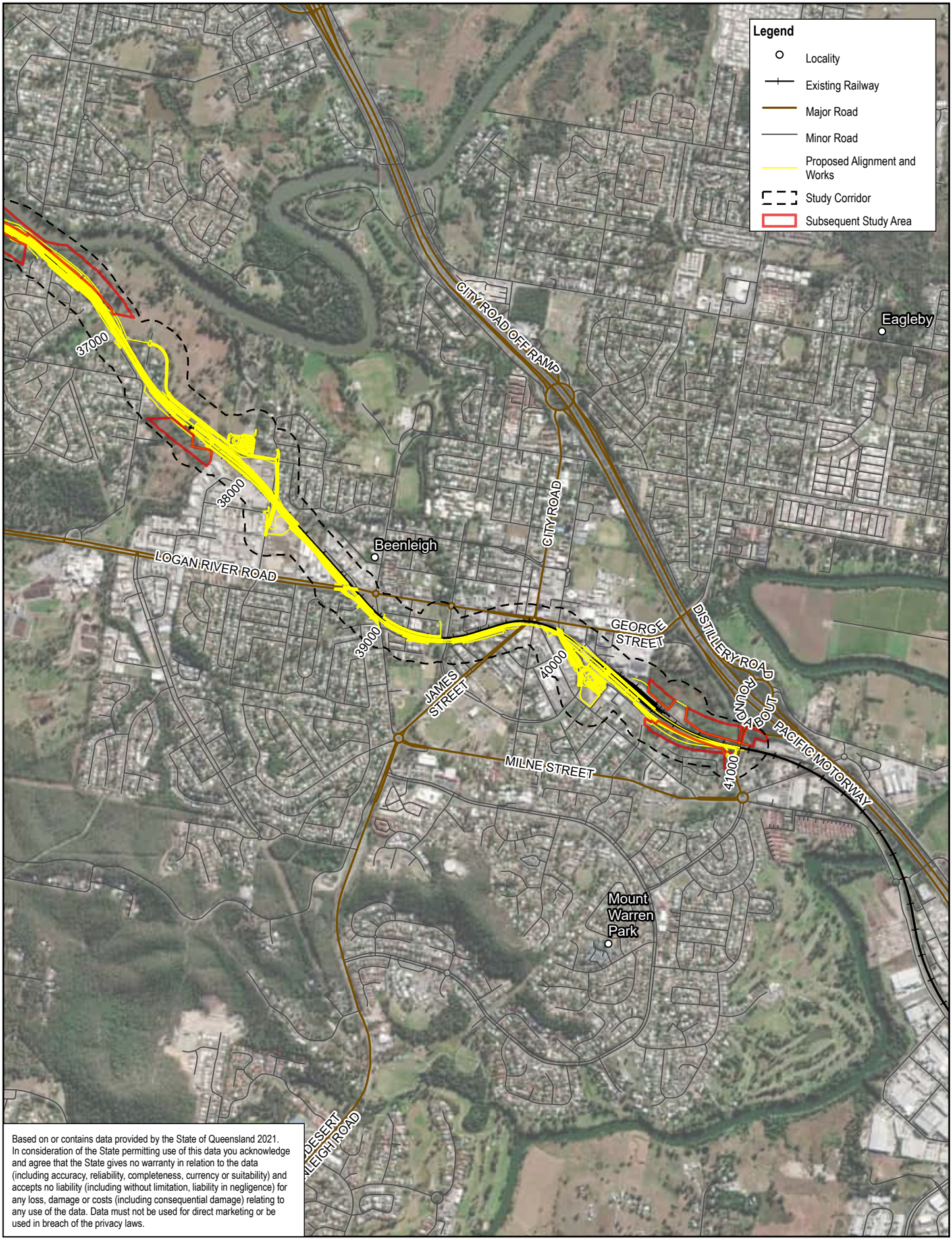

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Grid: GDA 1994 MGA Zone 56

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Department of Transport and Main Roads
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(Kuraby to Beenleigh) Project

Distribution of animal breeding places within the subsequent study area

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Revision No. **2**
Date **9/08/2021**

FIGURE 3-8d

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Print date: 09 Aug 2021 - 16:33

Data source: DoR: Road, Railway, Locality (2020); GHD: Proposed Alignment, Study Area, Animal Breeding Place (2021); ESRI World Imagery: Maxar. Created by: xlee

3.10 Fauna connectivity

3.10.1 Desktop assessment

Fauna connectivity is vital for maintaining ongoing ecosystem functioning and dispersal patterns of local and migratory fauna. Decreases in habitat connectivity can reduce species richness, abundance and activity for a wide range of terrestrial fauna species (Benítez-López et al., 2010; van der Ree et al., 2015), thereby making local populations more reliant on local resources and highly susceptible to disturbances (Fridley et al., 2007; Gilpin and Soule, 1986). Furthermore, loss of connectivity between smaller habitat patches can reduce genetic diversity and geneflow in isolated populations (Clark et al., 2010; Forman et al., 2003).

At the local scale, wildlife habitat within the Subsequent study areas is fragmented, largely due to linear infrastructure, open spaces and urban development. In some areas, isolated habitats may remain connected by a narrow line of either remnant, regenerating or planted vegetation. These narrow corridors are largely surrounded by a highly modified urban landscapes which are generally not conducive to fauna dispersal. The width of these corridors and presence of anthropogenic threats (e.g. vehicle strikes, increased stress, domestic dogs) limits the value of corridors for disturbance-sensitive species and those species that are generally unable to cross gaps in vegetation, such as small ground-dwelling mammals and forest interior birds.

Karawatha Forest Park and Acacia Forest Park occurs in the north of the Study corridor are a focal point for the convergence of regional wildlife habitat and a critical component of many fauna movement corridors. This area maintains important habitat connectivity and fauna movement throughout the surrounding landscape via Slacks Creek and Springvale Park to the east, the Compton Road overpass and Kuraby Nature Reserve to the north, west through Oxley Creek and the Greenbank Military Area and south via Berrinba Wetlands Nature Refuge. Karawatha Forest Park and the connecting habitats to the southwest support the Karawatha to Flinders corridor and represents the largest remaining continuous stretch of open eucalypt forest in southeast Queensland (DEHP, 2013). Fauna connectivity is also maintained within Nealdon Park, which is located within the centre of the Study corridor. Nealdon Park extends east along Scrubby Creek before connecting to the Slacks Creek Environmental Park, Leslie Parade Nature Reserve and the Daisy Hill Conservation Park.

The remainder of the Study corridor meanders through residential developments and alongside major road and rail networks. However, regardless of the surrounding land uses, the fragments of remnant vegetation within the Study corridor are likely act as ‘stepping-stone’ habitats for dispersal of highly mobile species. Vegetation within several small community parklands (e.g. Noffke Park, the Ridgewood Reserves, Eden Parklands and Rosewood Reserves) is of ecological value and likely to facilitate the local movements of terrestrial fauna, particularly woodland birds and arboreal mammals.

Biodiversity Planning Assessment – Terrestrial corridors

A number of biodiversity corridors have been identified within the Subsequent study areas and are recognised as having strategic value at state, regional and local levels. Biodiversity corridors can contribute to increased habitat connectivity at multiple spatial scales, with their efficacy dependent on the size, movement capabilities and habitat tolerances of the species that move through them (Rosenberg et al., 1997). The retention of wildlife corridors has been formalised as a conservation goal at all levels of government.

Three terrestrial biodiversity corridors are located within the Study corridor, including two state significant corridors and one regionally significant corridors (Figure 3-9). These being, the

- **The Mt Barney to Karawatha corridor**

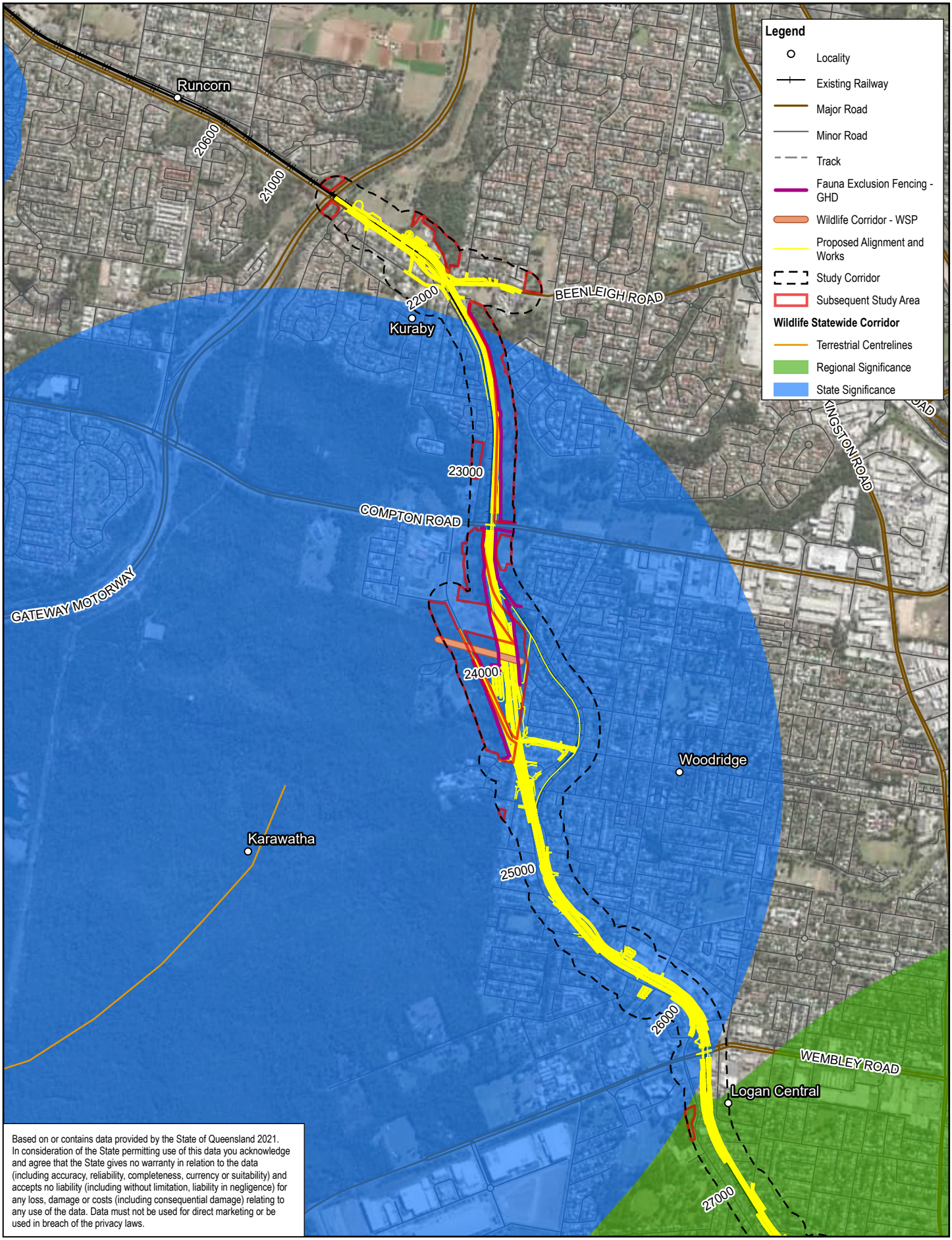
- **The Beenleigh to Springbrook corridor**
- The Karawatha to Stradbroke corridor

*Bold font identifies State listed corridors

The Mt Barney to Karawatha corridor extends from the New South Wales border, north along through Flinders Peak to Karawatha Forest Park and is adjacent to the northern extent of the Study corridor between Ch 22,600 – 25,000. This corridor is recognised as one of region's most important biodiversity corridor's and supports the largest stretch of intact open woodland in southeast Queensland (DEHP, 2013). Additionally, this corridor also contains Brisbane City Council's Flinders to Karawatha terrestrial corridor, which connects 56,350 hectares and 60 kilometres of native vegetation. In the southern extent of the Study corridor, the Beenleigh to Springbrook corridor extends along the western side of Study corridor. This corridor extends from the Logan River towards the suburb of Beenleigh, before crossing the Albert River and heading south towards Mt Tambourine. This corridor is not intersected by the alignment, however, is it located adjacent to the Study corridor between Ch 40,100 – 41,100. Lastly, the Karawatha to Stradbroke corridor originates within Karawatha Forest Park before heading east along Scrubby Creek towards Venman Bushland National Park. This regionally significant corridor intersects the Subsequent study areas between Ch 26,300 – 32,700.

Biodiversity Planning Assessment – Riparian corridors

Two riparian corridors are located within the Subsequent study areas, these being, the Logan River riparian corridor and the Albert River riparian corridor (Figure 3-9). The Logan River riparian corridor intersects the Study corridor at Ch 32,800 and runs adjacent between Ch 35,400 – 36,400 before heading northeast. The Albert River riparian corridor is not intersected by the Study corridor, however the southern extend of the Study corridor is within 900 m, approximately 9.5 km upstream of the confluence of the Albert and Logan Rivers.



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Distribution of biodiversity corridors and proposed fauna movement pathways within the subsequent study area

Project No. **12534697**
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Date **9/08/2021**

FIGURE 3-9a

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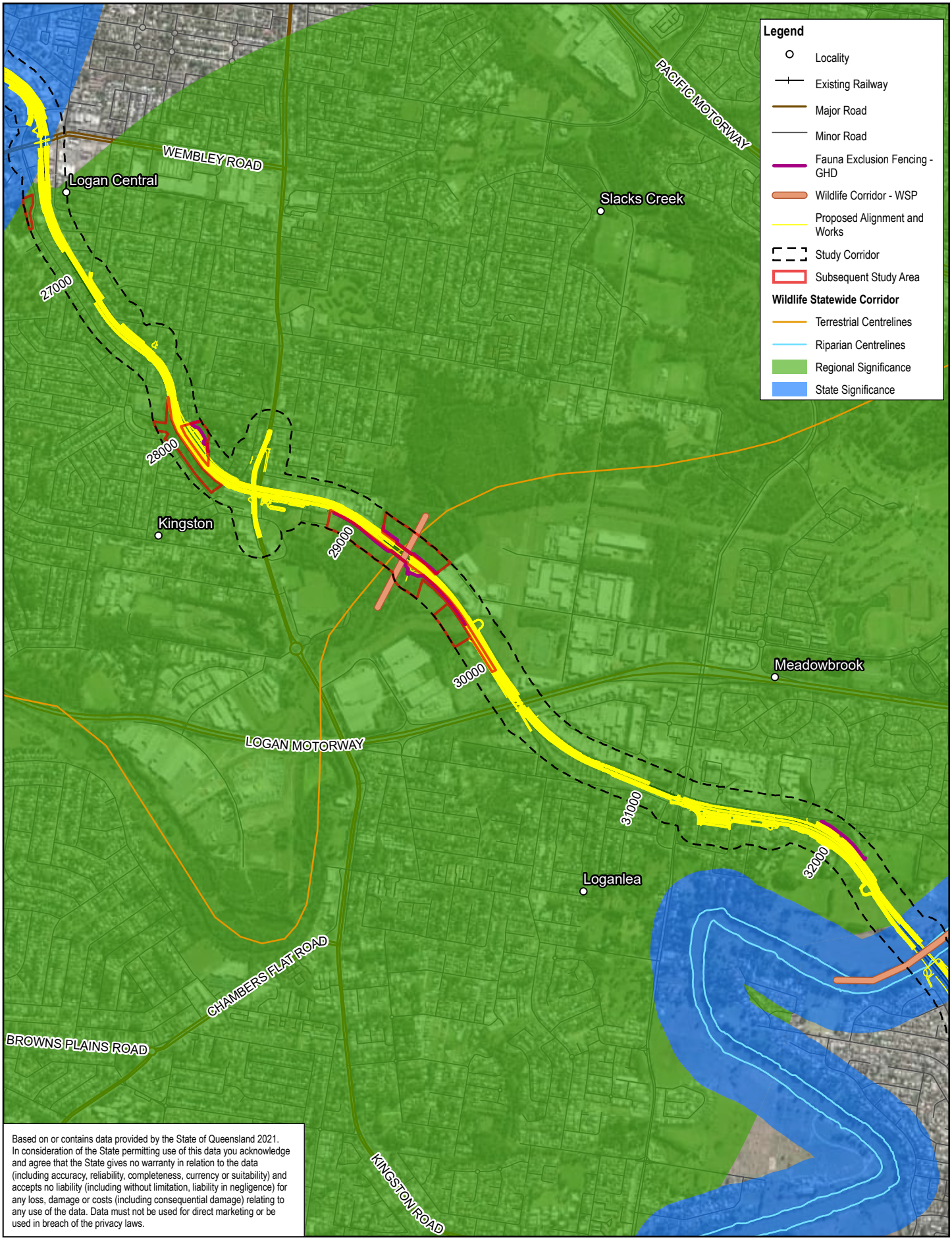

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Distribution of biodiversity corridors and proposed fauna movement pathways within the subsequent study area

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FIGURE 3-9b

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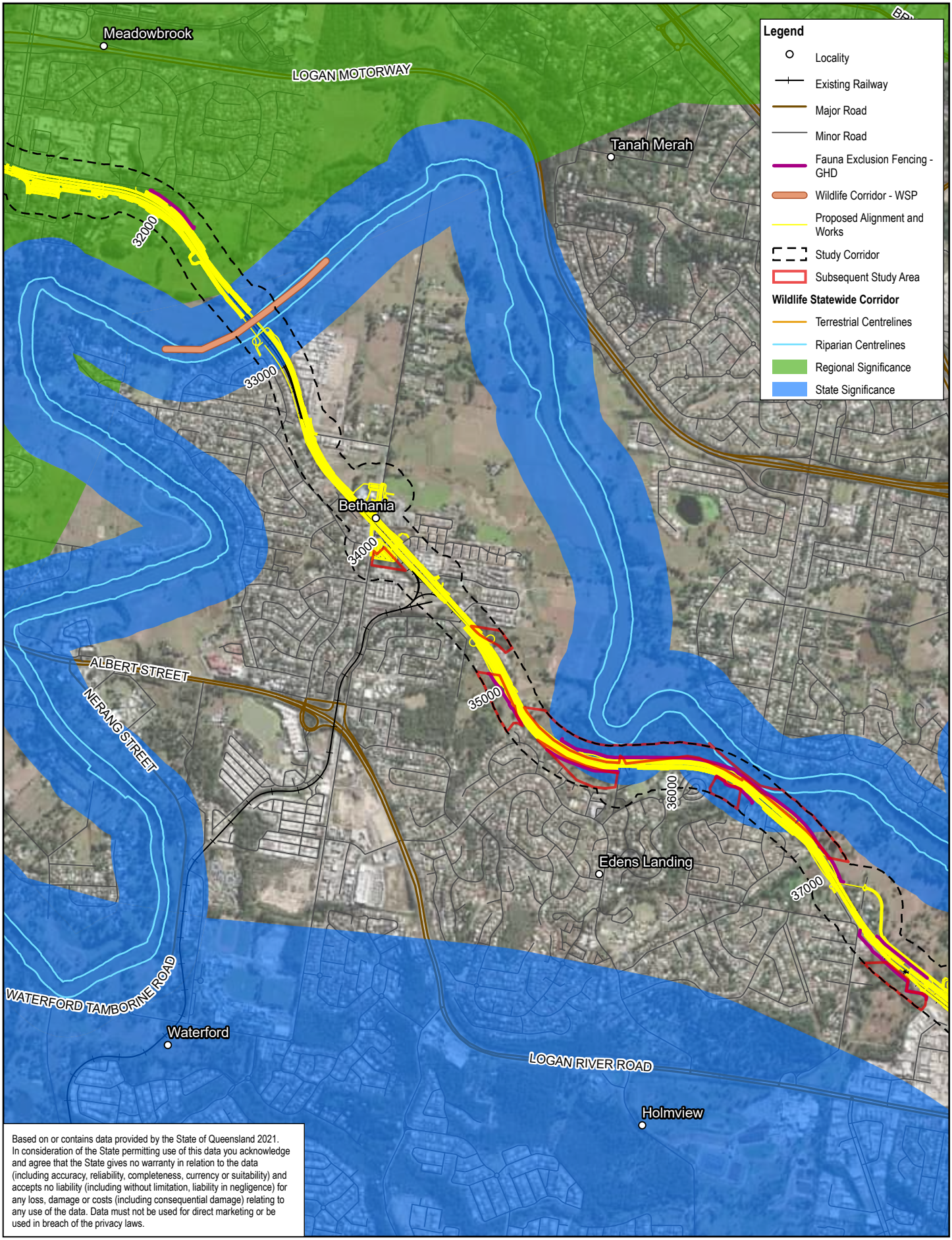

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Distribution of biodiversity corridors and proposed fauna movement pathways within the subsequent study area

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FIGURE 3-9c

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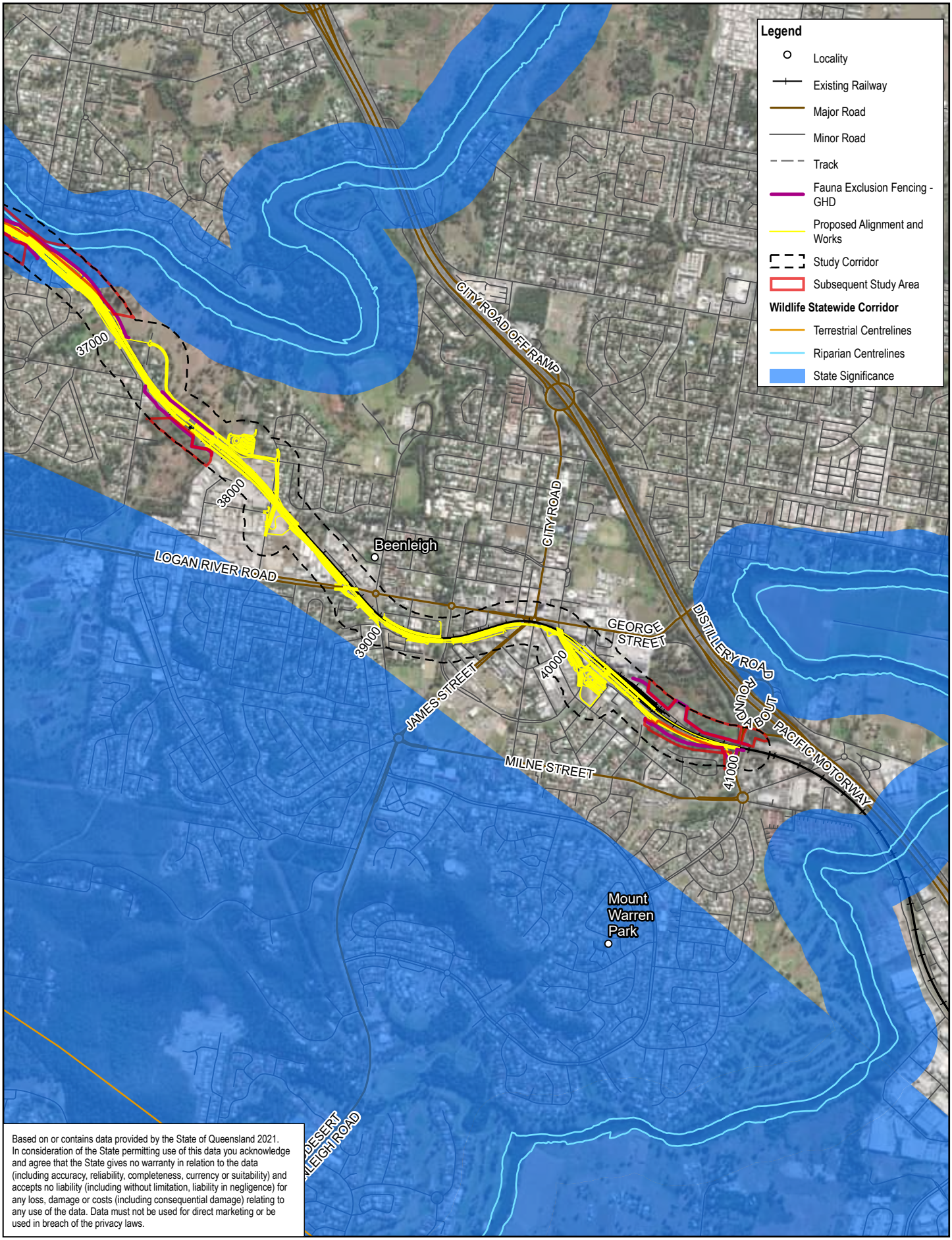

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Distribution of biodiversity corridors and proposed fauna movement pathways within the subsequent study area

Project No. **12534697**
Revision No. **2**
Date **9/08/2021**

FIGURE 3-9d

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3.11 Biosecurity matters

3.11.1 Invasive flora

Desktop assessment

At a Commonwealth level, invasive flora species are assessed based on species specific levels of weed invasiveness, potential for spread and environmental, social and economic impacts.

Invasive flora species deemed to be high risk have been listed as Weeds of National Significance (WoNS). There are currently 32 WoNS listed by the Australian government.

The EPBC PMST indicated that 18 WoNS are predicted to occur within 1 km of the Project area (Table 3-12 and Appendix A). A search of DES's Wildlife Online database indicates that 32 introduced flora species that have been historically recorded within 1 km of the Project area, including two restricted invasive species under the *Biosecurity Act 2014*, one of which is also listed as a WoNS (Appendix A). These being:

- Lantana (*Lantana camara**) – WoNS and Category 3 restricted invasive matter
- Groundsel bush (*Baccharis halimifolia**) – Category 3 restricted invasive matter.

Table 3-12 Introduced flora identified within the desktop assessment

Scientific name	Common name	WoNS	Restricted matter
Alternanthera philoxeroides	Alligator weed	Y	Category 3
Anredera cordifolia	Madeira vine	Y	Category 3
Asparagus africanus	Climbing asparagus	Y	Category 3
Asparagus plumosus	Climbing asparagus-fern	Y	Category 3
Cabomba caroliniana	Cabomba	Y	Category 3
Chrysanthemoides monilifera	Bitou bush	Y	Category 5
Chrysanthemoides monilifera. rotundata	Bitou bush	Y	Category 5
Cryptostegia grandiflora	Rubber vine	Y	Category 3
Eichhornia crassipes	Water hyacinth	Y	Category 3
Genista monspessulana	Montpellier broom	Y	Category 3
Hymenachne amplexicaulis	Hymenachne	Y	Category 3
Lantana camara	Lantana	Y	Category 3
Parthenium hysterophorus	Parthenium weed	Y	Category 3
Sagittaria platyphylla	Delta arrowhead	Y	Category 3
Salix spp.	Willow spp.	Y	Category 3
Salvinia molesta	Salvinia	Y	Category 3
Senecio madagascariensis	Fireweed	Y	Category 3
Baccharis halimifolia	Groundsel bush	N	Category 3
Alternanthera philoxeroides	Alligator weed	Y	Category 3

Field assessment

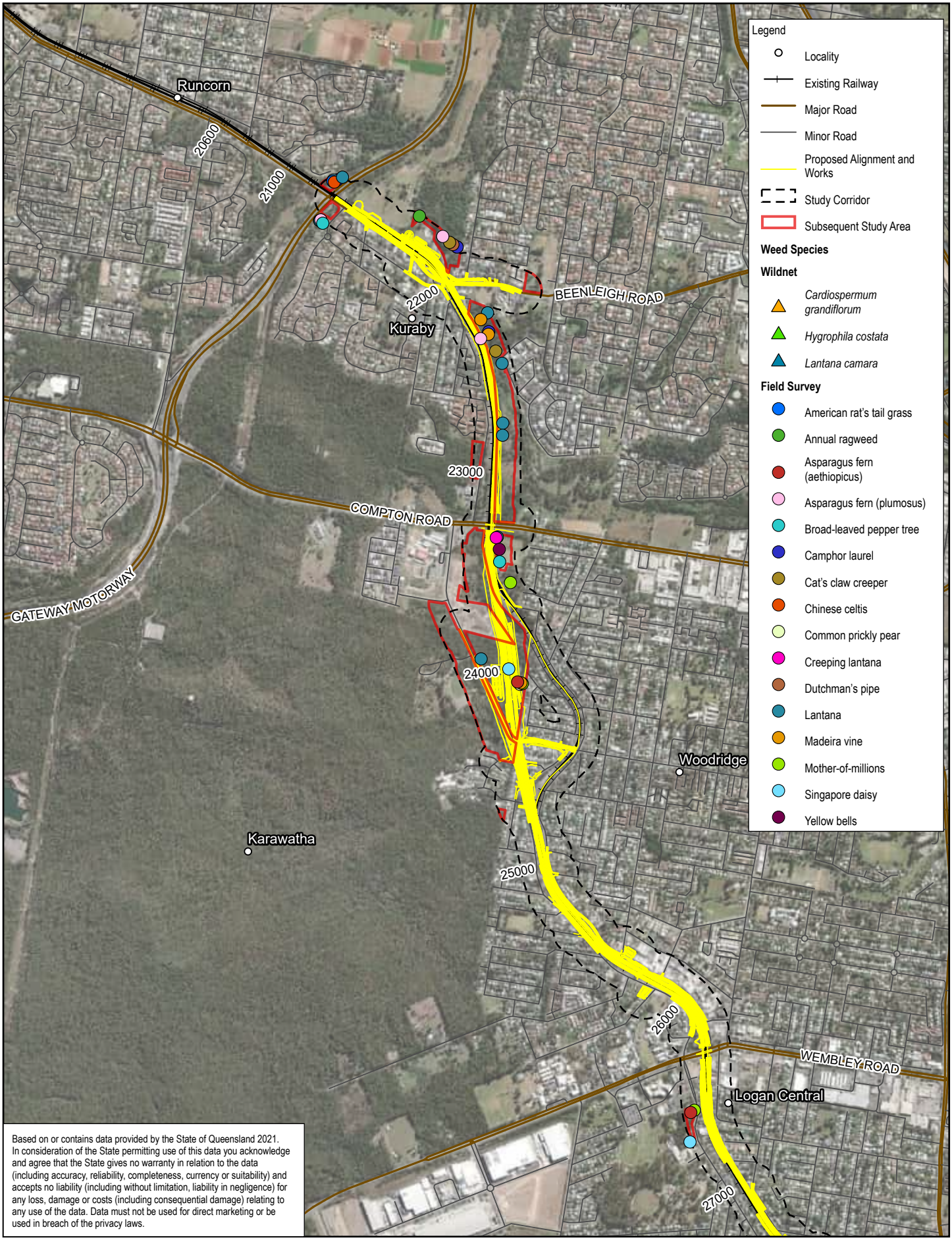
During the field survey, 17 restricted invasive species were recorded throughout the Subsequent study areas (Table 3-13). As the Study corridor is located in a highly urbanised area, a high number of restricted invasive species is expected. All vegetation communities recorded were impacted by introduced species and most were recorded to contain restricted invasive species. No prohibited invasive species were recorded from the Subsequent study areas.

Multiple species were considered to be common and widespread; these species were typically species that are dispersed by birds with the exception of *Sphagneticola trilobata** that primarily disperses vegetatively. Those species identified as occurring occasionally throughout the Subsequent study area were typically wind or water spread. Figure 3-10 provides a summary of the occurrence of introduced flora species within the Subsequent study areas.

Table 3-13 Introduced flora identified within the Subsequent study areas

Scientific name	Common name	WoNS	Restricted matter	Occurrence
Bryophyllum delagoense	Mother of millions	N	Category 3	Isolated
Anredera cordifolia	Madeira vine	Y	Category 3	Isolated
Asparagus aethiopicus	Basket	Y	Category 3	Common widespread
Asparagus plumosus	Climbing	Y	Category 3	Common widespread
Opuntia stricta	Spiny pest pear	Y	Category 3	Isolated
Ambrosia artemisiifolia	Annual ragweed	N	Category 3	Occasional
Dolichandra unguis-cacti	Cats claw creeper	Y	Category 3	Occasional
Sphagneticola trilobata	Singapore daisy	N	Category 3	Common widespread
Eichhornia crassipes	Water hyacinth	Y	Category 3	Isolated
Aristolochia elegans	Dutchman’s pipe	N	Category 3	Isolated
Celtis sinense	Chinese elm	N	Category 3	Common widespread
Lantana camara	Lantana	Y	Category 3	Common widespread
Lantana montevidensis	Creeping lantana	N	Category 3	Occasional
Cinnamomum camphora	Camphor laurel	N	Category 3	Common widespread
Schinus terebinthifolius	Broad leaf	N	Category 3	Common widespread
Baccharis halimifolia	Groundsel bush	N	Category 3	Isolated
Tecoma stans	Yellow bells	N	Category 3	Occasional
Bryophyllum delagoense	Mother of millions	N	Category 3	Isolated
Anredera cordifolia	Madeira vine	Y	Category 3	Isolated

Scientific name	Common name	WoNS	Restricted matter	Occurrence
Asparagus aethiopicus	Basket	Y	Category 3	Common widespread
Asparagus plumosus	Climbing	Y	Category 3	Common widespread



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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Records of invasive flora species within the subsequent study area

Project No. **12534697**
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FIGURE 3-10a

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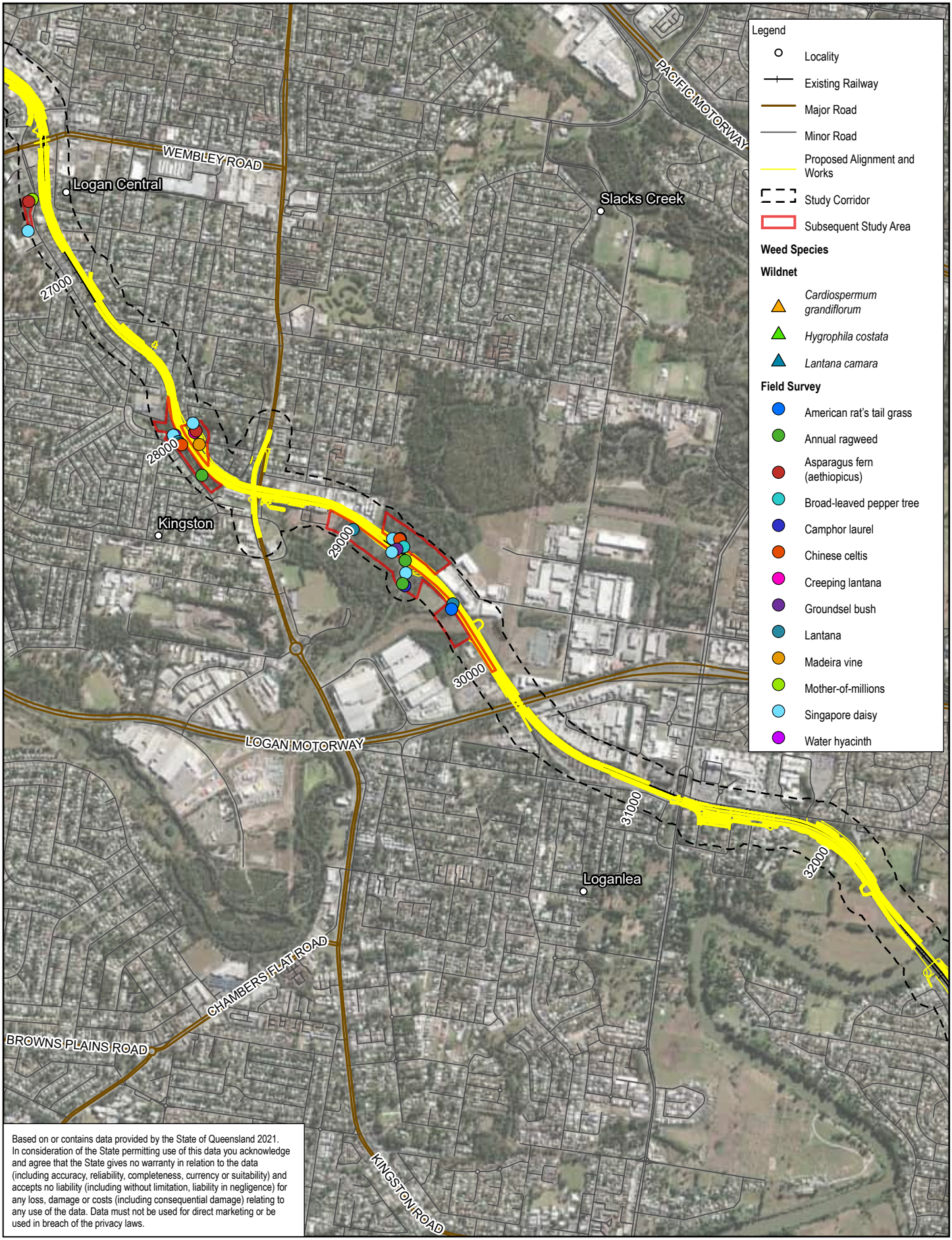
Data source: DoR: Road, Railway, Locality (2020); DES: Wildnet Records - Weeds (2021); GHD: Proposed Alignment, Study Area, Weed Species Field Records (2021); ESRI World Imagery: Maxar. Created by: xlee



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Records of invasive flora species within the subsequent study area

FIGURE 3-10b

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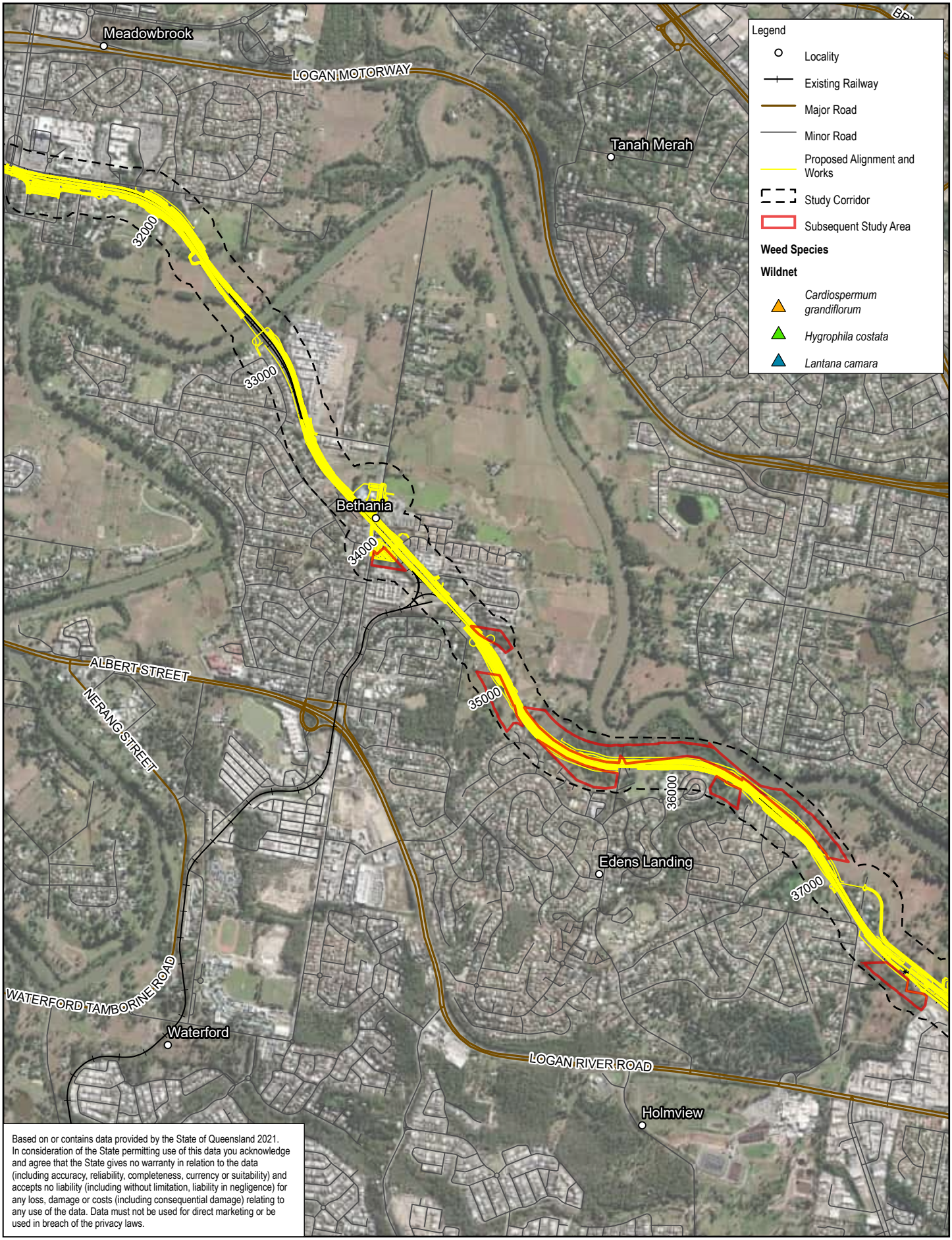
Print date: 09 Aug 2021 - 16:36

Data source: DoR: Road, Railway, Locality (2020); DES: Wildnet Records - Weeds (2021); GHD: Proposed Alignment, Study Area, Weed Species Field Records (2021); ESRI World Imagery: Maxar. Created by: xlee



Paper Size ISO A4

0 200 400 600 800

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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GHD

Department of Transport and Main Roads
Logan and Gold Coast Faster Rail
(Kuraby to Beenleigh) Project

Records of invasive flora species within the subsequent study area

Project No. **12534697**
Revision No. **2**
Date **9/08/2021**

FIGURE 3-10c

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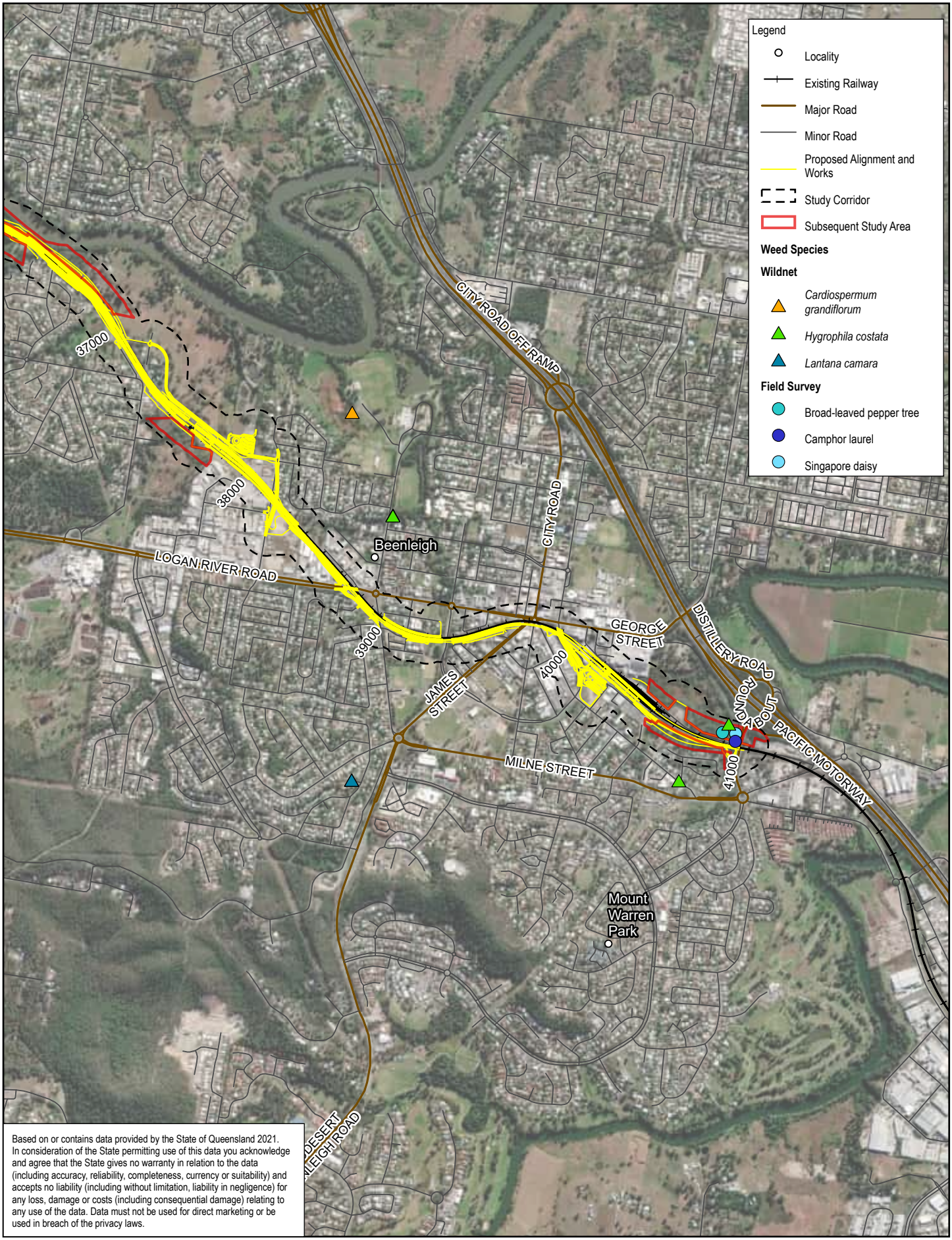
Print date: 09 Aug 2021 - 16:36

Data source: DoR: Road, Railway, Locality (2020); DES: Wildnet Records - Weeds (2021); GHD: Proposed Alignment, Study Area, Weed Species Field Records (2021); ESRI World Imagery: Maxar. Created by: xlee



Paper Size ISO A4

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
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Department of Transport and Main Roads
Logan and Gold Coast Faster Rail
(Kuraby to Beenleigh) Project

Project No. **12534697**
Revision No. **2**
Date **9/08/2021**

Records of invasive flora species within the subsequent study area

FIGURE 3-10d

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Print date: 09 Aug 2021 - 16:36

Data source: DoR: Road, Railway, Locality (2020); DES: Wildnet Records - Weeds (2021); GHD: Proposed Alignment, Study Area, Weed Species Field Records (2021); ESRI World Imagery: Maxar. Created by: xlee

4. Significant impact assessment

4.1 MNES

This section assesses the significance of the Project's impacts on Matters of National Environmental Significance (MNES) that have been confirmed present or considered likely to occur within the Study corridor. The significance of impact assessment has been undertaken in accordance with the Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (DotE, 2013).

4.1.1 Koala

This assessment was undertaken using the toolkit in the EPBC referral guidelines for the vulnerable koala (DotE, 2014). Scoring utilised the framework recommended for coastal koala populations, as the Subsequent study areas fall within the coastal koala distribution mapped in the referral guidelines. Based on the assessment toolkit, koala habitats within the Study corridor represent habitat critical to the survival of the species, attaining a score of + 8. In accordance with the referral guidelines, any score equal to or greater than 5 constitutes habitat critical to the survival of the koala. Scoring for the Subsequent study areas is detailed below:

- Koala occurrence – Evidence of one or more koalas within 2 km of the edge of the impact area within the last 5 years (Score + 1)
- Vegetation composition – Has forest or woodland with 2 or more known koala food tree species (Score +2)
- Habitat connectivity – Area is part of a contiguous landscape ≥ 500 ha (Score +2)
- Key existing threats – Evidence of infrequent or irregular koala mortality from vehicle strike or dog attack at present in areas that score 1 or 2 for koala occurrence, (Score +1)
- Recovery value – Habitat is likely to be important for achieving the interim recovery objectives for the relevant context (Score + 2)

  Overall score – + 8 Habitat critical to the survival of the koala.

Significance of impact due to loss of habitat critical to the survival of the koala

The Project will result in the direct loss of habitat for the koala. Based on flowchart detailed in Table 2 of the Referral guidelines for the vulnerable koala (DotE, 2014) any loss of more than 20 ha of habitat critical to the survival of the koala constitutes a significant impact under the EPBC Act. Accordingly, the Project has the potential to generate a significant impact on the koala due to the loss of habitat critical to the species. Detailed ecological surveys are advised to be conducted during the detailed design phase of the Project to determine the extent of impacts on koala habitat.

Significance of impact due to interference with the recovery of the species

As detailed in the Referral guidelines for the vulnerable koala (DotE, 2014), for all areas of koala habitat scoring ≥ 5 on the koala habitat assessment toolkit, an assessment of the potential interference with the recovery of the species must be undertaken considering the following factors:

- ***Will the Project increase fatalities due to dog attacks to a level that is likely to result in multiple, ongoing fatalities?***

The Project is not expected to result in any change in the abundance of wild dogs. While the Project will result in the creation of temporary construction routes and access tracks that may

facilitate local movement of domestic dogs, the Study corridor is to be fenced to restrict fauna access. Furthermore, a large number of road and path networks currently exist throughout the Study corridor.

- ***Will the Project increase koala fatalities due to vehicle strikes to a level that is likely to result in multiple ongoing fatalities?***

  The Project will result in an increase in vehicle movements during the construction period. This carries a risk of increased vehicle strike; however, this will be mitigated through standard controls such as speed limits and workforce awareness. During operation, staff vehicle movements will be significantly reduced and will be limited to maintenance vehicles. This risk will be mitigated using fauna awareness signage in predicted koala habitat and by enforcing strict speed limits for workers and maintenance staff. Fauna fencing will be implemented in strategic locations to restrict koalas for venturing into the Study corridor. Fauna connectivity will also be considered during the design phase to allow continued fauna movements and reduce the need and/or the likelihood of koalas attempted to enter the Study corridor.

- ***Will the Project facilitate the introduction or spread of pathogens such as Chlamydia or Phytophthora cinnamomi that are likely to significantly reduce the reproductive output or the carrying capacity of the habitat?***

  The use of standard biosecurity protocols in vehicle movements during construction and operation means that the potential for introduction of chlamydia is relatively limited. The Project is relatively benign during the operational phase and is unlikely to have any impact on levels of Chlamydia in the local koala population (DotE, 2014).

- ***Will the Project create a barrier to movement between or within habitat critical to the survival of the koala that is likely to result in a long-term reduction in genetic fitness or access to habitat critical to the survival of the koala?***

  Overall, the Project has been designed to generate as little ecological disturbance as possible. The Project predominantly extends along the already existing Gold Coast to Brisbane rail line and therefore is unlikely to contribute to additional habitat fragmentation along the majority of the alignment. However, koala habitat is intersected at one location in the north of the Study corridor. This area, Acacia Forest Park, contains suitable habitat for the species, with approximately 3.6 ha of habitat proposed to be intersected. This impact can be mitigated by the inclusion of fauna connectivity assessments during the detailed design phase to identify strategic areas for fauna crossings, fauna fencing and koala escape poles to facilitate increased regional habitat connectivity.

- ***Will the Project change hydrology which degrades habitat critical to the survival of the koala to the extent that the carrying capacity of the habitat is reduced in the long- term?***

  The hydrology of local areas within and downstream of the Project will not be dramatically altered from the natural state. Where watercourse are intersected, the Project has proposed to construct bridges or implement culverts to maintain downstream hydrology. Therefore, hydrology of adjacent koala habitat areas will not be substantially impacted in any way that the carrying capacity of the habitat is reduced.

Significant Impact Assessment

The Project is considered likely to result in a significant impact on the koala. The significance of the Project's impacts on koala has been assessed with consideration to the EPBC Referral Guidelines for the vulnerable koala (DotE, 2014b), specifically:

- An assessment of the potential to impact 'habitat critical to the survival of the koala.
- An assessment of the potential to interference with the recovery of the species.

The significance of impacts have been summarised using the framework detailed in the Significant Impact Guidelines 1.1 (DotE, 2013) to provide consistency of approach with other conservation significant species listed under the EPBC Act. Justification for the significance of impact assessment is provided in Table 4-1.

Table 4-1 Significant impact assessment – koala

Significant impacts criteria	Assessment
Lead to a long-term decrease in the size of an important population of the species	**Possible** The concept of 'important populations' has not been applied for koala, given a lack of sufficient information on the national population (DAWE, 2021) and the Project does not occur near the edge of the species' known range (for combined populations of Qld, NSW and the ACT). However, the Study corridor is located in with the Koala Coast (comprises the Redlands Coast, eastern Logan City and south eastern Brisbane City), which has experienced koala population declines of between 64 and 80 percent since the mid-90s, largely due to habitat loss, disease, vehicle-strike and dog attacks (Rhodes et al., 2015; Wallis et al., 2020). Therefore, any population known to persist within this region could be considered important for the species ongoing conservation.
Reduce the area of occupancy of an important population	**Unlikely** The Project has the potential to reduce the area of occupancy for the koala where track widening extends into woodland ecosystems. Areas of concern include around Acacia Forest Park and Nealdon Park. However, the Project extents throughout an already highly-fragmented region and has the ability to increase koala movement opportunities through strategic fauna movement locations and structures (e.g. underpasses and koala safe transport infrastructure). Such options are recommended to be considered during the detailed design phase and should be designed in accordance with the Queensland Koala Sensitive Design Guidelines (DES, 2019b). To reduce the extent of required clearing, previously cleared areas will also be utilised for site laydown and stock-pile areas and pre-existing road networks will be used where possible. Whilst the Project will inevitably reduce the area of occupancy for the local koala population, it is unlikely to impact a population currently listed as important.
Fragment an existing important population into two or more populations	**Unlikely** As previously mentioned, the Project is proposed to fragment a small area of eastern Acacia Forest Park and widen the existing rail corridor across Scrubby Creek and Nealdon Park. Unmitigated, this has the potential to fragment koala habitats, as the Project would represent a barrier for the species. However, one dedicated fauna crossing structure is proposed at Ch 23,700 m to enable terrestrial fauna to move between bushland on either side of the Project within Acacia Park.

Significant impacts criteria	Assessment
	The anticipated impact is unlikely to have a significant impact at a population level, as koala movement pathways can be facilitated by the implementation of fauna connectivity structures.
Adversely affect habitat critical to the survival of a species	**Likely** The Project is likely to have an adverse impact on habitat critical to the survival of the species. The Project is likely to result in a relatively small magnitude of impact on habitat critical to the survival of the koala. As stated in the Referral guidelines for the vulnerable koala (DotE 2014), any loss of more than 20 ha of habitat critical to the survival of the koala constitutes a significant impact under the EPBC Act. Detailed assessments are recommended to be conducted during the detailed design stage to determine and reduce the extent of impacts on koala habitat categorised as habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	**Unlikely** The Project is not expected to disrupt the breeding cycle of the population. The koala breeding season is generally between September and March, with females giving birth to a single young between October and May (DAWE, 2021). During the breeding season, males actively seek females and koala movements are more extensive. Without mitigation, the Project could lead to an increased risk of vehicle strike. Traffic volume, speed and visibility influence the koala collision rate. Prevett et al., (1995) found that road kills occurred where vehicle speeds exceeded 80 km/hr and where wider habitat corridors or linear forests occurred on both sides of the road. Potential impacts will be mitigated through the incorporation of approximately 10.8 km of fauna exclusion fencing which has been proposed in bushland areas. This fauna exclusion fencing is in addition to noise barriers and security fencing which may also act as a deterrent to koalas. Clearing within koala habitat areas will be planned to occur outside of peak breeding season (if possible) and standard best practice sequential clearing using suitable qualified koala spotters will be exercised.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	**Unlikely** Although clearing will cause minor additional fragmentation of habitat and reduce the area of available habitat, the extent of habitat disturbance is not likely to decrease the availability or quality of habitat available to the local population to the extent that the species will decline. Furthermore, increases in the level of noise at a local scale are anticipated to be short-term. Given the method of clearing, incorporating a mix of selective and sequential clearing under the direction of koala-specialist spotter-catchers, the lack of anticipated fragmentation and the low density at which koalas occur, the Project is considered unlikely to have a significant adverse impact on habitat critical to the survival of the species in the context of the existing

Significant impacts criteria	Assessment
	receiving environment. Rather, the enhancement of koala movement opportunities throughout the Study corridor has the potential to benefit the local population.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	**Unlikely** Invasive species including wild dogs already occur throughout the Study corridor. Predatory species are attracted to prey opportunities presented by cleared corridors or prey moving away from disturbance areas. New infrastructure has the potential to increase the risk of wild dog attack on koala by facilitating regional movement, however these threats are already present within the receiving environment. Feral animal control measures will be implemented throughout the duration of the Project and have been designed to mitigate such risks. There is also potential for the spread of invasive weeds during the construction and operation phase. This potential will be addressed within the Environmental Management Plan (Construction) (EMP(C)) and could provide the opportunity to enhance the quality of the environment utilised by the koala by providing mitigation measures to combat introduced species. The eradication of ground-covering weeds (particularly lantana) could enhance local koala movement. If mitigation measures are implemented correctly, the Project is unlikely to result in the introduction of invasive species that are harmful to the koala.
Introduce disease that may cause the species to decline	**Unlikely** The Project is not anticipated to introduce new diseases that may cause the species to decline. However, stress may lead to an increase in the expression of chlamydia in koalas. A recent study by Biolink (2019) in the neighbouring Redland City Council LGA reported disease to be the largest contributed to koala reductions in the past three years, with large numbers (n = 2,292) euthanised between 1997 and 2014. Mitigation measures have been proposed to reduce stress during Project construction and operation, including sequential clearing, site speed limits, the use of an experienced spotter-catcher during clearing and the requirement to allow koalas to self-disperse, which will reduce disturbance-related stress and risk of disease emergence and transmission. Additionally, the species is susceptible to *Phytophthora cinnamomi* due the soil fungus's ability to infect eucalypt species. Biosecurity requirements (e.g. weed and seed declarations) will be implemented throughout the Project, and thus, this risk has been assessed as low.
Interfere sustainably with the recovery of the species	**Unlikely** The Project is not situated at the edge of the species distribution and is anticipated to result in only a relatively small reduction in the species habitat. Whilst this could be to the detriment of the local population (due to habitat loss and indirect impacts to habitat quality), the impacts are unlikely to be significant and will not interfere with the

Significant impacts criteria	Assessment
	recovery of the species. The risk of koala mortality of injury will be managed by the mitigation measures contained within the EMP(C), and an experienced and suitably qualified fauna spotter-catcher will be employed during all clearing works.

4.1.2 Grey-headed flying-fox

The Project has the potential to result in a significant impact on grey-headed flying-fox. A significance of impact assessment of the Project on the grey-headed flying-fox (vulnerable under the EPBC Act only) is provided in Table 4-2.

Table 4-2 Significant impact assessment – grey headed flying-fox

Significant impacts criteria	Assessment
Lead to a long-term decrease in the size of an important population of the species	**Unlikely** The grey-headed flying-fox migrates and forages over a broad geographic range and is therefore considered one nationally intermixing population (DAWE, 2021). Therefore, no important populations for the species have been listed. The proposed works are likely to result in the localised loss of a small area of suitable foraging habitat for the species. Most of the Study corridor will retain suitable foraging habitat for the species. Given the small, localised nature of the loss of foraging habitat, the prevalence of suitable foraging habitat within the region, and the lack of impact on breeding/roosting habitat the Project is considered unlikely to lead to a long-term decrease in the size of an important population.
Reduce the area of occupancy of an important population	**Unlikely** The potential loss of a relatively small area of potential foraging habitat will not reduce the area of occupancy of the population. Suitable foraging habitat persists within most of the Study corridor and is prevalent within the surrounding region. Therefore, the species is considered likely to occur within the Study corridor after construction. As such, the Project is predicted to have negligible impact on the population's area of occupancy.
Fragment an existing important population into two or more populations	**Unlikely** The grey-headed flying fox forages widely and has a high capacity to overcome gaps in vegetation. Given the species' capacity for movement, the widening of a pre-existing linear corridor is unlikely to fragment the local population.
Adversely affect habitat critical to the survival of a species	**Possible** The loss of foraging habitat is considered to be the primary threat to the species, and as such, habitats that contain winter and spring-flowering food tree species are listed as habitat critical to the survival of the species (DoEE, 2017). This is due to limited foraging

Significant impacts criteria	Assessment
	species flowering in winter, with those that flower reliably occur on coastal lowlands in northern New South Wales and southern Queensland (Eby et al., 1999; Eby and Lunney, 2002). The Subsequent study areas contain several winter-flowering foraging species, particularly forest red gum (*E. tereticornis*), northern grey ironbark (*E. siderophloia*) and Moreton Bay ash (*Corymbia tessalaris*), which would represent critical habitat for the local population.
Disrupt the breeding cycle of an important population	**Unlikely** The Project will not directly impact on roosting or breeding habitat. The nearest flying-fox camp is located approximately 4 km to the south at Sunshine Acres. As such, the Project is not expected to have an impact on the breeding cycle of the grey-headed flying fox population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	**Possible** The Project will result in a small loss of foraging habitat for the species. Despite these habitats containing winter flowering feed species, similar suitable foraging habitat is widespread and relatively abundant within the southeast Queensland region. As a result, the loss of foraging habitat is considered unlikely to cause the species to decline given its restricted, localised extent. The Project is not predicted to have an impact on breeding habitat. However, the loss of foraging habitat is considered to be the primary threat to the species, with the clearing of winter forage being a particular concern (DoEE, 2017). Therefore, the removal of winter foraging habitat has the potential to represent an impact that removes habitat that could cause a decline in the local population.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	**Unlikely** The grey-headed flying fox is not considered to be at risk to introduced species. However, the black flying-fox (Pteropus alecto) is considered to be a threat to the grey-headed flying-fox, given its' potential for competition for habitat. The Project is not expected to have an impact on the black flying-fox's prevalence within the local or regional environment.
Introduce disease that may cause the species to decline	**Unlikely** There are no known diseases that pose a significant threat to the grey- headed flying-fox (DoEE, 2017) and the Project is expected to be relatively benign in its impact. It is unlikely to result in the increased incidence of any species that could be a vector for disease. As such, the Project is considered unlikely to introduce disease to the species.

Significant impacts criteria	Assessment
Interfere sustainably with the recovery of the species	**Unlikely** The Project will result in a small-scale localised loss of foraging habitat from a region in which similar foraging habitat is widespread and abundant. As such, the Project has is unlikely to interfere substantially with the recovery of the species.

4.1.3 Migratory species

The Project has the potential to result in a significant impact on migratory species, particularly the glossy ibis. A significance of impact assessment of the Project on the glossy ibis (migratory under the EPBC Act and special least concern under the NC Act) is provided in Table 4-3.

Table 4-3 Significant impact assessment - migratory species

Significant impact criteria	Assessment
Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	**Unlikely** The Project area does not contain important habitat for the glossy ibis as habitats observed during field surveys did not represent: a) habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, and/or b) habitat that is of critical importance to the species at particular life-cycle stages, and/or c) habitat utilised by a migratory species which is at the limit of the species range, and/or d) habitat within an area where the species is declining. Therefore, the proposed works are unlikely to substantially modify, destroy or isolate an area of important habitat for a migratory species. Whilst the species was not recorded during field surveys of the subsequent study areas by GHD, the glossy ibis was recorded in the southern end of the Project area by WSP in 2019 (WSP, 2019b). This area supports sub-optimal habitat for the species, with heavy weed establishment and significant habitat degradation. Potential impacts to this area from the Project are anticipated to be minor and limited to indirect impacts only (e.g. increased noise and light, erosion). Indirect degradation of habitat due to erosion and/or sediment deposition will be addressed in an Erosion and Sediment Control Plan designed to maintain water quality and limit scouring and the movement of sediment. Furthermore, weed management is proposed throughout the Project lifecycle and could positively impact the specie's habitat by reducing the prevalence of invasive species. Considering the availability of high-quality habitat for species occurring with 2 km of the Project (e.g. along the Logan River, Scrubby Creek and the Albert River), the indirect impacts to a small area of sub-optimal habitat for the species is unlikely to significantly impact the glossy ibis.

Significant impact criteria	Assessment
Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or	**Unlikely** As previously mentioned, no important habitat for the glossy ibis is present within the Project area. Similarly, no areas of continuous 'prime habitat' occurs within the Project area or is known from the region (DAWE, 2021). Regardless, invasive species are known to occur within the area which could be harmful to the glossy ibis, namely, feral cats and exotic weeds. The potential for invasive species to be further distributed or becoming increasingly established will be addressed in the Project-specific Weed and Pest Management Plan. This will include an outline of routine management actions designed to reduce weed abundance and rules around waste management and domestic animals on site.
Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	**Unlikely** The Project is unlikely to seriously disrupt the lifecycle of an ecologically significant proportion of the glossy ibis population. Although the specie is common with the southern Queensland region, the species is most common in Northern Australia and no core breeding habitat or 'prime' habitat is known from the region (DAWE, 2021). As the species undergoes post-breeding dispersal and was not recorded during subsequent surveys, it is likely the habitat within the Project area is utilised on a temporary basis only. Therefore, the potential for minor and indirect impacts are unlikely to be detrimental to the species.

4.1.4 Macadamia integrifolia

Six *Macadamia integrifolia* individuals were recorded across the Subsequent study area (outside the Project area), with most of them occurring within the parkland area as maintained amenity trees. *Macadamia integrifolia* are listed as vulnerable under the EPBC Act and therefore a significance of impact assessment has been completed in Table 4-4. Outcomes of this assessment have assessed the Project as unlikely to have a significant impact on *Macadamia integrifolia*.

Table 4-4 Significant impact assessment – Macadamia integrifolia

Significant impact criteria	Assessment
Lead to a long-term decrease in the size of an important population of a species	**Unlikely** The current Reference Design will not result in the direct removal or damage of the recorded six *Macadamia integrifolia's.* Indirect impacts will be managed through a series of management plans such as a species specific Impact Management Plan as required under the State NC Act, the Contractor's EMP(C) which will be required at the construction phase of the Project. These mitigation measures will result in no decrease to the size of the population.

Significant impact criteria	Assessment
Reduce the area of occupancy of an important population	**Unlikely** The current Reference Design will not result in the direct removal or damage of the recorded six *Macadamia integrifolias'.* Therefore, no reduction in the area of occupancy of the population will occur.
Fragment an existing important population into two or more populations	**Unlikely** The current Project area based on the Reference Design does not directly impacted upon the recorded individuals and therefore the Project is unlikely to fragment an existing population into two. Further, the Macadamia Species Recovery Plan 2019-2024 defines includes a list of all priority populations which does not include the population recorded within the Subsequent study areas (Powell and Gould, 2019).
Adversely affect habitat critical to the survival of a species	**Unlikely** The Macadamia Species Recovery Plan 2019-2024 defines habitat critical to the survival of *Macadamia integrifolia,* which can include non-remnant vegetation where all surrounding vegetation has been cleared but individuals of *Macadamia integrifolia* preserved (Powell and Gould, 2019). Noting that five of the six individuals recorded were planted and currently occur in a maintained environment the Project is unlikely to adversely affect habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	**Unlikely** The Macadamia Species Recovery Plan 2019-2024 defines the priority populations which is based on their population size, proximity to other populations (based on pollen transfer distance) and occurrence within remnant vegetation. The recorded population was not identified in the priority population list (Powell and Gould, 2019). Further, no direct impact to the recorded individuals will occur as a result of the Project therefore no impacts are anticipated to occur to the breeding population of known individuals.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	**Unlikely** The Project will not directly impact any individuals, furthermore the recorded habitat is not considered to be habitat critical to the survival of the species given majority of the recorded individuals present were planted as amenity vegetation with parkland. The one individual recorded within native bushland will not be impacted by the Project and the Project will not significantly remove the habitat surrounding the individual.
Result in invasive species that are harmful to a vulnerable species becoming established in the	**Unlikely** Currently, the field investigation found that five of the six recorded individuals were being maintained with herbicide treatment to the ground layer directly surrounding the base. One juvenile individual was recorded as planted within the bushland area. This individual

Significant impact criteria	Assessment
vulnerable species' habitat	had a tree guard on and up until recently appears to have been maintained. The Project is not expected to directly impact upon these individuals and furthermore the Contractor will be required to implement strict weed management measures during construction through the implementation of an EMP(C). As a result, the Project is unlikely to results in the introduction of an invasive species.
Introduce disease that may cause the species to decline	**Unlikely** There are several documented pathogens that affect the Macadamia nut, including *Pseudocercospora macadamiae* (causing husk spot), other diseases affecting the fruit (husk rot, anthracnose and raceme blight), and those affecting the trunk and root system (such as trunk canker and root rot, caused by *Phytophthora cinnamomi*, gall canker and pink limb blight) (Drenth *et al*., 2009). The Contractor will be required to confirm that all soil or plant material (e.g. hydromulch with seed mix for stabilising and revegetating banks post-construction) is clean and declared free from plant pathogens in order to meet their General Biosecurity Obligation under the *Biosecurity Act 2015*. Therefore, it is considered unlikely that the proposed works would introduce disease that could cause a decline in the *Macadamia integrifolia*.
Interfere substantially with the recovery of the species	**Unlikely** Recovery actions include revegetating around populations, weed control and preventing wildfires. Due to the surrounding urban environment, maintained nature of five of the six recorded individuals within parkland habitat it is considered unlikely that the Project would interfere with the recovery of the species.

4.2 MSES

A significant impact assessment has been completed for the glossy black cockatoo as the species is currently listed on the Finalised Priority Assessment List by DAWE. The Priority Assessment List is the list of nominated species, ecological communities and key threatening processes that have been approved for assessment by the Minister responsible for the EPBC Act for a particular assessment year. The glossy black-cockatoo threatened species listing under the EPBC will be completed by the 30 April 2022 which is the statutory timeframe in which the assessment must be completed.

A significance of impact assessment has not been completed for other State listed species as the *Queensland Environmental Offsets Policy, Significant Residual Impact Guideline (December 2014)* is only relevant to prescribed activities under the *Environmental Offsets Regulation* that require approval in relation to MSES under either the NC Act, *Marine Parks Act 2004* or the *Environmental Protection Act 1994*. While the Project is likely to require a clearing permit under the NC Act an additional targeted protected plants survey will be required to be completed during the DD phase which will inform the significant residual impact assessment for MSES threatened flora species. It is noted that a SMP (high risk) is not an approval under the NC Act rather a management program. No approvals are anticipated to be required under either the *Marine Parks Act 2004* or the *Environmental Protection Act 1994*.

4.2.1 Glossy black-cockatoo

The Project has the potential to result in a significant impact on glossy black-cockatoo. A significance of impact assessment of the Project on the glossy black-cockatoo (vulnerable under the NC Act only) is provided in Table 4-5.

Table 4-5 Significant impact assessment - glossy black-cockatoo

Significant impacts criteria	Assessment
Lead to a long-term decrease in the size of a local population	**Unlikely** The Project has the potential to result in a decrease in foraging activity for the glossy black-cockatoo. Considering the species is known to fly up to 12 km to forage (Garnett et al., 1999), the removal of a small portion of foraging habitat is unlikely to lead to a long-term decrease in the local population. Nesting habitat was not identified within the Study corridor, largely due to low hollow densities and high competition for nest sites due to sulphur crested cockatoos and arboreal mammals. Regardless, pre-clearance surveys will be conducted prior to clearing to identify potential nesting sites. Sequential clearing and the use of a fauna spotter catcher during clearing will also be included to further reduce the potential impacts on the species. Although the Project has the potential to disturb the species, it is unlikely to lead to a long-term decrease in the size of the population.
Reduce the extent of occurrence of the species	**Unlikely** The loss of foraging habitat is unlikely to significantly reduce the extent of occurrence for the species as *Allocasuarina* dominated communities (a habitat requirement) were widespread at patches within the Subsequent study areas, particularly Acacia Forest Park and Kingston. Furthermore, nesting habitat is unlikely to be present within the Subsequent study areas as hollows were not identified during field surveys. However, as the abundance of nesting hollows is a limited resources for the species (Cameron, 2006; Hourigan, 2012), the loss of nesting habitat could reduce the occurrence of species should woodlands with high hollow density be identified during the detailed design phase.
Fragment an existing population.	**Unlikely** Despite the required clearing, the Project is unlikely to fragment an existing population as the majority of clearing will be concentrated in two locations, specifically, Acacia Forest Park and Kingston. These areas were assessed to contain only foraging habitat due to the low abundance of hollows. Considering the glossy black-cockatoo is known to travel up to 12 km to forage (Garnett et al., 1999), the removal of a small area of foraging habitat is unlikely to result in the fragmentation of an existing population. Where foraging evidence was identified in the field, orts were recorded under three trees within a relatively small (approx. 2.3 ha) patch of woodland (Figure 3-6). This area is likely to utilised by only a small number of

Significant impacts criteria	Assessment
	individuals and unlikely to support a population of sufficient size to become fragmented.
Result in genetically distinct populations forming as a result of habitat isolation.	**Unlikely** As detailed above, although the Project will result in a loss of foraging habitat for the species, the geographical extent of disturbances is not proposed to be of sufficient size to fragment an existing population. The proposed clearing impacts for the Project are limited to within a narrow rail corridor, dispersal pathways are not expected to be impacted. Furthermore, indirect impacts of the Project on species behaviour are not anticipated as the species is known to utilise urban areas as foraging habitat and the Project aligns with current land uses with the area.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	**Unlikely** There is the potential for the spread of invasive weeds during the construction and operation phase. This potential will be addressed within the Project EMP and could provide the opportunity to enhance the quality of the environment utilised by the glossy black-cockatoo by providing mitigation measures to combat introduced species. If mitigation measures are implemented correctly, the Project is unlikely to result in the introduction of invasive species that are harmful to the glossy black-cockatoo.
Introduce disease that may cause the population to decline.	**Unlikely** The Project is not anticipated to introduce new diseases that may cause the species to decline. Although the glossy-black-cockatoo is susceptible to Psittacine Beak and Feather Disease (PBFD), this disease has not been recorded within Queensland populations and the Project has no capacity to facilitate an increase in the transmission or incidence of this disease.
Interfere with the recovery of the species.	**Unlikely** As previously mentioned, the Project is anticipated to impact only a relatively small area of foraging habitat for the species. This is unlikely to interfere with the recovery of the species. Although the Project presents the potential injury or mortality to the species during clearing, targeted pre-clearance surveys will be employed to mitigate the potential impacts during vegetation clearing.
Cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species	**Possible** The glossy black-cockatoo shows a high degree of dietary specificity, often returning the same trees each year (Clout, 1989; Pepper et al., 2000). Considering known and potential foraging habitat for the species has the potential to be impacted by the Project, the proposed works are likely to disrupt foraging locations. However, these locations represent only a small percentage of the foraging habitat available within the Study corridor.

5. Conclusion

The surveys have shown the Subsequent study areas are located within a fragmented urban environment; nevertheless, areas of ecological value are present. The Study corridor intersects four major waterways being the Logan River, Slacks Creek, Spring Creek and Scrubby Creek. Aside from the waterways and associated riparian vegetation intersected by the Study corridor, the most significant environmental feature is Acacia Park associated with Karawatha Forest Park which adjoins Compton Road at Karawatha. Karawatha Forest Park is a Brisbane City Council managed reserve which includes 900 ha of remnant bushland. The Karawatha Forest Park contributes to the Flinders Karawatha Corridor which is a State Biodiversity Corridor extending from Karawatha Forest to Flinders Peak in Ipswich to Wyaralong Dam near Boonah.

During the field studies, verification of REs confirmed that tracts of remnant vegetation area present, although a number of vegetation communities did not align with the mapped description. This did not impact the identification of habitat for conservation significant species as the vegetation communities held similar values. One TEC was considered to have high potential of occurring within the Study corridor, namely Coastal Swamp Oak (*Casuarina glauca*) Forest of South-east Queensland and New South Wales. However, an assessment of locations likely to contain TEC found that vegetation communities present did not meet the key characteristics or condition threshold for this TEC at the time of the field survey.

Two conservation significant species considered to be 'in the wild' in accordance with the NC Act were confirmed present within the Subsequent study areas:

- *Macadamia integrifolia* (Macadamia), vulnerable under the EPBC Act and NC Act
- Glossy black-cockatoo (*Calyptorhynchus lathami*), vulnerable under the NC Act

One species listed as migratory under the EPBC Act, glossy ibis (*Plegadis falcinellus*) and special least concern under the NC Act was also confirmed present within the Study corridor during WSP (2019b) field survey.

Seven conservation significant species were considered likely to occur within the Subsequent study areas based on the type and condition of habitats observed and the proximity of historical records:

- *Marsdenia coronata* (slender milk vine), vulnerable under the NC Act
- *Melaleuca irbyana* (swamp tea-tree), endangered under the NC Act
- *Gossia gonoclada* (angle stemmed myrtle), vulnerable under the NC Act
- *Coleus habrophyllus,* endangered under the EPBC Act and NC Act
- Koala (*Phascolarctos cinereus*), vulnerable under the EPBC Act and NC Act
- Grey-headed flying-fox (*Pteropus poliocephalus*), vulnerable under the EPBC Act
- Wallum froglet (*Crinia tinnula*), vulnerable under the NC Act

Numerous restricted invasive species listed under *Biosecurity Act 2014* were recorded across the Subsequent study areas.

An assessment of impacts found that works are likely to result in a significant impact to the koala due to the vegetation proposed to be cleared scoring a habitat value greater than eight (habitat critical to survival) and the extent of clearing for high value habitat will be greater than 10 ha. Additionally, there is potential for a significant impact on the Grey headed flying fox and

the glossy black-cockatoo. The Grey headed flying fox may be impacted due to the clearing of potential winter flowering foraging resources, while the glossy black-cockatoo may be impacted through the clearing of tree species constituting the highly specialised diet for the species as well as ecological significant habitat. The significance of impacts should be confirmed at the detailed design stage when finer Project details and extents have been confirmed.

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Appendices

Appendix A – Desktop search results

Australian Government

Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

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

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

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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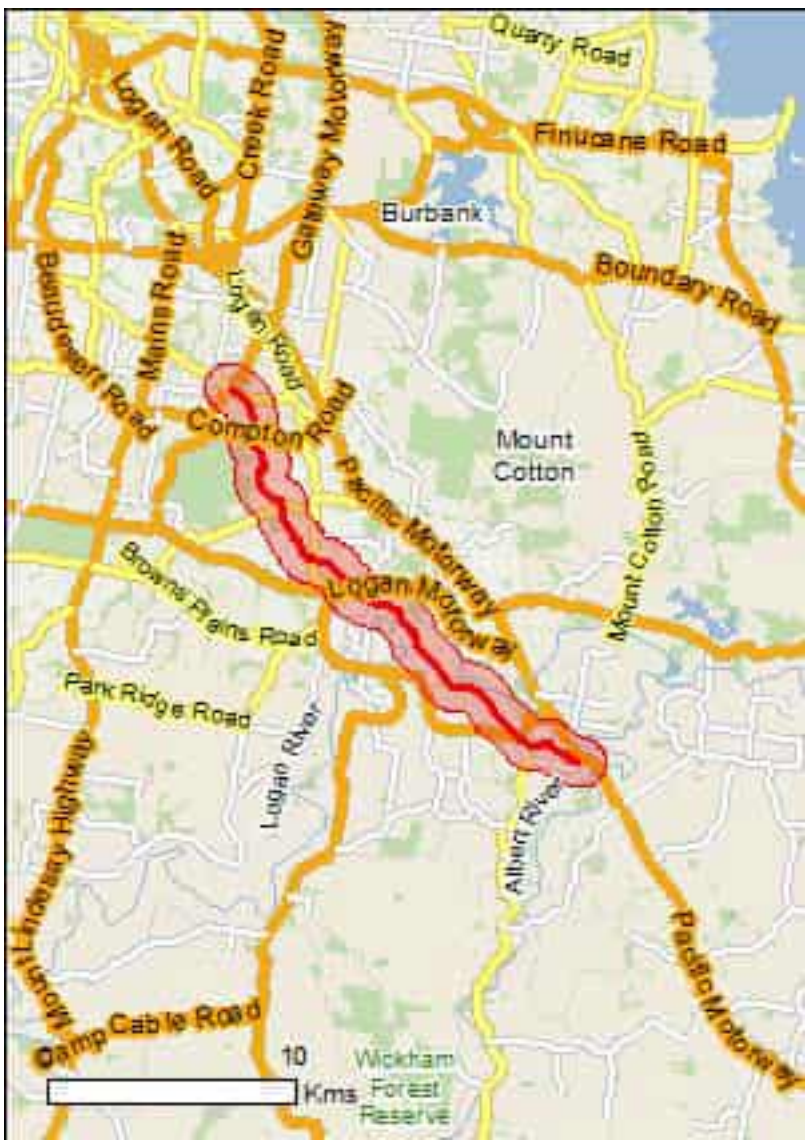

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Coordinates

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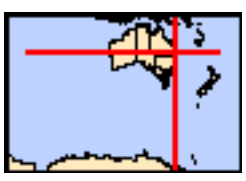

Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	69
Listed Migratory Species:	38

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	43
Whales and Other Cetaceans:	1
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	39
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Moreton bay	Within 10km of Ramsar

Listed Threatened Ecological Communities [Resource Information]

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

Name	Status	Type of Presence
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area
Thinornis cucullatus cucullatus Hooded Plover (eastern), Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within

Name	Status	Type of Presence
		area
Turnix melanogaster		
Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
Fish		
Epinephelus daemelii		
Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat may occur within area
Maccullochella mariensis		
Mary River Cod [83806]	Endangered	Translocated population known to occur within area
Frogs		
Mixophyes fleayi		
Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area
Insects		
Argynnis hyperbius inconstans		
Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus		
Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae		
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Xeromys myoides		
Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Plants		
Arthraxon hispidus		
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Baloghia marmorata		
Marbled Balogia, Jointed Baloghia [8463]	Vulnerable	Species or species habitat may occur within area
Bosistoa transversa		
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Corchorus cunninghamii		
Native Jute [14659]	Endangered	Species or species habitat likely to occur

Name	Status	Type of Presence within area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat may occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area
Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat may occur within area
Endiandra floydii Floyd's Walnut [52955]	Endangered	Species or species habitat may occur within area
Fontainea venosa [24040]	Vulnerable	Species or species habitat likely to occur within area
Gossia gonoclada Angle-stemmed Myrtle [78866]	Endangered	Species or species habitat known to occur within area
Lepidium peregrinum Wandering Pepper-cress [14035]	Endangered	Species or species habitat may occur within area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area
Notelaea ipsviciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Tylophora woollsii [20503]	Endangered	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur

Name	Status	Type of Presence
		within area
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat likely to occur within area
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species [Resource Information]

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

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat may occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area
Migratory Marine Species		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species

Name	Threatened	Type of Presence
		habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Breeding likely to occur

Name	Threatened	Type of Presence within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area
Diomedea gibsoni Gibson's Albatross [64466]	Vulnerable*	Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Puffinus griseus Sooty Shearwater [1024]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat known to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
[Lepidochelys olivacea](#) Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

Whales and other Cetaceans [Resource Information]

Name	Status	Type of Presence
Mammals		
[Orcaella brevirostris](#) Irrawaddy Dolphin [45]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Kuraby	QLD

Invasive Species [Resource Information]

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

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus africanus Climbing Asparagus, Climbing Asparagus Fern [66907]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Cryptostegia grandiflora Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands	[Resource Information]
Name	State
Karawatha Forest Park	QLD

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-27.602489 153.087396,-27.605475 153.092246,-27.60635 153.092954,-27.609202 153.094778,-27.60962 153.09495,-27.612491 153.095486,-27.613328 153.09555,-27.618423 153.095271,-27.619374 153.095465,-27.620572 153.096044,-27.621674 153.096967,-27.622188 153.097331,-27.623842 153.098254,-27.624754 153.099027,-27.625268 153.099456,-27.625914 153.099842,-27.626541 153.099971,-27.627188 153.099885,-27.627815 153.099541,-27.628442 153.098941,-27.628918 153.098426,-27.629507 153.097997,-27.629868 153.097846,-27.630477 153.097696,-27.63099 153.097696,-27.632625 153.098104,-27.633309 153.098297,-27.63407 153.098662,-27.635476 153.099928,-27.636731 153.101129,-27.637396 153.102095,-27.638385 153.104412,-27.63886 153.105228,-27.639506 153.10585,-27.640172 153.106215,-27.640761 153.106344,-27.642491 153.106429,-27.644125 153.106494,-27.644753 153.10658,-27.645608 153.106923,-27.649562 153.109777,-27.650075 153.11027,-27.651006 153.111665,-27.651462 153.112202,-27.651975 153.112566,-27.652698 153.112845,-27.653895 153.113081,-27.654313 153.113253,-27.655834 153.114412,-27.656366 153.11497,-27.656765 153.115592,-27.657107 153.116429,-27.657848 153.120677,-27.658057 153.121364,-27.658343 153.122051,-27.659027 153.123317,-27.660566 153.125613,-27.661516 153.12675,-27.662106 153.127286,-27.663379 153.12823,-27.666363 153.130333,-27.667408 153.13117,-27.667921 153.131792,-27.668738 153.132865,-27.669346 153.134045,-27.669992 153.135869,-27.671095 153.138895,-27.671418 153.140118,-27.67157 153.141534,-27.671798 153.143358,-27.672045 153.144624,-27.67252 153.145869,-27.673223 153.146963,-27.673812 153.147628,-27.67518 153.148615,-27.675655 153.148916,-27.67672 153.149838,-27.679399 153.152413,-27.679988 153.152821,-27.680653 153.153164,-27.683598 153.154151,-27.684586 153.154774,-27.692883 153.163293,-27.694327 153.164238,-27.695704 153.164956,-27.696588 153.16574,-27.697328 153.16677,-27.697851 153.167939,-27.698155 153.169184,-27.698202 153.170417,-27.698031 153.171801,-27.697984 153.172853,-27.698098 153.173829,-27.698392 153.174891,-27.698744 153.175696,-27.701214 153.179108,-27.702012 153.179923,-27.702563 153.180417,-27.706248 153.18297,-27.70678 153.183507,-27.710636 153.188656,-27.715499 153.19357,-27.716259 153.194557,-27.716867 153.195931,-27.717038 153.196982,-27.716981 153.198119,-27.716715 153.199256,-27.716297 153.200716,-27.716202 153.201574,-27.716335 153.202346,-27.716582 153.203119,-27.717095 153.20402,-27.718501 153.205887,-27.720742 153.20902,-27.721122 153.209706,-27.72154 153.210693,-27.721996 153.212539,-27.722243 153.213998

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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WildNet Records
Species List

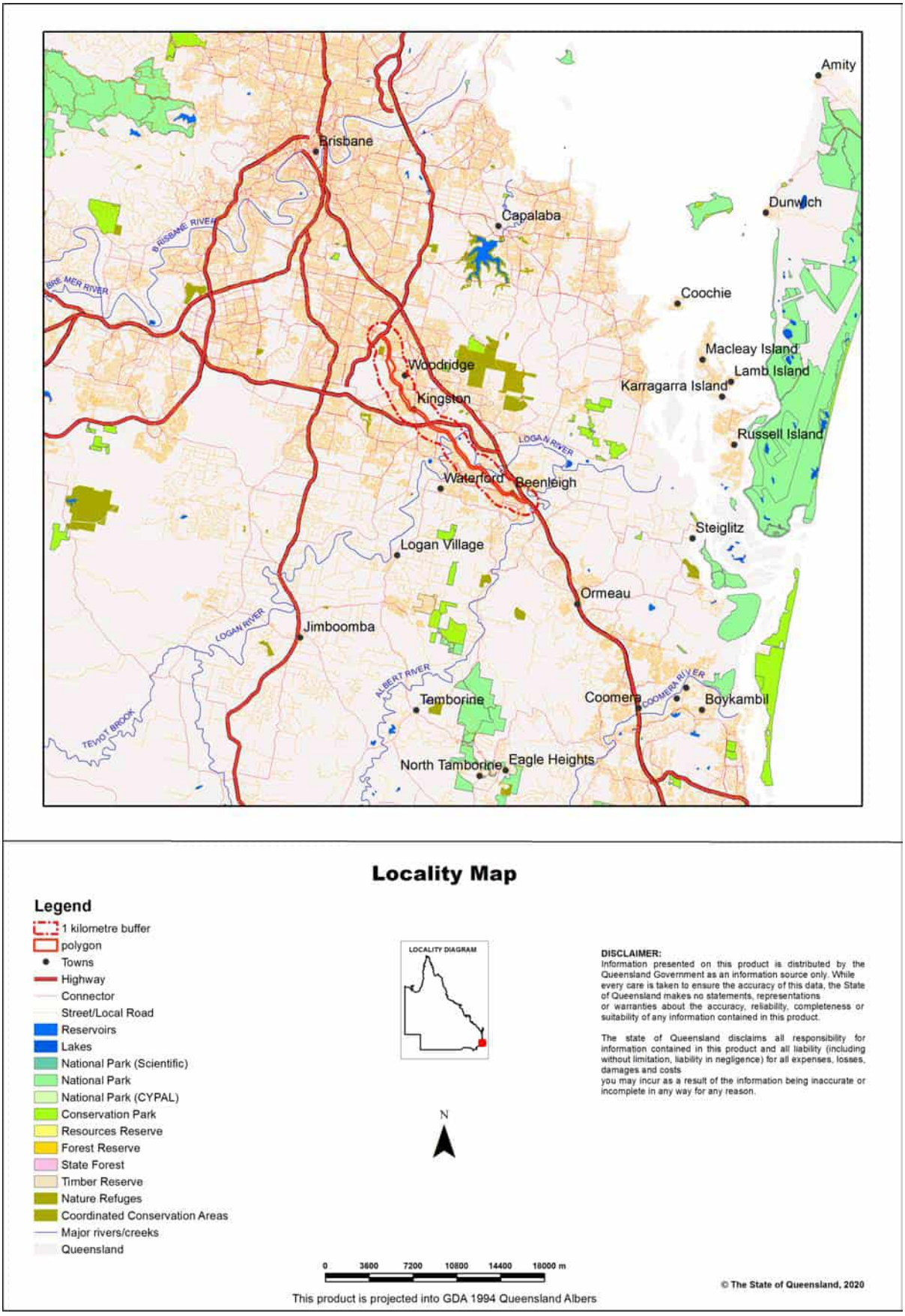
For the selected area of interest 421.19ha

Current as at 06/11/2020

12534697

Queensland Government

Map 1. Locality Map



Summary Information

The following table provides an overview of the area of interest .

Table 1. Area of interest details

Size (ha)	421.19
Local Government(s)	Brisbane City, Logan City
Bioregion(s)	Southeast Queensland
Subregion(s)	Burringbar - Conondale Ranges, Moreton Basin
Catchment(s)	Logan-Albert, Brisbane

Protected Area(s)
No estates or reserves are located within the area of interest.

World Heritage Area(s)
No World Heritage Areas are located within the area of interest.

Ramsar Area(s)
No Ramsar Areas are located within the area of interest.

Species List

Introduction
This Species List report is derived only from records from the WildNet database managed by the Department of Environment and Science. Other data sources may provide additional information on species occurrence.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species does not occur in the report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area.

Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

Table 5 lists the protists recorded within the area of interest and its one kilometre buffer.

Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
26914	Actinopterygii	Ariidae	*Neoarius graeffei*	blue catfish	None	None	0	2	30/04/1983
27055	Actinopterygii	Poeciliidae	*Gambusia holbrooki*	mosquitofish	None	None	0	1	31/12/1978
716	Amphibia	Bufonidae	*Rhinella marina*	cane toad	None	None	0	27	04/03/2011
624	Amphibia	Hylidae	*Cyclorana alboguttata*	greenstripe frog	C	None	1	2	17/01/2003
626	Amphibia	Hylidae	*Litoria brevipalmata*	green thighed frog	C	None	0	25	04/03/2011
627	Amphibia	Hylidae	*Litoria caerulea*	common green treefrog	C	None	0	11	02/03/2010
617	Amphibia	Hylidae	*Litoria dentata*	bleating treefrog	C	None	0	9	30/11/2013
608	Amphibia	Hylidae	*Litoria fallax*	eastern sedgefrog	C	None	0	23	11/09/2015
611	Amphibia	Hylidae	*Litoria gracilenta*	graceful treefrog	C	None	0	23	04/03/2011
614	Amphibia	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog	C	None	1	6	14/02/1995

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
604	Amphibia	Hylidae	*Litoria nasuta*	striped rocketfrog	C	None	0	6	12/12/2015
600	Amphibia	Hylidae	*Litoria rubella*	ruddy treefrog	C	None	0	11	30/10/2007
601	Amphibia	Hylidae	*Litoria sp.*	None	C	None	1	1	13/08/1954
29174	Amphibia	Hylidae	*Litoria wilcoxii*	eastern stony creek frog	C	None	1	1	26/09/1954
706	Amphibia	Limnodynastidae	*Adelotus brevis*	tusked frog	V	None	1	1	26/09/1954
681	Amphibia	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog	C	None	0	13	11/09/2015
684	Amphibia	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog	C	None	1	3	17/11/1997
673	Amphibia	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk	C	None	4	15	04/03/2011
680	Amphibia	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog	C	None	0	27	04/03/2011
696	Amphibia	Myobatrachidae	*Crinia parinsignifera*	beeping froglet	C	None	0	18	11/10/2015
698	Amphibia	Myobatrachidae	*Crinia signifera*	clicking froglet	C	None	0	9	04/03/2011
686	Amphibia	Myobatrachidae	*Crinia tinnula*	wallum froglet	V	None	0	5	24/10/2001
672	Amphibia	Myobatrachidae	*Pseudophryne coriacea*	red backed broodfrog	C	None	0	1	12/01/1994
659	Amphibia	Myobatrachidae	*Pseudophryne major*	great brown broodfrog	C	None	1	8	09/06/2011
661	Amphibia	Myobatrachidae	*Pseudophryne raveni*	copper backed broodfrog	C	None	1	17	04/03/2011
633	Amphibia	Myobatrachidae	*Uperoleia fusca*	dusky gungan	C	None	0	2	17/11/1997
1419	Aves	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill	C	None	0	1	24/05/1992
1422	Aves	Acanthizidae	*Acanthiza nana*	yellow thornbill	C	None	0	2	13/05/2005
1423	Aves	Acanthizidae	*Acanthiza pusilla*	brown thornbill	C	None	0	7	15/02/2007
1425	Aves	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill	C	None	0	3	26/07/1995
1408	Aves	Acanthizidae	*Gerygone levigaster*	mangrove gerygone	C	None	0	8	31/10/1993
1396	Aves	Acanthizidae	*Gerygone olivacea*	white-throated gerygone	C	None	0	39	04/07/2007
1382	Aves	Acanthizidae	*Sericornis frontalis*	white-browed scrubwren	C	None	0	5	14/04/2005
1371	Aves	Acanthizidae	*Smicrornis brevirostris*	weebill	C	None	0	14	16/09/2000
1742	Aves	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk	C	None	0	1	31/12/1994
1729	Aves	Accipitridae	*Accipiter fasciatus*	brown goshawk	C	None	0	4	27/09/2006
1730	Aves	Accipitridae	*Accipiter novaehollandiae*	grey goshawk	C	None	0	2	20/09/1998
1732	Aves	Accipitridae	*Aquila audax*	wedge-tailed eagle	C	None	0	5	27/05/2012
1721	Aves	Accipitridae	*Aviceda subcristata*	Pacific baza	C	None	0	3	05/05/1990
1725	Aves	Accipitridae	*Elanus axillaris*	black-shouldered kite	C	None	0	14	04/07/2007

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1718	Aves	Accipitridae	*Haliaeetus leucogaster*	white-bellied sea-eagle	C	None	0	2	15/09/2005
1720	Aves	Accipitridae	*Haliastur indus*	brahminy kite	C	None	0	6	06/04/2006
1707	Aves	Accipitridae	*Haliastur sphenurus*	whistling kite	C	None	0	3	14/04/2005
1710	Aves	Accipitridae	*Hieraaetus morphnoides*	little eagle	C	None	0	2	31/12/1994
1714	Aves	Accipitridae	*Milvus migrans*	black kite	C	None	0	1	12/05/1978
1702	Aves	Accipitridae	*Pandion cristatus*	eastern osprey	SL	None	0	2	04/07/2007
1305	Aves	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler	C	None	0	4	15/09/2005
1973	Aves	Aegothelidae	*Aegotheles cristatus*	Australian owlet-nightjar	C	None	0	2	26/07/1995
1993	Aves	Anatidae	*Anas gracilis*	grey teal	C	None	0	6	06/04/2006
1994	Aves	Anatidae	*Anas platyrhynchos*	northern mallard	None	None	0	11	15/02/2007
1998	Aves	Anatidae	*Anas superciliosa*	Pacific black duck	C	None	0	56	10/06/2012
1999	Aves	Anatidae	*Aythya australis*	hardhead	C	None	0	10	27/09/2006
2003	Aves	Anatidae	*Chenonetta jubata*	Australian wood duck	C	None	0	36	04/07/2007
2005	Aves	Anatidae	*Cygnus atratus*	black swan	C	None	0	5	10/06/2012
1977	Aves	Anatidae	*Dendrocygna arcuata*	wandering whistling-duck	C	None	0	2	21/05/2006
1978	Aves	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck	C	None	1	1	26/05/2004
1982	Aves	Anatidae	*Nettapus coromandelianus*	cotton pygmy-goose	C	None	0	1	14/07/2004
1983	Aves	Anatidae	*Nettapus pulchellus*	green pygmy-goose	C	None	0	1	15/07/2004
1996	Aves	Anatidae	*Spatula rhynchotis*	Australasian shoveler	C	None	0	1	12/09/1967
1279	Aves	Anhingidae	*Anhinga novaehollandiae*	Australasian darter	C	None	0	15	04/07/2007
1963	Aves	Anseranatidae	*Anseranas semipalmata*	magpie goose	C	None	0	3	05/03/2005
1971	Aves	Apodidae	*Hirundapus caudacutus*	white-throated needletail	V	V	0	3	31/12/1994
1829	Aves	Ardeidae	*Ardea alba modesta*	eastern great egret	C	None	0	18	04/07/2007
1831	Aves	Ardeidae	*Ardea intermedia*	intermediate egret	C	None	0	7	04/07/2007
1832	Aves	Ardeidae	*Ardea pacifica*	white-necked heron	C	None	0	2	28/10/2001
1830	Aves	Ardeidae	*Bubulcus ibis*	cattle egret	C	None	0	35	04/07/2007
1839	Aves	Ardeidae	*Butorides striata*	striated heron	C	None	0	11	16/05/2005
1840	Aves	Ardeidae	*Egretta garzetta*	little egret	C	None	0	2	11/08/2005
1826	Aves	Ardeidae	*Egretta novaehollandiae*	white-faced heron	C	None	0	43	27/09/2006
1818	Aves	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron	C	None	0	1	10/12/2004
1660	Aves	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow	C	None	0	7	15/02/2007

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1654	Aves	Artamidae	*Cracticus nigrogularis*	pied butcherbird	C	None	0	85	24/09/2007
1656	Aves	Artamidae	*Cracticus torquatus*	grey butcherbird	C	None	0	35	15/09/2005
1644	Aves	Artamidae	*Gymnorhina tibicen*	Australian magpie	C	None	0	112	24/09/2007
1645	Aves	Artamidae	*Strepera graculina*	pied currawong	C	None	0	6	27/09/2006
1956	Aves	Burhinidae	*Burhinus grallarius*	bush stone-curlew	C	None	0	1	01/02/2005
1191	Aves	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo	C	None	0	46	04/07/2007
1194	Aves	Cacatuidae	*Cacatua sanguinea*	little corella	C	None	0	5	04/07/2007
21967	Aves	Cacatuidae	*Cacatua tenuirostris*	long-billed corella	C	None	0	4	04/07/2007
22494	Aves	Cacatuidae	*Calyptorhynchus lathami lathami*	glossy black-cockatoo (eastern)	V	None	0	1	30/06/1993
1193	Aves	Cacatuidae	*Eolophus roseicapilla*	galah	C	None	0	69	24/09/2007
1173	Aves	Cacatuidae	*Nymphicus hollandicus*	cockatiel	C	None	0	1	31/12/1994
1635	Aves	Campephagidae	*Coracina maxima*	ground cuckoo-shrike	C	None	0	2	18/04/1974
1636	Aves	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C	None	0	102	24/09/2007
1637	Aves	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike	C	None	0	3	26/02/2000
1639	Aves	Campephagidae	*Coracina tenuirostris*	cicadabird	C	None	0	7	10/12/2004
1640	Aves	Campephagidae	*Lalage leucomela*	varied triller	C	None	0	1	10/12/2004
1642	Aves	Campephagidae	*Lalage tricolor*	white-winged triller	C	None	0	2	15/09/2005
1940	Aves	Charadriidae	*Elseyornis melanops*	black-fronted dotterel	C	None	0	1	21/07/2004
1942	Aves	Charadriidae	*Erythrogonys cinctus*	red-kneed dotterel	C	None	0	1	05/06/2005
27774	Aves	Charadriidae	*Vanellus miles*	masked lapwing	C	None	0	18	04/07/2007
1933	Aves	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)	C	None	0	54	29/12/2001
1820	Aves	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork	C	None	1	2	21/01/1999
1294	Aves	Cisticolidae	*Cisticola exilis*	golden-headed cisticola	C	None	0	16	04/07/2007
1617	Aves	Climacteridae	*Cormobates leucophaea*	white-throated treecreeper	C	None	0	1	15/02/2007
18293	Aves	Climacteridae	*Cormobates leucophaea metastasis*	white-throated treecreeper (southern)	C	None	0	19	10/12/2004
1804	Aves	Columbidae	*Columba livia*	rock dove	None	None	0	6	04/07/2007
1809	Aves	Columbidae	*Geopelia cuneata*	diamond dove	C	None	0	1	30/09/2000

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1810	Aves	Columbidae	*Geopelia humeralis*	bar-shouldered dove	C	None	0	18	15/09/2005
1797	Aves	Columbidae	*Geopelia striata*	peaceful dove	C	None	0	38	27/09/2006
1793	Aves	Columbidae	*Ocyphaps lophotes*	crested pigeon	C	None	0	85	24/09/2007
1795	Aves	Columbidae	*Phaps chalcoptera*	common bronzewing	C	None	0	4	28/11/1999
1773	Aves	Columbidae	*Ptilinopus superbus*	superb fruit-dove	C	None	0	1	25/05/1984
1774	Aves	Columbidae	*Streptopelia chinensis*	spotted dove	None	None	0	87	04/07/2007
1779	Aves	Coraciidae	*Eurystomus orientalis*	dollarbird	C	None	0	10	15/09/2005
1609	Aves	Corvidae	*Corvus orru*	Torresian crow	C	None	0	136	24/09/2007
1754	Aves	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo	C	None	0	4	26/07/1995
1743	Aves	Cuculidae	*Cacomantis variolosus*	brush cuckoo	C	None	0	2	15/09/2005
1751	Aves	Cuculidae	*Centropus phasianinus*	pheasant coucal	C	None	0	7	15/09/2005
1745	Aves	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo	C	None	0	4	18/05/2005
1756	Aves	Cuculidae	*Chalcites minutillus barnardi*	Eastern little bronze-cuckoo	C	None	0	1	31/12/1994
1738	Aves	Cuculidae	*Eudynamys orientalis*	eastern koel	C	None	0	36	17/01/2012
1740	Aves	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo	C	None	0	2	15/02/2007
1601	Aves	Dicruridae	*Dicrurus bracteatus*	spangled drongo	C	None	0	21	15/02/2007
1366	Aves	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin	C	None	0	7	15/02/2007
1367	Aves	Estrildidae	*Lonchura punctulata*	nutmeg mannikin	None	None	0	1	05/05/1990
1359	Aves	Estrildidae	*Neochmia temporalis*	red-browed finch	C	None	0	18	15/02/2007
1342	Aves	Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C	None	0	17	04/07/2007
1949	Aves	Eurostopodidae	*Eurostopodus mystacalis*	white-throated nightjar	C	None	0	1	26/07/1995
1716	Aves	Falconidae	*Falco berigora*	brown falcon	C	None	0	2	21/07/2004
1704	Aves	Falconidae	*Falco cenchroides*	nankeen kestrel	C	None	0	5	13/05/2005
1691	Aves	Falconidae	*Falco longipennis*	Australian hobby	C	None	0	3	06/04/2006
1926	Aves	Haematopodidae	*Haematopus longirostris*	Australian pied oystercatcher	C	None	0	1	14/01/2004
1767	Aves	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra	C	None	0	85	24/09/2007
1760	Aves	Halcyonidae	*Todiramphus macleayii*	forest kingfisher	C	None	0	14	27/09/2006
1761	Aves	Halcyonidae	*Todiramphus pyrrhopygius*	red-backed kingfisher	C	None	0	1	28/06/1979

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1762	Aves	Halcyonidae	*Todiramphus sanctus*	sacred kingfisher	C	None	0	50	15/02/2007
1572	Aves	Hirundinidae	*Hirundo neoxena*	welcome swallow	C	None	0	70	24/09/2007
1585	Aves	Hirundinidae	*Petrochelidon ariel*	fairy martin	C	None	0	8	05/06/2005
1573	Aves	Hirundinidae	*Petrochelidon nigricans*	tree martin	C	None	0	7	04/07/2007
1928	Aves	Jacanidae	*Irediparra gallinacea*	comb-crested jacana	C	None	0	1	05/06/2005
1912	Aves	Laridae	*Chroicocephalus novaehollandiae*	silver gull	C	None	0	2	14/01/2004
1570	Aves	Maluridae	*Malurus cyaneus*	superb fairy-wren	C	None	0	66	04/07/2007
1556	Aves	Maluridae	*Malurus lamberti*	variegated fairy-wren	C	None	0	18	06/04/2006
1558	Aves	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren	C	None	0	33	04/07/2007
1289	Aves	Megaluridae	*Megalurus timoriensis*	tawny grassbird	C	None	0	6	04/07/2007
1694	Aves	Megapodiidae	*Alectura lathami*	Australian brush-turkey	C	None	0	1	31/12/1989
1555	Aves	Meliphagidae	*Acanthorhynchus tenuirostris*	eastern spinebill	C	None	0	5	13/05/2005
1542	Aves	Meliphagidae	*Anthochaera chrysoptera*	little wattlebird	C	None	0	5	11/08/2005
1523	Aves	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater	C	None	0	55	04/07/2007
1539	Aves	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C	None	0	40	04/07/2007
1497	Aves	Meliphagidae	*Lichmera indistincta*	brown honeyeater	C	None	0	46	24/09/2007
1500	Aves	Meliphagidae	*Manorina melanocephala*	noisy miner	C	None	0	80	28/09/2015
1504	Aves	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater	C	None	0	21	21/07/2004
1507	Aves	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C	None	0	33	27/09/2006
1483	Aves	Meliphagidae	*Melithreptus gularis*	black-chinned honeyeater	C	None	0	1	31/12/1980
1485	Aves	Meliphagidae	*Melithreptus lunatus*	white-naped honeyeater	C	None	0	1	15/09/2005
1489	Aves	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater	C	None	0	40	27/09/2006
1493	Aves	Meliphagidae	*Philemon citreogularis*	little friarbird	C	None	0	15	15/09/2005
1494	Aves	Meliphagidae	*Philemon corniculatus*	noisy friarbird	C	None	0	52	15/09/2005
1471	Aves	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater	C	None	0	5	05/06/2005
1467	Aves	Menuridae	*Menura alberti*	Albert's lyrebird	NT	None	0	1	14/04/2005
1764	Aves	Meropidae	*Merops ornatus*	rainbow bee-eater	C	None	0	36	04/07/2007
1589	Aves	Monarchidae	*Grallina cyanoleuca*	magpie-lark	C	None	0	96	04/07/2007
1595	Aves	Monarchidae	*Monarcha melanopsis*	black-faced monarch	SL	None	0	2	11/02/2006

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1586	Aves	Monarchidae	*Myiagra rubecula*	leaden flycatcher	C	None	0	9	10/12/2004
1455	Aves	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit	C	None	0	3	15/07/2004
1611	Aves	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird	C	None	0	20	27/09/2006
1453	Aves	Neosittidae	*Daphoenositta chrysoptera*	varied sittella	C	None	0	7	03/05/1999
1442	Aves	Oriolidae	*Oriolus sagittatus*	olive-backed oriole	C	None	0	13	27/09/2006
1444	Aves	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird	C	None	0	27	17/01/2012
1449	Aves	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush	C	None	0	37	27/09/2006
1436	Aves	Pachycephalidae	*Pachycephala pectoralis*	golden whistler	C	None	0	27	27/09/2006
1437	Aves	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler	C	None	0	45	04/07/2007
1389	Aves	Pardalotidae	*Pardalotus punctatus*	spotted pardalote	C	None	0	17	04/07/2007
1392	Aves	Pardalotidae	*Pardalotus striatus*	striated pardalote	C	None	0	61	04/07/2007
1360	Aves	Passeridae	*Passer domesticus*	house sparrow	None	None	0	49	21/01/2002
1284	Aves	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican	C	None	0	16	06/04/2006
1347	Aves	Petroicidae	*Eopsaltria australis*	eastern yellow robin	C	None	0	11	20/05/2005
1339	Aves	Petroicidae	*Microeca fascinans*	jacky winter	C	None	0	2	31/08/2002
1332	Aves	Petroicidae	*Petroica rosea*	rose robin	C	None	0	9	16/05/2005
1261	Aves	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant	C	None	0	11	04/07/2007
1275	Aves	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant	C	None	0	1	05/06/2005
1263	Aves	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant	C	None	0	12	04/07/2007
1264	Aves	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant	C	None	0	1	26/07/1992
1699	Aves	Phasianidae	*Coturnix pectoralis*	stubble quail	C	None	0	1	31/07/1991
1687	Aves	Phasianidae	*Coturnix ypsilophora*	brown quail	C	None	0	5	16/05/2005
1955	Aves	Podargidae	*Podargus strigoides*	tawny frogmouth	C	None	0	9	28/09/2015
1249	Aves	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe	C	None	0	14	04/07/2007
1318	Aves	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler	C	None	0	1	25/12/1923
1180	Aves	Psittacidae	*Alisterus scapularis*	Australian king-parrot	C	None	0	1	26/07/1995
1147	Aves	Psittacidae	*Parvipsitta pusilla*	little lorikeet	C	None	0	10	04/07/2007
1136	Aves	Psittacidae	*Platycercus adscitus*	pale-headed rosella	C	None	0	95	24/09/2007

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
21976	Aves	Psittacidae	*Platycercus adscitus palliceps*	pale-headed rosella (southern form)	C	None	0	1	10/12/2004
1138	Aves	Psittacidae	*Platycercus elegans*	crimson rosella	C	None	0	1	18/06/1992
1139	Aves	Psittacidae	*Platycercus eximius*	eastern rosella	C	None	0	3	21/01/2002
1124	Aves	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet	C	None	0	31	04/07/2007
1125	Aves	Psittacidae	*Trichoglossus haematodus moluccanus*	rainbow lorikeet	C	None	0	117	28/09/2015
1623	Aves	Psophodidae	*Psophodes olivaceus*	eastern whipbird	C	None	0	6	15/09/2005
1673	Aves	Rallidae	*Gallinula tenebrosa*	dusky moorhen	C	None	0	20	10/06/2012
1662	Aves	Rallidae	*Porphyrio melanotus*	purple swamphen	C	None	0	33	04/07/2007
1893	Aves	Recurvirostridae	*Himantopus himantopus*	black-winged stilt	C	None	0	2	05/06/2005
1575	Aves	Rhipiduridae	*Rhipidura albiscapa*	grey fantail	C	None	0	64	04/07/2007
1576	Aves	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail	C	None	0	93	24/09/2007
1578	Aves	Rhipiduridae	*Rhipidura rufifrons*	rufous fantail	SL	None	0	6	14/04/2005
1874	Aves	Scolopacidae	*Calidris acuminata*	sharp-tailed sandpiper	SL	None	0	1	14/01/2004
1857	Aves	Scolopacidae	*Gallinago hardwickii*	Latham's snipe	SL	None	3	3	24/11/1999
1845	Aves	Scolopacidae	*Numenius phaeopus*	whimbrel	SL	None	0	1	14/01/2004
1841	Aves	Scolopacidae	*Tringa stagnatilis*	marsh sandpiper	SL	None	0	1	14/01/2004
1102	Aves	Strigidae	*Ninox boobook*	southern boobook	C	None	0	9	10/12/2004
1314	Aves	Sturnidae	*Acridotheres tristis*	common myna	None	None	0	66	04/07/2007
1303	Aves	Sturnidae	*Sturnus vulgaris*	common starling	None	None	0	29	29/12/2001
1823	Aves	Threskiornithidae	*Platalea regia*	royal spoonbill	C	None	0	8	20/05/2005
1825	Aves	Threskiornithidae	*Plegadis falcinellus*	glossy ibis	SL	None	0	4	15/02/2007
1812	Aves	Threskiornithidae	*Threskiornis molucca*	Australian white ibis	C	None	0	38	24/09/2007
1800	Aves	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis	C	None	0	48	04/07/2007
1276	Aves	Timaliidae	*Zosterops lateralis*	silvereye	C	None	0	90	04/07/2007
19177	Insecta	Nymphalidae	*Danaus plexippus*	monarch	None	None	0	1	31/10/1992
19185	Insecta	Nymphalidae	*Euploea corinna*	common crow	None	None	0	4	26/05/1993
19122	Insecta	Nymphalidae	*Melanitis leda bankia*	evening brown	None	None	0	3	31/01/1993
19061	Insecta	Papilionidae	*Graphium choredon*	blue triangle	None	None	0	1	31/01/1993

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
19068	Insecta	Papilionidae	*Papilio aegeus aegeus*	orchard swallowtail (Australian subspecies)	None	None	0	2	31/01/1993
19084	Insecta	Pieridae	*Eurema smilax*	small grass-yellow	None	None	0	1	31/10/1992
19118	Insecta	Pieridae	*Pieris rapae*	cabbage white	None	None	0	3	31/01/1993
930	Mammalia	Acrobatidae	*Acrobates pygmaeus*	feathertail glider	C	None	1	1	28/02/1969
22485	Mammalia	Dasyuridae	*Antechinus flavipes flavipes*	yellow-footed antechinus (south-east Queensland)	C	None	0	1	10/12/2004
808	Mammalia	Dasyuridae	*Phascogale tapoatafa tapoatafa*	brush-tailed phascogale	C	None	1	1	31/12/1949
793	Mammalia	Dasyuridae	*Sminthopsis murina*	common dunnart	C	None	0	3	26/07/1995
1006	Mammalia	Emballonuridae	*Saccolaimus flaviventris*	yellow-bellied sheathtail bat	C	None	0	2	28/02/1995
832	Mammalia	Leporidae	*Lepus europaeus*	European brown hare	None	None	0	3	26/07/1995
901	Mammalia	Macropodidae	*Macropus giganteus*	eastern grey kangaroo	C	None	0	2	26/07/1995
904	Mammalia	Macropodidae	*Notamacropus rufogriseus*	red-necked wallaby	C	None	0	4	04/05/2001
885	Mammalia	Macropodidae	*Wallabia bicolor*	swamp wallaby	C	None	0	2	26/07/1995
954	Mammalia	Miniopteridae	*Miniopterus australis*	little bent-wing bat	C	None	0	1	26/07/1995
998	Mammalia	Molossidae	*Mormopterus lumsdenae*	northern free-tailed bat	C	None	0	1	26/07/1995
989	Mammalia	Molossidae	*Tadarida australis*	white-striped freetail bat	C	None	0	5	26/07/1995
759	Mammalia	Muridae	*Melomys cervinipes*	fawn-footed melomys	C	None	0	1	26/07/1995
764	Mammalia	Muridae	*Mus musculus*	house mouse	None	None	0	4	26/07/1995
743	Mammalia	Muridae	*Rattus lutreolus*	swamp rat	C	None	0	1	31/12/1994
731	Mammalia	Muridae	*Rattus rattus*	black rat	None	None	0	3	10/12/2004
784	Mammalia	Peramelidae	*Isoodon macrourus*	northern brown bandicoot	C	None	0	2	10/12/2004
877	Mammalia	Petauridae	*Petaurus breviceps sensu lato*	sugar glider	C	None	0	3	27/05/2007
879	Mammalia	Petauridae	*Petaurus norfolcensis*	squirrel glider	C	None	0	4	27/05/2007
859	Mammalia	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum	C	None	0	5	27/05/2007
860	Mammalia	Phascolarctidae	*Phascolarctos cinereus*	koala	V	V	0	189	11/01/2018
2455	Mammalia	Pseudocheiridae	*Petauroides volans volans*	southern greater glider	V	V	2	5	27/05/2007
851	Mammalia	Pseudocheiridae	*Pseudocheirus peregrinus*	common ringtail possum	C	None	0	6	14/12/2015
984	Mammalia	Pteropodidae	*Pteropus alecto*	black flying-fox	C	None	0	14	13/01/2015
962	Mammalia	Pteropodidae	*Pteropus poliocephalus*	grey-headed flying-fox	C	V	0	2	13/01/2015

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
963	Mammalia	Pteropodidae	*Pteropus scapulatus*	little red flying-fox	C	None	0	4	03/02/2015
838	Mammalia	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna	SL	None	0	3	26/07/1995
972	Mammalia	Vespertilionidae	*Chalinolobus gouldii*	Gould's wattled bat	C	None	0	3	24/08/2004
961	Mammalia	Vespertilionidae	*Chalinolobus nigrogriseus*	hoary wattled bat	C	None	0	1	31/12/1994
931	Mammalia	Vespertilionidae	*Scotorepens greyii*	little broad-nosed bat	C	None	0	2	17/01/2003
567	Reptilia	Agamidae	*Diporiphora australis*	tommy roundhead	C	None	0	2	31/12/1994
554	Reptilia	Agamidae	*Intellagama lesueurii*	eastern water dragon	C	None	0	7	15/09/2017
556	Reptilia	Agamidae	*Pogona barbata*	bearded dragon	C	None	0	6	10/12/2004
519	Reptilia	Boidae	*Morelia spilota*	carpet python	C	None	0	13	15/09/2017
522	Reptilia	Colubridae	*Boiga irregularis*	brown tree snake	C	None	1	2	31/12/1996
512	Reptilia	Colubridae	*Dendrelaphis punctulatus*	green tree snake	C	None	0	10	08/01/2016
429	Reptilia	Diplodactylidae	*Diplodactylus vittatus*	wood gecko	C	None	1	8	06/12/2008
391	Reptilia	Diplodactylidae	*Nebulifera robusta*	robust velvet gecko	C	None	0	2	31/12/1994
457	Reptilia	Elapidae	*Cryptophis nigrescens*	eastern small-eyed snake	C	None	0	2	26/07/1995
493	Reptilia	Elapidae	*Demansia psammophis*	yellow-faced whipsnake	C	None	0	6	15/09/2017
462	Reptilia	Elapidae	*Pseudechis porphyriacus*	red-bellied black snake	C	None	1	6	21/03/2005
420	Reptilia	Gekkonidae	*Gehyra dubia*	dubious dtella	C	None	0	1	31/12/1994
325	Reptilia	Pygopodidae	*Lialis burtonis*	Burton's legless lizard	C	None	0	2	24/10/2001
308	Reptilia	Scincidae	*Anomalopus verreauxii*	three-clawed worm-skink	C	None	1	5	24/09/2016
221	Reptilia	Scincidae	*Bellatorias frerei*	major skink	C	None	0	1	31/12/1980
312	Reptilia	Scincidae	*Calyptotis scutirostrum*	scute-snouted calyptotis	C	None	0	3	24/07/2015
297	Reptilia	Scincidae	*Carlia pectoralis sensu lato*	None	C	None	0	1	10/12/2004
277	Reptilia	Scincidae	*Carlia vivax*	tussock rainbow-skink	C	None	0	6	10/12/2004
188	Reptilia	Scincidae	*Concinnia martini*	dark bar-sided skink	C	None	0	2	26/07/1995
31898	Reptilia	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink	C	None	0	16	11/10/2015
240	Reptilia	Scincidae	*Ctenotus spaldingi*	straight-browed ctenotus	C	None	0	5	31/12/1994
243	Reptilia	Scincidae	*Ctenotus taeniolatus*	copper-tailed skink	C	None	0	4	31/12/1994
190	Reptilia	Scincidae	*Eulamprus quoyii*	eastern water skink	C	None	0	2	31/12/1994
192	Reptilia	Scincidae	*Eulamprus sp.*	None	C	None	0	1	03/11/1993
180	Reptilia	Scincidae	*Lampropholis amicula*	friendly sunskink	C	None	0	1	31/12/1994

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
184	Reptilia	Scincidae	*Lampropholis delicata*	dark-flecked garden sunskink	C	None	1	13	29/09/2015
150	Reptilia	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink	C	None	1	2	26/07/1995
138	Reptilia	Scincidae	*Morethia taeniopleura*	fire-tailed skink	C	None	0	1	03/11/1993
120	Reptilia	Scincidae	*Saiphos equalis*	three-toed skink	C	None	1	1	15/08/1954
104	Reptilia	Scincidae	*Tiliqua scincoides*	eastern blue-tongued lizard	C	None	0	3	25/01/2018
61	Reptilia	Varanidae	*Varanus varius*	lace monitor	C	None	0	1	10/12/2004

Table 3. Plants recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
22665	Equisetopsida	Acanthaceae	*Dyschoriste depressa*	None	None	None	1	2	31/07/2019
22381	Equisetopsida	Acanthaceae	*Hygrophila costata*	None	None	None	4	4	06/09/2005
16263	Equisetopsida	Acanthaceae	*Rostellularia obtusa*	None	C	None	1	1	29/04/2003
34960	Equisetopsida	Adoxaceae	*Viburnum odoratissimum var. awabuki*	sweet viburnum 'emerald lustre'	None	None	1	1	16/11/2015
15807	Equisetopsida	Aizoaceae	*Tetragonia tetragonoides*	New Zealand spinach	C	None	1	1	08/01/1995
18029	Equisetopsida	Amaranthaceae	*Alternanthera nana*	hairy joyweed	C	None	1	1	29/04/2003
14256	Equisetopsida	Anacardiaceae	*Rhodosphaera rhodanthema*	tulip satinwood	C	None	1	1	12/09/2003
11205	Equisetopsida	Apocynaceae	*Marsdenia coronata*	slender milkvine	V	None	1	1	02/08/2007
5944	Equisetopsida	Apocynaceae	*Parsonsia brisbanensis*	broad-leaved monkey vine	C	None	1	1	30/11/1998
15612	Equisetopsida	Asteraceae	*Baccharis halimifolia*	groundsel bush	None	None	0	4	31/08/2016
33049	Equisetopsida	Asteraceae	*Enydra woollsii*	None	C	None	1	1	08/01/1995
27691	Equisetopsida	Brassicaceae	*Lepidium didymum*	None	None	None	1	1	03/08/2008
30090	Equisetopsida	Bruchiaceae	*Trematodon longicollis*	None	C	None	1	1	31/08/1887
15918	Equisetopsida	Campanulaceae	*Wahlenbergia gracilis*	sprawling bluebell	C	None	1	1	30/11/1989
14214	Equisetopsida	Caryophyllaceae	*Spergularia rubra*	sand spurry	None	None	1	1	22/02/1933
17643	Equisetopsida	Cyperaceae	*Chorizandra cymbaria*	None	C	None	1	1	14/10/1994
17516	Equisetopsida	Cyperaceae	*Cyperus enervis*	None	C	None	1	1	29/04/2003
17527	Equisetopsida	Cyperaceae	*Cyperus laevis*	None	C	None	1	1	29/04/2003
14580	Equisetopsida	Cyperaceae	*Eleocharis atricha*	tuber spikerush	C	None	1	1	22/05/1977
14511	Equisetopsida	Cyperaceae	*Fimbristylis tristachya*	None	C	None	1	1	31/03/1994
13916	Equisetopsida	Cyperaceae	*Gahnia clarkei*	tall sawsedge	C	None	1	1	28/09/1994
29533	Equisetopsida	Cyperaceae	*Machaerina teretifolia*	None	C	None	1	1	14/10/1994
9452	Equisetopsida	Dilleniaceae	*Hibbertia stricta*	None	C	None	1	1	14/10/1994
24663	Equisetopsida	Ditrichaceae	*Eccremidium minutum*	None	C	None	2	2	04/03/2008

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
15663	Equisetopsida	Fabaceae	*Aeschynomene brevifolia*	None	C	None	1	1	31/12/1998
15448	Equisetopsida	Fabaceae	*Daviesia umbellulata*	None	C	None	1	1	18/03/1994
14630	Equisetopsida	Fabaceae	*Daviesia villifera*	prickly daviesia	C	None	1	1	01/12/2014
15352	Equisetopsida	Fabaceae	*Glycine clandestina var. clandestina*	None	C	None	1	1	28/09/1994
15355	Equisetopsida	Fabaceae	*Glycine microphylla*	None	C	None	1	1	31/12/2013
15356	Equisetopsida	Fabaceae	*Glycine tabacina*	glycine pea	C	None	1	1	31/01/1994
18269	Equisetopsida	Fabaceae	*Hovea heterophylla*	None	C	None	1	1	14/10/1994
22168	Equisetopsida	Fabaceae	*Hovea ramulosa*	None	C	None	1	1	31/07/2002
10846	Equisetopsida	Fabaceae	*Indigofera spicata*	creeping indigo	None	None	1	1	07/01/2010
15260	Equisetopsida	Fabaceae	*Jacksonia scoparia*	None	C	None	1	1	01/12/2014
15228	Equisetopsida	Fabaceae	*Lotononis bainesii*	lotononis	None	None	1	1	03/01/2010
15085	Equisetopsida	Fabaceae	*Pultenaea myrtoides*	None	C	None	1	1	18/03/1994
15087	Equisetopsida	Fabaceae	*Pultenaea petiolaris*	None	C	None	1	1	14/10/1994
15088	Equisetopsida	Fabaceae	*Pultenaea retusa*	None	C	None	1	1	18/03/1994
15092	Equisetopsida	Fabaceae	*Pultenaea villosa*	hairy bush pea	C	None	1	1	01/12/2014
14922	Equisetopsida	Fabaceae	*Zornia muriculata subsp. angustata*	None	C	None	1	1	31/03/1994
24678	Equisetopsida	Fabroniaceae	*Fabronia sp. (Brisbane F.M.Bailey 296)*	None	C	None	1	1	31/08/1887
24685	Equisetopsida	Fissidentaceae	*Fissidens sp. (Beenleigh C.J.Wild 589)*	None	C	None	2	2	10/03/2008
9247	Equisetopsida	Geraniaceae	*Geranium solanderi var. solanderi*	native geranium	C	None	1	1	03/08/2008
17062	Equisetopsida	Goodeniaceae	*Goodenia hederacea subsp. hederacea*	None	C	None	1	1	31/10/1998
17065	Equisetopsida	Goodeniaceae	*Goodenia rotundifolia*	None	C	None	1	1	31/10/1998
15947	Equisetopsida	Goodeniaceae	*Velleia spathulata*	wild pansies	C	None	1	1	10/07/1982
17053	Equisetopsida	Haloragaceae	*Gonocarpus chinensis subsp. verrucosus*	None	C	None	1	1	14/10/1994
17464	Equisetopsida	Hemerocallidaceae	*Dianella caerulea*	None	C	None	1	1	07/09/1985
17463	Equisetopsida	Hemerocallidaceae	*Dianella caerulea var. vannata*	None	C	None	1	1	29/09/1994
24769	Equisetopsida	Hypnaceae	*Hypnum sp. (Burpengary C.J.Wild AQ733958)*	None	C	None	1	1	25/03/2008
15286	Equisetopsida	Hypoxidaceae	*Hypoxis pratensis var. pratensis*	None	C	None	1	1	18/03/1994
16537	Equisetopsida	Iridaceae	*Patersonia sericea var. sericea*	None	C	None	1	1	14/10/1994
15974	Equisetopsida	Johnsoniaceae	*Tricoryne elatior*	yellow autumn lily	C	None	1	1	30/11/1999
14476	Equisetopsida	Juncaceae	*Juncus planifolius*	None	C	None	1	1	14/10/1994
34798	Equisetopsida	Juncaginaceae	*Cycnogeton multifructus*	None	C	None	2	2	22/05/1977

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15977	Equisetopsida	Juncaginaceae	*Triglochin striata*	streaked arrowgrass	C	None	1	1	08/01/1995
41024	Equisetopsida	Lamiaceae	*Coleus habrophyllus*	None	E	E	1	1	25/06/2019
11835	Equisetopsida	Lamiaceae	*Leonotis nepetifolia*	None	None	None	1	1	03/08/2008
14415	Equisetopsida	Laxmanniaceae	*Lomandra confertifolia subsp. pallida*	None	C	None	1	1	14/10/1994
16773	Equisetopsida	Laxmanniaceae	*Lomandra laxa*	broad-leaved matrush	C	None	1	1	29/04/2003
41230	Equisetopsida	Linderniaceae	*Torenia crustacea*	None	C	None	1	1	08/01/2014
15197	Equisetopsida	Loganiaceae	*Mitrasacme paludosa*	None	C	None	1	1	14/10/1994
41045	Equisetopsida	Lycopodiaceae	*Palhinhaea cernua*	None	C	None	1	1	28/09/1994
16741	Equisetopsida	Lygodiaceae	*Lygodium microphyllum*	snake fern	C	None	1	1	14/10/1994
15990	Equisetopsida	Malvaceae	*Urena lobata*	urena weed	None	None	0	1	04/06/2018
15790	Equisetopsida	Mimosaceae	*Acacia concurrens*	None	C	None	1	1	30/08/1992
15745	Equisetopsida	Mimosaceae	*Acacia fimbriata*	Brisbane golden wattle	C	None	1	1	03/06/1992
14938	Equisetopsida	Mimosaceae	*Acacia hispidula*	None	C	None	1	1	14/10/1994
6372	Equisetopsida	Mimosaceae	*Acacia juncifolia*	None	C	None	1	1	01/08/2008
15709	Equisetopsida	Mimosaceae	*Acacia ulicifolia*	None	C	None	1	1	14/10/1994
22707	Equisetopsida	Moraceae	*Artocarpus heterophyllus*	None	None	None	1	1	19/09/2016
6443	Equisetopsida	Myrtaceae	*Corymbia trachyphloia subsp. trachyphloia*	None	C	None	1	1	01/08/2008
17242	Equisetopsida	Myrtaceae	*Eucalyptus baileyana*	Bailey's stringybark	C	None	1	1	01/08/2008
17240	Equisetopsida	Myrtaceae	*Eucalyptus pilularis*	blackbutt	C	None	1	1	30/04/1918
17192	Equisetopsida	Myrtaceae	*Eucalyptus resinifera*	red mahogany	C	None	2	2	01/08/2008
27386	Equisetopsida	Myrtaceae	*Gossia gonoclada*	None	E	E	2	2	30/06/1995
16684	Equisetopsida	Myrtaceae	*Melaleuca bracteata*	None	C	None	1	1	05/07/2013
13592	Equisetopsida	Myrtaceae	*Melaleuca decora*	None	C	None	1	1	03/12/1968
26403	Equisetopsida	Myrtaceae	*Melaleuca irbyana*	None	E	None	2	2	10/11/2016
14389	Equisetopsida	Myrtaceae	*Melaleuca sieberi*	None	C	None	1	1	14/10/1994
9275	Equisetopsida	Orchidaceae	*Dipodium variegatum*	None	C	None	1	1	19/12/1985
36226	Equisetopsida	Orchidaceae	*Pterostylis antennifera*	None	C	None	1	1	30/06/2000
14746	Equisetopsida	Orobanchaceae	*Centranthera cochinchinensis*	None	C	None	1	1	12/02/2002
12739	Equisetopsida	Oxalidaceae	*Oxalis exilis*	None	C	None	1	1	30/11/1989
36589	Equisetopsida	Pittosporaceae	*Pittosporum tinifolium*	None	C	None	1	1	06/12/2019
12727	Equisetopsida	Plantaginaceae	*Plantago debilis*	shade plantain	C	None	1	1	07/12/1976
15676	Equisetopsida	Poaceae	*Andropogon virginicus*	whiskey grass	None	None	1	1	21/06/2003
15648	Equisetopsida	Poaceae	*Aristida benthamii var. benthamii*	None	C	None	2	2	31/03/1994
9661	Equisetopsida	Poaceae	*Aristida ramosa*	purple wiregrass	C	None	1	1	29/04/2003
15658	Equisetopsida	Poaceae	*Aristida vagans*	None	C	None	1	1	31/03/1994
11127	Equisetopsida	Poaceae	*Aristida warburgii*	None	C	None	1	1	31/03/1994

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10423	Equisetopsida	Poaceae	*Chrysopogon aciculatus*	Mackie's pest	None	None	1	1	28/02/2001
15426	Equisetopsida	Poaceae	*Digitaria parviflora*	None	C	None	1	1	29/04/2003
10882	Equisetopsida	Poaceae	*Eragrostis pilosa*	soft lovegrass	None	None	1	1	05/01/2010
15374	Equisetopsida	Poaceae	*Eragrostis spartinoides*	None	C	None	1	1	14/10/1994
15332	Equisetopsida	Poaceae	*Eriochloa pseudoacrotricha*	None	C	None	1	1	31/12/1912
9591	Equisetopsida	Poaceae	*Microlaena stipoides var. stipoides*	None	C	None	1	1	10/01/1932
15030	Equisetopsida	Poaceae	*Setaria pumila subsp. pumila*	None	None	None	1	1	31/12/1968
29242	Equisetopsida	Poaceae	*Urochloa foliosa*	None	C	None	1	1	29/04/2003
14715	Equisetopsida	Polygalaceae	*Comesperma hispidulum*	None	C	None	1	1	14/10/1994
13129	Equisetopsida	Polygalaceae	*Polygala virgata*	None	None	None	1	1	25/04/2004
31894	Equisetopsida	Pontederiaceae	*Heteranthera reniformis*	None	None	None	2	2	10/11/2009
16062	Equisetopsida	Portulacaceae	*Talinum paniculatum*	talinum	None	None	0	1	04/06/2018
17898	Equisetopsida	Proteaceae	*Banksia robur*	broad-leaved banksia	C	None	1	1	18/03/1994
31417	Equisetopsida	Proteaceae	*Xylomelum benthamii*	None	C	None	1	1	05/06/1997
13110	Equisetopsida	Ranunculaceae	*Ranunculus sessiliflorus var. sessiliflorus*	None	C	None	1	1	03/08/2008
17840	Equisetopsida	Rutaceae	*Boronia polygalifolia*	dwarf boronia	C	None	2	2	14/10/1994
17738	Equisetopsida	Sapindaceae	*Cardiospermum grandiflorum*	heart seed vine	None	None	1	1	08/01/1995
16205	Equisetopsida	Schizaeaceae	*Schizaea bifida*	forked comb fern	C	None	1	1	14/10/1994
16169	Equisetopsida	Solanaceae	*Solanum linnaeanum*	apple of Sodom	None	None	1	1	02/02/2001
16118	Equisetopsida	Solanaceae	*Solanum pseudocapsicum*	Madeira winter cherry	None	None	1	1	02/02/2001
13998	Equisetopsida	Thelypteridaceae	*Christella dentata*	creek fern	C	None	1	1	08/09/2009
27743	Equisetopsida	Verbenaceae	*Citharexylum spinosum*	None	None	None	1	1	22/05/1977
19905	Equisetopsida	Verbenaceae	*Lantana camara*	lantana	None	None	3	3	02/03/1966

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
25875	Agaricomycetes	Agaricaceae	*Agaricus*	None	None	None	1	1	16/12/1963
25531	Agaricomycetes	Amanitaceae	*Amanita*	None	None	None	2	2	21/02/2020
35743	Agaricomycetes	Boletaceae	*Boletellus deceptivus*	None	C	None	3	3	21/02/2020
34618	Agaricomycetes	Boletaceae	*Leccinellum*	None	None	None	1	1	21/02/2020

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
32302	Agaricomycetes	Boletaceae	*Strobilomyces strobilaceus*	None	C	None	1	1	21/02/2020
35391	Agaricomycetes	Boletaceae	*Xerocomus*	None	None	None	1	1	21/02/2020
26284	Agaricomycetes	Cortinariaceae	*Gymnopilus*	None	None	None	1	1	21/02/2020
26291	Agaricomycetes	Hydnangiaceae	*Laccaria*	None	None	None	1	1	21/02/2020
27418	Agaricomycetes	Hymenochaetaceae	*Coltricia cinnamomea*	None	C	None	2	2	21/02/2020
25934	Agaricomycetes	Hymenochaetaceae	*Phellinus*	None	None	None	1	1	21/02/2020
26224	Agaricomycetes	Inocybaceae	*Inocybe*	None	C	None	1	1	21/02/2020
25522	Agaricomycetes	Panaeolaceae	*Panaeolus antillarum*	None	C	None	1	1	16/12/1963
26267	Agaricomycetes	Phallaceae	*Aseroe rubra*	None	C	None	1	1	30/11/1997
33192	Agaricomycetes	Phallaceae	*Phallus multicolor*	None	C	None	1	1	04/12/1997
28759	Agaricomycetes	Polyporaceae	*Phaeotrametes decipiens*	None	C	None	2	2	21/02/2020
26307	Agaricomycetes	Psathyrellaceae	*Psathyrella*	None	None	None	1	1	16/12/1963
28689	Agaricomycetes	Strophariaceae	*Psilocybe cubensis*	None	C	None	2	2	16/12/1963
26317	Agaricomycetes	Strophariaceae	*Stropharia*	None	None	None	2	2	10/10/1973
22945	Arthoniomycetes	Arthoniaceae	*Arthonia*	None	None	None	4	4	22/12/1975
23706	Eurotiomycetes	Sphinctrinaceae	*Stenocybe*	None	None	None	1	1	22/12/1975
25414	Lecanoromycetes	Caliciaceae	*Amandinea punctata*	None	C	None	1	1	22/12/1975
22970	Lecanoromycetes	Caliciaceae	*Buellia curatellae*	None	C	None	1	1	22/12/1975
23677	Lecanoromycetes	Caliciaceae	*Buellia dialyta*	None	C	None	1	1	22/12/1975
25429	Lecanoromycetes	Caliciaceae	*Buellia dissa*	None	C	None	1	1	22/12/1975
34192	Lecanoromycetes	Graphidaceae	*Halegrapha mucronata*	None	C	None	2	2	22/12/1975
23215	Lecanoromycetes	Lecanoraceae	*Lecanora helva*	None	C	None	1	1	22/12/1975
23428	Lecanoromycetes	Pertusariaceae	*Pertusaria*	None	None	None	1	1	22/12/1975
23410	Lecanoromycetes	Pertusariaceae	*Pertusaria leioplacella*	None	C	None	1	1	22/12/1975

Table 5. Protists recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

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

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

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of latest record of the taxon.

Links and Support

Other sites that deliver species information from the WildNet database include:

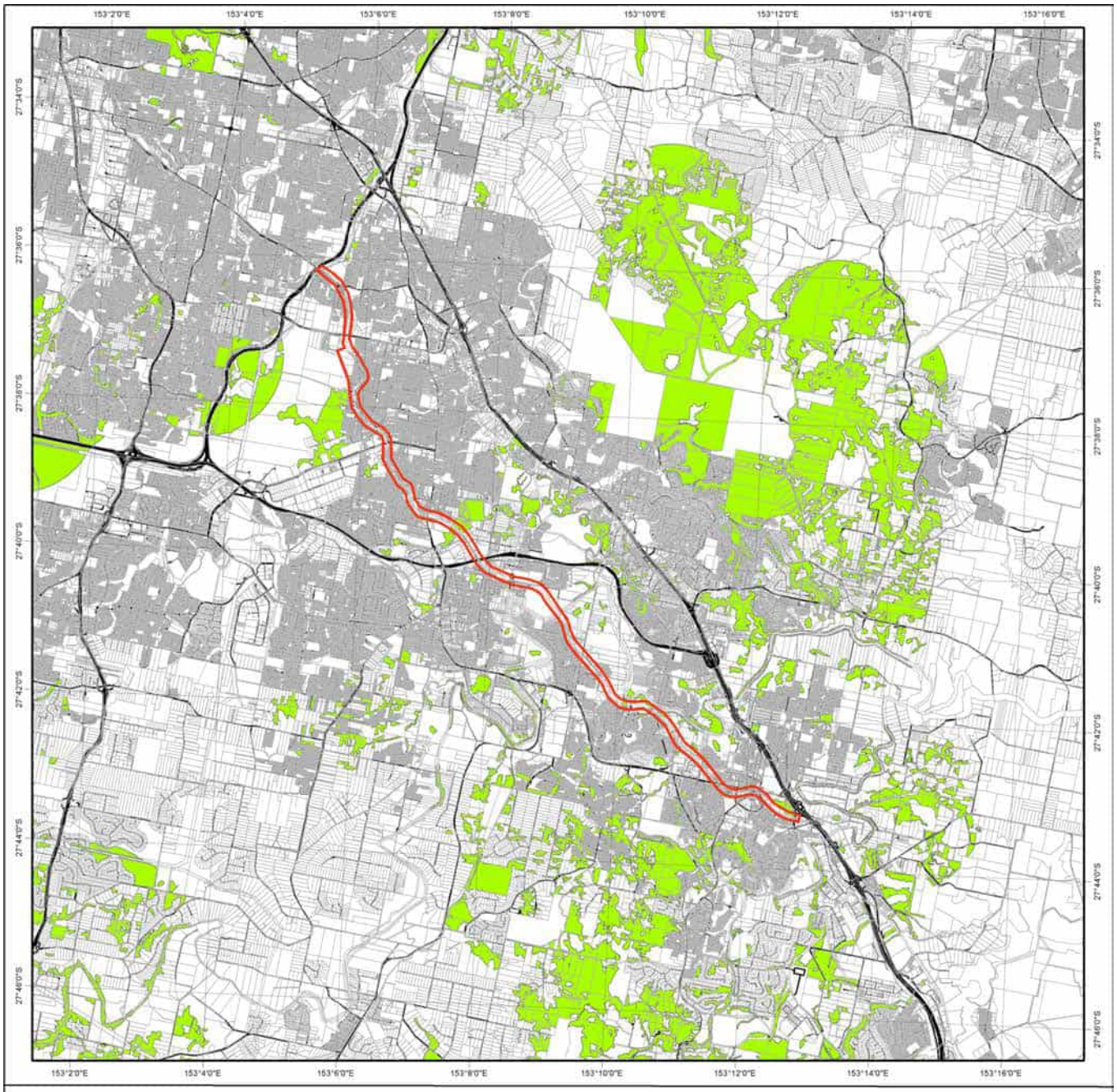
- Species profile search - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- Species lists - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- Biomaps - view biodiversity information, including species information approved for publication, and generate reports
- Qld wildlife data API - access species information approved for publication such as notes, images and records etc.
- Wetland*Maps* - view species records, survey locations etc. approved for publication
- Wetland*Summary* - view wildlife statistics, species lists for a range of area types, and access species profiles
- Generalised distribution and densities of Queensland wildlife - Queensland species distributions and densities generalised to a 10 km grid resolution
- Conservation status of Queensland wildlife - access current lists of priority species for Queensland including nomenclature and status information
- Queensland Confidential Species - the list of species flagged as confidential in the WildNet database.

Other useful sites for accessing biodiversity data include:

- Queensland Government Data
- Atlas of Living Australia
- OZCAM - Online Zoological Collections of Australian Museums
- AVH - Australia's Virtual Herbarium
- Protected Matters Search Tool

Please direct queries about this report to the WildNet Team.

Disclaimer



Protected Plants Flora Survey Trigger Map

Legend

- polygon
- High risk area
- Other land parcel boundaries
- Freeways / motorways / highways
- Secondary roads / streets

N

0 975 1,950 2,925 3,900 4,875 m

This product is projected into:
GDA 1994 Queensland Albers

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

Appendix B – Likelihood of occurrence – flora

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Arthraxon hispidus Hairy-joint grass	V	V	Slender, tufted, creeping perennial grass. Found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps. The species has been recorded from scattered locations throughout Queensland and on the northern tablelands and north coast of NSW. The species flowers during summer-autumn (DES, 2021c).	**May occur** Suitable habitat for this species was recorded within the Project area however the nearest historical record is over 50 km away from the Project. Nearest historical record to the Project area is located approximately 50.6 km east.
Baloghia marmorata Marbled Baloghia	V	V	Small tree found in subtropical rainforest, notophyll vine forest and wet sclerophyll forest on soils derived from basalt between 150m and 550m above sea level (NSW OEH, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 15 km south.
Bosistoa transversa Three-leaved bosistoa	V	LC	A small tree found in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 300 m above sea level. Occurs from the Richmond River, NSW, to Mt Larcom near Gladstone, QLD. Flowering between December and July. Fruiting has been recorded most of the year (DES, 2021).	**May occur** Suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 19.8 km northeast.
Coleus habrophyllus	E	E	A woody, square-stemmed herb, recorded growing on chert or sandstone outcrops, in open woodlands often in shaded situations near vine forest. (DAWE, 2021).	**Likely to occur** Marginally suitable habitat for this species was recorded adjacent to the Project area. Nearest historical record to the Project is located approximately 0.5 km south.

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Corchorus cunninghamii Native jute	E	E	A herbaceous shrub growing to 1.5 m tall. It generally occurs on upper hillslopes or hillcrests at elevations of 110-430 m above sea level. The species is found in the narrow ecotone between subtropical rainforest and open eucalypt forest. It occurs between Brisbane, south-east Queensland and Lismore, north- east New South Wales. Flowers occur throughout the year, but the peak flowering period is from November to May (DES, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 11.1 km northwest.
Cryptocarya foetida Stinking cryptocarya	V	V	A long-lived tree growing in littoral rainforest, usually on sandy soils, with mature trees also growing on basalt soils. Occurs in south-east QLD south to northern NSW. The main flowering and fruiting period occurs in February, however it has also been occurring from December to February with fruiting recorded in January, June, July and August (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 31 km northeast.
Cryptostylis hunteriana Leafless tongue-orchid	V	LC	It produces an upright flower-stem to 45 cm tall, bearing five to 10 flowers between November and February. The species is known from a range of communities, including swamp-heath and woodland. Can reproduced from both seed and vegetatively hence can form colonies which become permanent at a site (NSW OEH, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 63 km northwest.
Cupaniopsis shirleyana Wedge-leaf tuckeroo	V	V	This species is a long-lived tree to 6 m. occurs between 20 to 550 m ASL. Found in a variety of rainforest types including vine thicket and dry rainforest. Recorded on hillsides, mountain tops, lower slopes of valleys, stream beds and along riverbanks. Grows in a variety of soil types throughout south-east Queensland, from Brisbane, north to Bundaberg. The main flowering period is May to July with fruiting occurring July to December (DES, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 11 km northeast.

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Diploglottis campbellii	E	E	In Queensland most of the wild populations occur in degraded lowland tropical rainforest, with deep brown loamy soils on level to slightly inclined alluvial terraces and levees at altitudes of 5-60 m asl (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 5 km south.
Endiandra floydii	E	E	An erect perennial grass to about 70 cm tall. Occurs in heavy soils (predominantly cracking clays or alluvium, often in gilgai) in woodland or open woodland usually dominated by Acacia (brigalow) and/or *Eucalyptus* species. Occurs from Toowoomba in the south to the Lynd Junction in the north (DES, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 13 km south.
Eucalyptus curtisii	NL	NT	Two forms with different habitat. The shorter mallee form is found on poorly drained lowland sites in shrubland dominated by *Banksia*, with an understorey of heath plants, usually the only eucalypt but sometimes *E. conglomerata* is present. The larger growth form occurs as scattered individuals on better drained soils in the more open areas of mixed eucalypt forests. E. curtisii occurs on sandy podsoils with impeded drainage, shallow stony soils, clay loams and stony clays with a surface layer of loose stones (DES, 2021c)	**May occur** Suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 3 km west.
Dichanthium setosum Bluegrass	V	LC	An erect perennial grass found in heavy soils (predominantly cracking clays or alluvium, often in gilgai) in woodland or open woodland usually dominated by *Acacia* (brigalow) and/or *Eucalyptus* species. The climate is tropical to subtropical and markedly seasonal with the habitat drying out for part of the year (DES, 2021)	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 99.5 km west.

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Fontainea venosa	V	V	A shrub or tree growing to 18 m tall. Occurs in notophyll vine forest and vine thicket with a mean annual rainfall of 1000-1100 mm on soils derived from and containing abundant andesitic rocks, often on rocky outcrops or along creeks. Occurs south west of Beenleigh near Brisbane, along the Koolkooroon Creek in the Boyne Valley, and near Littlemore, in Queensland. Flowering and fruiting have been recorded throughout the year (DES, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 23 km southeast.
Gossia gonoclada Angle-stemmed myrtle	E	E	A tree 3-12 m high with a dense canopy of glossy, deep green foliage. It is found in lowland riparian rainforest and notophyll vine forest, along permanent watercourses subject to tidal influence. It usually grows below the peak flood level, on steep slopes and at low elevations of 5-50 m. It occurs on moderately well drained clay soils, sandy loams and alluvial soils It is currently known from sites along the lower reaches of the Brisbane and Logan Rivers and their tributaries. It reproduces both vegetatively and from seed with flowering occurring in late spring (October to November) with fruits ripening from January to February (DES, 2021).	**Likely to occur** Marginally suitable habitat for this species was recorded adjacent to the Project area. Nearest historical record to the Project is located approximately 3 km north.
Lepidium peregrinum Wandering Pepper Cress	E	LC	A spreading soft-stemmed perennial herb. Occurs in an open riparian forest on the banks on sandy alluvium (NSW OEH, 2021).	**May occur** Suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 41 km north
Macadamia integrifolia Macadamia nut	V	V	This species is a long-lived tree which grows in remnant rainforest, preferring partially open areas such as rainforest edges. Occurs on a wide range of landforms. Occurs in northern NSW and south-east QLD. In Queensland this species is known from Mt Bauple, north of Gympie, to the Gold Coast hinterland. Known to flower and fruit over summer months (DAWE, 2021).	**Confirmed present** Habitat recorded is only marginally suitable for this species however planted street trees have provided a seed source that was found to be recruiting. No historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 11.3 km northeast.

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Macadamia tetraphylla Rough-shelled bush nut	V	V	Tree to shrub which grows in subtropical rainforest in coastal areas containing sandy soils that are almost always damp, but not flooded for lengthy periods. Occurs in south-east QLD and northern NSW. Flowering occurs from March to April with fruiting in November to December (DES, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 23.5 km southeast.
Marsdenia coronata Slender milkvine	-	V	Herbaceous vine that commonly grows in rainforest and margins or moist areas of open eucalypt forest. Also recorded from an area of natural grassland on the top of Mt Kandanga, Imbil State Forest. The vine has been found between 40 and 780 m asl, and usually occurs on sandstone or stony soils (DES, 2021).	**Likely to occur** Marginally suitable habitat for this species was recorded adjacent to the Project area. Nearest historical record to the Project is located approximately 1 km south.
Melaleuca irbyana	-	V	Small tree that grows in flat areas that are periodically waterlogged, in eucalypt forest, mixed forest and *Melaleuca* woodland with a sparse and grassy understorey. It grows on poorly draining, heavy clay soils (DES, 2021).	**Likely to occur** Suitable habitat for this species was recorded adjacent to the Project area. Nearest historical record to the Project is located approximately 50 m south. Recorded within the Project area as planted in an area that does not meet the habitat requirements for this species.
Persicaria elatior Tall knotweed	V	V	An erect herb growing to 90 cm tall, found in damp places, including coastal with swampy areas, along watercourses, streams and lakes, swamp forest and disturbed areas (DAWE, 2021).	**May occur** Suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 3 km east.
Phaius australis Lesser swamp-orchid	E	E	Primarily occurs in coastal environments in QLD and NSW (ALA, 2021). Flowering predominantly occurs between August and December with foliage present year-round (DES, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Project area and no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 22 km east.

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Rhodamnia rubescens Scrub turpentine	CE	CE	Shrub or small tree to 25 m high. Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. Occurs in coastal regions and occasionally inland onto escarpments up to 600 m ASL in areas with rainfall of 1,000-1,600 mm. Occurs along the coast from Bundaberg, QLD south to Bateman's Bay, NSW (NSW OEH, 2021).	**May occur** Marginally suitable habitat for this species was recorded within the Scrubby Creek area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 7.8 km east. One individual was recorded as planted outside of its naturally occurring habitat and not considered 'in the wild'.
Rhodomyrtus psidioides Native guava	CE	CE	A shrub or small tree to 12 m. Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines. Occurs from Maryborough, QLD south to Broken Bay, NSW throughout coastal and sub-coastal areas at low elevations (NSW OEH, 2021)	**May occur** Marginally suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 7.9 km west.
Samadera bidwillii Quassia	V	V	Long lived shrub. Occurs in lowland rainforest or on rainforest margins. Also found in open forests and woodlands. Associated with permanent and temporary watercourses. Occurs on a range of soil types. Known to occur in several localities between Scawfell Island, near Mackay, and Goomboorian, north of Gympie. This species flowers from November to March (DAWE, 2021).	**May occur** Suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 77.6 km southeast.
Thesium australe Austral toadflax	V	V	Short-lived erect herb to 40 cm high which grows in grasslands or woodlands, often in damp sites. It occurs from Bundaberg QLD south to Victoria. Flowering occurs from October through to April (DES, 2021).	**May occur** Suitable habitat for this species was recorded within the Project area, however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 19.8 km northeast.

Species	Conservation status		Habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Vincetoxicum woollsii	E	E	Recorded from wet sclerophyll/rainforest margins Eucalypt dominated open forests and disturbed road verges. It grows on brown clay over metasediments at altitudes between 10–750 m above sea level (DEWHA, 2008)	**Unlikely to occur** Suitable habitat for this species was recorded within the Project area however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 59 km south. It is likely that the Project is outside of this species distribution.
Zieria furfuracea	NL	CE	This species is a shrub in the understorey of open forest of *Acacia disparrima*, *Allocasuarina littoralis*, *Lophostemon confertus* and Eucalyptus species. It has also been found in regrowth vegetation dominated by guinea grass (*Megathyrsus maximus var. pubiglumis*) and *A. disparrima* (DES, 2021c)	**Unlikely to occur** Suitable habitat for this species was recorded within the Project area however no historical records occur within 1 km of the Project. Nearest historical record to the Project area is located approximately 8.5 km north. It is likely that the Project is outside of this species distribution with the entire known population recorded within a 3 km radius in Carindale.

Key to table – CE = Critically endangered, E = Endangered, V = Vulnerable, NT = Near threatened, Mig = Migratory, Mar = Marine, NL = Not listed, LC = Least concern

.

Appendix C – Likelihood of occurrence – fauna

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Birds				
Regent honeyeater *Anthochaera Phrygia*	CE	E	Eastern distribution from Bundaberg, Qld to Warrnambool, Victoria. Species has experienced extensive range reduction due to habitat clearing and fragmentation and is considered 'uncommon' in Queensland (DAWE, 2021). Species occurs in drier scrubs, woodlands, coastal banksia and paperbark forests, mangrove and swamp/savannah woodlands (Pizzey and Knight, 1999).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor.
Australasian bittern *Botaurus poiciloptilus*	E	E	Occurs within eastern and south-eastern Australia. Considered uncommon throughout much of its range (Pizzey and Knight, 1999). Occurs in and about water in reedbeds, sedges and rushes. Occasionally seen in tussock paddocks, saltmarshes and brackish wetlands.	**May occur** Despite suitable habitat for this species occurring with the Subsequent study areas, no historical records of the species are known from within the 1 km of the Study corridor and the species is considered rare within the region.
Red knot *Calidris canutus*	E	E	In Australasia, this species mainly inhabits intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets and lagoons (Higgins and Davies 1996). Foraging habitat consists of intertidal mudflats or sand flats exposed by low tide. At high tide they may occur within lakes, sewage ponds and floodwaters (Higgins and Davies 1996), and have also been recorded on tidal sand flats, in shallow water, and in shallow pools on coral reef (Higgins and Davies 1996).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor.
Greater sand plover *Charadrius leschenaultii*	V	V	The greater plover is widespread around Australia's coastline, though most in Northern Australia and rare along the east coast (Pizzey and Knight, 1999). The species favours sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks. (Pizzey and Knight, 1999). This species is a non-breeding visitor to Australia.	**May occur** Sub-optimal habitat for this species was encountered during field surveys and one historical record exist within 1 km of the Study corridor. Species may occur infrequently though is unlikely to be a resident.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Lesser sand plover *Charadriusmongolus*	E	E	In Australia, the lesser sand plover is found around the entire coast, but is most common in the Gulf of Carpentaria, and along the east coast of Queensland and northern NSW (NSW EOH, 2021). This species is almost exclusively coastal in its occurrence, and favours beaches of sheltered bays, saltmarshes, mangroves, harbours and estuaries with large intertidal sandflats or mudflats (Pizzey and Knight, 1999).	**May occur** Sub-optimal habitat for this species was encountered during field surveys and one historical record exist within 1 km of the Study corridor. Species may occur infrequently though is unlikely to be a resident.
Curlew sandpiper *Calidris ferruginea*	CE	LC	In Australia, curlew sandpiper occurs around the coasts and are also quite widespread inland, though in smaller numbers (DAWE 2021). This species mainly occurs 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 (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor.
Gibson's albatross *Diomedea antipodensis gibsoni*	V	V	Gibon's albatross is widely distributed across the southern Pacific, however, is essential considered endemic to the Auckland Islands of New Zealand (DAWE, 2021). The species is regularly encountered off the NSW southern coast, however no historical records are known from Queensland (DAWE, 2021).	**Unlikely to occur** This species inhabits coastal and pelagic environments. Suitable habitat was not recorded during field surveys and the Study corridor is situated approximately 10 km from the coast.
Wandering albatross *Diomedea exulans*	V	V	The wandering albatross spend most of their life in flight, landing only to breed and feed. It is known to visits Australian waters from Fremantle, Western Australia to southern Queensland. Species has a coastal distribution and has been recorded multiple times of Queensland's North Stradbroke Island (DES, 2021c).	**Unlikely to occur** This species inhabits coastal and pelagic environments. Suitable habitat was not recorded during field surveys and the Study corridor is situated approximately 10 km from the coast.
Red goshawk *Erythrotriorchis radiatus*	V	E	It is very sparsely dispersed across coastal and sub-coastal Australia from western Kimberley Division to north-eastern NSW (DAWE, 2021). Prefers mosaic of vegetation types of wooded and forested areas. Areas close to permanent water also preferred. Variation in structures provides cover for ambush of prey with areas open enough for fast attack and flight. Nesting occurs in tall trees within 1 km of permanent water (DAWE 2021).	**Unlikely to occur** Despite sub-optimal habitats being observed adjacent to the Subsequent study areas, no historical records exist within the region. This species is not adapted to urban environments and requires large, contiguous habitats.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Grey falcon *Falco hypoleucos*	V	V	The grey falcon is widely distributed throughout the arid and semi-arid zones of Australia, where the mean annual rainfall is less than 500 mm (Pizzey and Knight, 1999; DAWE, 2021). This species is known to inhabit areas of lightly timbered lowland plains, typically on inland drainage systems, sand ridges and pastoral plains (Pizzey and Knight, 1999).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. This species inhabits arid Australia and is not known from the region.
Squatter pigeon(southern) *Geohaps scripta scripta*	V	V	The known distribution of squatter pigeon (southern) 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, Queensland (DAWE, 2021). Remnant or regrowth open-forest to sparse, open-woodland or scrub dominated by *Eucalyptus, Corymbia, Acacia* or *Callitris* species, within 3 km of a suitable, permanent or seasonal waterbody. Well-draining, gravelly, sandy or loamy soils with patchy, tussock-grassy understories (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. The species current distribution does not encompass the Study corridor and the species is unlikely to occur.
Painted honeyeater *Grantiella picta*	V	V	The species is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory. The greatest concentrations of records come from inland slopes of the Great Dividing Range between the Grampians, Victoria and Roma, Queensland (DAWE, 2021). The species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens (DAWE, 2021).	**May occur** Marginally suitable habitat was identified within the Subsequent study areas during field surveys and mistletoe was abundant in some woodland habitats. However, no historical records occur within 1 km of the Study corridor.
White-throated needletail *Hirundapus caudacutus*	V	V	Almost exclusively aerial, it does prefer wooded, inland areas and heathland. In coastal areas they have been seen flying over mudflats and beaches. Widespread throughout eastern and south-eastern Australia. It has been recorded along all coastal regions of QLD and NSW (Pizzey and Knight, 1999).	**May occur** Due to its aerial nature, the Subsequent study areas have the potential to provide temporary forging habitat for the species, however no historical records occur within 1 km of the Study corridor.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Swift parrot *Lathamus discolor*	CE	E	The swift parrot breeds in Tasmania during the summer and the entire population migrates north to mainland Australia for the winter (DAWE, 2021). The swift parrot inhabits dry sclerophyll eucalypt forests and woodlands and occasionally occurs in wet sclerophyll forests (DAWE, 2021).	**May occur** Suitable habitat for this species was not observed within the Subsequent study areas though no historical records for this species exist within 1 km of the Study corridor. Species does not breed or nest in Qld.
Bar-tailed godwit *Limosa lapponica baueri*	V	V	Occurs around much of Australia, only absent from southern WA, SA and inland deserts. Preferred habitats include tidal mudflats, estuaries, sandspits, shallow river margins and shallow wetlands in coastal, brackish and saline environments (Pizzey and Knight, 1999).	**May occur** Suitable habitat for this species was observed adjacent to the Study corridor. Despite no historical records occurring within the Study corridor, the species is known from the region and has a low potential to occur
Northern Siberian bar-tailed godwit *Limosa lapponica menzbieri*	CE	E	Species has a coastal distribution around much of Australia, including the entirety of the Queensland coastline. Commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species does not nest in Qld.
Southern giant-petrel *Macronectes giganteus*	E	E	The southern giant-petrel contains a circumpolar distribution and is widespread throughout Australia's southern oceanic waters. This pelagic species is mostly marine foraging habitat consists of ocean oceans. Breeding occurs within ice-free coastal areas, rocky bluffs, open flats, edges of plateaux or offshore rocks.	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.
Northern giant petrel *Macronectes halli*	V	V	The Northern Giant-petrel has a circumpolar pelagic distribution, predominantly in sub-Antarctic to Antarctic waters north of the Antarctic convergence, usually between 40 - 64°S in open oceans (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Curlew sandpiper *Numenius madagascariensis*	CE	V	This species has a coastal distribution continuous from Barrow Island and Dampier Archipelago, Western Australia, through the Kimberley and along the Northern Territory, Queensland, and NSW coasts and the islands of Torres Strait (DAWE, 2021). During the non-breeding season in Australia, the eastern curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (DAWE, 2021).	**Unlikely to occur** No suitable habitat or potentially suitable habitat for the species is known to occur within 1 km of the Study corridor.
Fairy prion (southern) *Pachyptila turtur subantarctica*	V	NL	The species has a circumpolar distribution with breeding occurring on subantarctic and cool temperate islands (DAWE, 2021). The species is thought to frequent subtropical waters during non-breeding months	**Unlikely to occur** This species has a coastal distribution. No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor.
Australian painted snipe *Rostratula australis*	E	E	It is most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland, NSW, Victoria and south-eastern South Australia (DAWE, 2021). Prefers shallow freshwater wetlands and other ephemeral or permanent waterbodies (e.g. lakes, swamps, dams) with emergent vegetation. Nests among tall rank grass, reeds, rushes or samphire (DAWE, 2021).	**May occur** Suitable habitat for this species was identified within the wetlands and watercourses in the Study corridor. Although no historical records are known from the area, the species may still occasionally occur.
Australian fairy tern *Sternula nereis*	V	NL	Species occurs within coastal environments from Hervey Bay (Queensland) south to Port Hedland in Western Australia. The species nests on sheltered sandy beaches, spits and banks. The subspecies has been found in a variety of habitats including offshore, estuarine or lacustrine (lake) islands, wetlands and mainland coastline (DAWE, 2021).	**Unlikely to occur** This species has a coastal distribution. No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor.
Shy Albatross *Thalassarche cauta*	E	NL	This species has a southern distribution, from the Central Coast NSW to Perth Western Australia. Species seldom ranges north along the east coast to Gladstone. Species is pelagic and spend majority of non-breeding time on the open ocean. Breeding occurs at mainland sites in Tasmania (Pizzey and Knight, 1999).	**Unlikely to occur** No suitable habitat or historic records of this species exist within the 1 km of the Study corridor. Species is almost entirely marine and considered uncommon in southeast Queensland.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Chatham albatross *Thalassarche eremita*	E	NL	The chatham albatross is a marine species and occurs in subantarctic and subtropical waters. The principal foraging range for this species is in coastal waters off eastern and southern New Zealand, and Tasmania. Breeding is restricted to Pyramid Rock, Chatham Islands, off the coast of New Zealand (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.
Campbell albatross *Thalassarche impavida*	V	SL	The Campbell albatross is a marine sea bird inhabiting sub-Antarctic and subtropical waters from pelagic to shelf-break water habitats (DAWE, 2020). The species is a non-breeding visitor to Australian waters and are most commonly seen foraging over the oceanic continental slopes off Tasmania, Victoria and New South Wales (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.
Black-browed albatross *Thalassarche melanophris*	V	NL	This species has a circumpolar distribution and migrates to Australia's southern islands during the breeding season. Outside of the breeding season, the species is observed in low numbers along the continental shelf of south-eastern Queensland.	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.
Salvin's albatross *Thalassarche salvini*	V	SL	Occurs in subantarctic and subtropical waters, foraging over the southern Pacific Ocean and is a nonbreeding visitor to Australian waters (DAWE, 2021). It forages around the breaks of continental and island shelves and across nearby underwater banks.	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.
White-capped albatross *Thalassarche steadi*	V	V	The white-capped albatross is a marine species and occurs in both inshore and offshore subantarctic and subtropical waters, particularly around the continental shelf. Birds nest on slopes vegetated with tussock and succulents on Auckland Island.	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Hooded plover (eastern) *Thinornis cucullatus*	V	LC	This species has a coastal distribution from Bundaberg (Queensland) to Lake Macleod (Western Australia). Preferred habitats include beaches with large amounts of beach-washed seaweed. Less common on narrow, steep beaches, where there are few or no dunes (DAWE, 2021).	**Unlikely to occur** No suitable habitat for this species was recorded within the Subsequent study areas and no historical records occur within 1 km of the Study corridor. Species is almost entirely marine.
Black-breasted button quail *Turnix melanogaster*	V	V	It is restricted to coastal and near-coastal regions of south-eastern Queensland and north-eastern New South Wales (DAWE, 2021). Rainforest and forests experiencing 770-1200 mm rainfall per annum. Prefers low closed forest in particular semi-evergreen vine thicket and other vine forest complexes. Required deep leaf litter. Nests within rainforest or under lantana thicket (DAWE, 2021).	**Unlikely to occur** Suitable habitat was not encountered during field surveys and no historical records exist within the study area. No rainforest communities exist nearby, and the species is unlikely to occur.
Mammals				
Spotted-tail quoll *Dasyurus maculatus*	E	V	Once distributed throughout much of eastern Australia, the species has experienced significant range reductions in recent decades. Known to inhabit a range of forest environments, from rainforest to open woodland. They require forests with suitable den sites such as rock crevices, caves, hollow logs, burrows and tree hollows.	**May occur** Suitable habitats for the species was observed within the remnant woodland patches in the north of the Study corridor. However, the species is considered rare and no historical records occur within the study area.
Large-eared pied bat *Chalinolobus dwyeri*	V	V	Records exist from Shoalwater Bay, north of Rockhampton, through to the vicinity of Ulladulla, NSW in the south (DAWE, 2021). Most commonly found in dry sclerophyll forests and woodlands, but also known from rainforest edges and wetter sclerophyll forests. Roosting occurs in sandstone cliff/escarpment adjacent to higher fertility sites, particularly box gum woodlands or river/rainforest corridors which are used for foraging (DAWE, 2021).	**Unlikely to occur** No suitable roosting sites were identified during field surveys and the species has not been historically recorded within 1 km of the Study corridor.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Long-nosed potaroo *Potorous tridactylus*	V	V	The long-nosed potoroo is found on the south-eastern coast of Australia, from Queensland to eastern Victoria and Tasmania. They inhabit coastal heaths and dry and wet sclerophyll forests with a dense understorey of grass-trees, sedges, ferns or heath, or of low shrubs of tea-trees or melaleucas. A sandy loam soil is also a common feature (NSW OEH, 2020).	**May occur** Sub-optimal habitats for the species were encountered during field surveys of the Subsequent study areas, however no historical records exist within 1 km of the Study corridor.
Greater glider *Petauroides volans*	V	LC	The greater glider is restricted to eastern Australia, occurring from the Windsor Tableland in north Queensland through to central Victoria. This species is largely restricted to eucalypt forests and woodlands (DAWE, 2021). Species requires abundance of hollow-bearing trees which provide den sites and is generally restricted to extensive forest networks larger than 160 km^2 (DAWE, 2021).	**May occur** Large patches of suitable foraging habitat were encountered during field surveys, however suitable denning habitat (hollows) were mostly absent. Potential to occur along riparian corridors where mature vegetation persists.
Koala *Phascolarctos cinereus*	V	V	The range of the species extends from north-eastern Queensland to the south-east corner of South Australia (DAWE, 2021). Inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by *Eucalyptus* species. In Queensland, Koalas are also found in vegetation communities dominated by *Melaleuca* or *Casuarina* species (DAWE, 2021).	**Likely to occur** Suitable habitat for the species was recorded within woodland habitats and historical records exist within the study area. The species is likely to occur due to habitat connectivity with the surrounding area.
Grey-headed flying-fox *Pteropus poliocephalus*	V	LC	This species occurs in the coastal belt from Rockhampton in central Queensland to Melbourne in Victoria (DAWE, 2021). The species is organised around roost sites commonly formed in gullies, typically not far from water and usually in vegetation with a dense canopy. Bats commute daily to foraging areas, typically within 15 km of the day roost where they feed on a wide variety of flowering and fruiting plants including the blossoms of eucalypts (DAWE, 2021).	**Likely to occur** Suitable foraging habitat for this species was encountered during field surveys, however no roosting colonies were observed. Species is likely to forage within the eucalypt woodlands within the Subsequent study areas.
Amphibians				

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Fleay's barred frog *Mixophyes fleayi*	E	E	This species has a narrow and disjunct distribution from the Conondale Range in south-east Queensland to the Upper Richmond River in northern NSW. Known to occurs in rainforest and wet sclerophyll forest, usually close to permanent running water from mid to high elevations (DAWE, 2021).	**Unlikely to occur** Preferred habitats for the species were not observed during field studies and historical records are absent from within 1 km of the Study corridor.
Tusked frog *Adelotus brevis*			This species occurs between Rockhampton and northern NSW. Preferred habitats includes wet eucalypt forest, rainforest, and sometimes dry eucalypt forest, where it can be found in close proximity to suitable breeding habitat such as ponds and slow-moving sections of streams (Rowland, 2013).	**May occur** Essential habitat for the tusked frog has is mapped adjacent to the Subsequent study areas near the Logan River. No historical records exist within 1 km of the Study corridor. However the species may still occur within moist habitats adjacent to water sources.
Wallum froglet *Crinia tinnula*	NL	V	The wallum froglet is distributed along the coastal margin from Litabella National Park in south-east Queensland to Kurnell in Sydney. Preferred habitats include a wide range of habitats, usually associated with acidic swamps on coastal sand plains. They typically occur in sedgelands and wet heathlands. They can also be found along drainage lines within other vegetation communities and disturbed areas, and occasionally in swamp sclerophyll forests.	**Likely to occur** Suitable habitat for the wallum froglet was identified along Spring Creek, Slacks Creek and Scrubby Creek. Additionally, the Study corridor contains essential habitat and historical records of the species. Therefore, the species is likely to occur.
Reptiles				
Loggerhead turtle *Caretta caretta*	E, Mar, Mig	E	This species has a coastal distribution throughout Australia and surrounding islands. In Australia, loggerhead turtles nest on open, sandy beaches. The species forages throughout open oceans and waters with both hard and soft substrates including rocky and coral reefs, muddy bays, sandflats, estuaries and seagrass meadows (DAWE, 2021).	**Unlikely to occur** This species inhabits coastal and open-ocean habitats. No historical records for the species occur within 1 km of the Study corridor and the Project is not located within a coastal environment.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Green turtle *Chelonia mydas*	V, Mar, Mig	V	This species nests, forages and migrates across much of tropical northern Australia. They usually occur between the 20°C isotherms although individuals infrequently visit temperate waters (DAWE, 2021). Green turtles spend their first five to ten years drifting on open ocean currents. As individuals mature, they move inshore and inhabit shallow benthic foraging habitats such as tropical tidal and sub-tidal coral and rocky reef habitat or seagrass beds.	**Unlikely to occur** This species inhabits coastal and open-ocean habitats. No historical records for the species occur within 1 km of the Study corridor and the Project is not located within a coastal environment.
Three-toed snake-tooth skink *Coeranoscincus reticulatus*	V	LC	The three-toed snake-tooth skink occurs on the coast and ranges from the Macleay valley in NSW to south-eastern Queensland. Preferred habitats include rainforests and occasionally moist eucalypt forest, on loamy or sandy soils where the species lives in loose soil, leaf litter and rotting logs (DAWE, 2021).	**Unlikely to occur** Sub-optimal habitat for this species was encountered during field surveys, however no historical records were reported from within 1 km of the Study corridor.
Collared delma *Delma torquata*	V	V	This species is endemic to south-eastern Queensland and known to occur from Rockhampton in the north to the Queensland / New South Wales border. Normally inhabits eucalypt-dominated woodlands and open-forests on alluvium (river and creek flats), undulating country on fine-grained sedimentary rocks, and sandstone ranges. Requires rocks, logs, bark and other coarse woody debris, and mats of leaf litter (DAWE, 2021).	**Unlikely to occur** No suitable habitat was identified during field surveys and no historical records are known within 1 km of the Study corridor.
Leatherback turtle *Dermochelys coriacea*	E, Mar, Mig	E	This species has a coastal distribution throughout Australia and surrounding islands. This species is a highly pelagic species and forages within Australia's open oceans year-round. Sandy beaches are required for nesting (DAWE, 2021)	**Unlikely to occur** This species inhabits coastal and open-ocean habitats. No historical records for the species occur within 1 km of the Study corridor and the Project is not located within a coastal environment.
Hawksbill turtle *Eretmochelys imbricata*	V, Mar, Mig	E	Hawksbill Turtles are found in tropical, subtropical and temperate waters in all the oceans of the world. In Australia the species can be found from the Bass Straight, north to Shark Bay in Western Australia. Juveniles spend their first 5 - 10 years drifting on ocean currents before maturing and moving inshore to settle and forage in tropical tidal and sub-tidal coral and rocky reef habitat (DAWE, 2021).	**Unlikely to occur** This species inhabits coastal and open-ocean habitats. No historical records for the species occur within 1 km of the Study corridor and the Project is not located within a coastal environment.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Olive ridley turtle *Lepidochelys olivacea*	E, Mar, Mig	E	In Australia, the olive ridley turtle occurs along the coast from southern Queensland and the Great Barrier Reef, northwards to Torres Strait, and across to the Western Australia. Olive Ridley turtles typically occur in shallow soft-bottomed habitats of protected waters.	**Unlikely to occur** This species inhabits coastal and open-ocean habitats. No historical records for the species occur within 1 km of the Study corridor and the Project is not located within a coastal environment.
Flatback turtle *Natator depressus*	V, Mar, Mig	V	The flatback turtle is found in the tropical waters of northern and eastern Australia with nesting occurring north of Bundaberg to the Torres Strait. Adults inhabit soft bottom habitat over the continental shelf of northern Australia and forage within turbid, shallow inshore waters in depths from less than 10 m to depths of over 40 m (DAWE, 2021).	**Unlikely to occur** This species inhabits coastal and open-ocean habitats. No historical records for the species occur within 1 km of the Study corridor and the Project is not located within a coastal environment.
Insects				
Australian fritillary *Argynnis hyperbius inconstans*	CE	E	This species is restricted to south-east Queensland and north-east NSW in open swampy coastal areas where the larval food plant *Viola betonicifolia* (arrowhead violet) occurs. Most recently known from a few widespread localities between Port Macquarie and Gympie, populations have declined dramatically to the extent that the butterfly has not been verified at any site for over a decade.	**Unlikely to occur** This species hasn't been recorded in Queensland in over 25 years and suitable habitat for the species was not encountered within the Subsequent study areas. Species is unlikely to occur within the Study corridor.
Migratory marine species				
Fork-tailed swift *Apus pacificus*	Mig, Mar	SL	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. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand- dunes.	**May occur** Suitable habitat for this species was encountered during field surveys. Although no historical records exist within 1 km of the Study corridor, the species may still occur.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Sooty shearwater *Ardenna grisea*	Mig, Mar	SL	The Sooty Shearwater forages in pelagic (open ocean) sub-tropical,sub-Antarctic and Antarctic waters. The species migrates and forages in the North Pacific and Atlantic Oceans during the non- breeding season. Sooty Shearwaters may forage inshore occasionally, especially during rough weather (DAWE, 2021). In Australian waters, the sooty shearwater occurs in areas with sea surface-temperatures between 8.7 - 22.0°C (DAWE, 2021).	**Unlikely to occur** This species occurs predominantly within open-ocean environments. Suitable habitat for this species was not encountered during field surveys and no historical records occur within 1 km of the Study corridor. .
Streaked shearwater *Calonectris leucomelas*	Mig, Mar	SL	Streaked shearwaters breed on islands off the southern Russian, east China, Korea and Taiwan. In the non-breeding season, they migrate to waters off New Guinea and around northern Australia.	**Unlikely to occur** This species occurs predominantly within open-ocean environments. Suitable habitat for this species was not encountered during field surveys and no historical records occur within 1 km of the Study corridor. .
Migratory terrestrial species				
Oriental cuckoo *Cuculus optatus*	Mig	SL	The species inhabits coastal regions across northern and eastern Australia, as well as offshore islands (DAWE, 2021). Species utilises a range of vegetated habitats, including monsoon rainforests, wet sclerophyll forests, open woodlands and along the edges of forests (DAWE, 2021).	**May occur** Sub-optimal habitat for this species was encountered during field surveys, though no historical records exist within 1 km of the Study corridor.
Black-faced monarch *Monarcha melanopsis*	Mig	SL	Species inhabits rainforest ecosystems that include semi-deciduous vine thickets, complex notophyll vine-forests, tropical rainforests, subtropical rainforests, mesophyll thicket/shrubland, warm and cool temperate rainforest, and dry rainforest (DAWE, 2021).	**Unlikely to occur** Suitable habitat for this species was not encountered during field surveys and no historical records exist within 1 km of the Study corridor. This species is not commonly encountered within urban areas.
Spectacled monarch *Monarcha trivirgatus*	Mig	SL	The spectacled monarch is found in coastal north-eastern and eastern Australia, from Cape York to Port Stephens. The species prefers thick understory habitats in rainforests, wet sclerophyll forests and mangroves (DAWE, 2021).	**Unlikely to occur** Suitable habitat for this species was not encountered during field surveys and no historical records exist within 1 km of the Study corridor. This species is not commonly encountered within urban areas.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Satin flycatcher *Myiagra cyanoleuca*	Mig	SL	The satin flycatcher is found along the east coast of Australia from far northern Queensland to Tasmania. The species occurs in heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, typically near wetlands and watercourses (DAWE, 2021).	**May occur** Sub-optimal habitats for this species were recorded during field surveys however no historical records exist within 1 km of the Study corridor. Regardless, the species still has a low probability to occur.
Rufous fantail *Rhipidura rufifrons*	Mig	SL	The rufous fantail is distributed throughout northern and eastern coastal Australia, however, is considered more common in the north. Species inhabits wet sclerophyll forests, often in gullies dominated by eucalypts and usually within a dense shrubby understorey that often includes ferns (DAWE, 2021).	**May occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor. This species has the potential to infrequently occur within the Project area.
Migratory wetland species				
Common sandpiper *Actitis hypoleucos*	Mig	SL	Found along all coastlines of Australia and in many areas inland, the common sandpiper is widespread in small numbers. The population when in Australia is concentrated in northern and western Australia (Higgins and Davies, 1996).	**May occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor. This species has the potential to infrequently occur within the Study corridor.
Sharp-tailed sandpiper *Calidris acuminata*	Mig	SL	Most of the population migrates to Australia, mostly to the south-east and are widespread in both inland and coastal locations and in both freshwater and saline habitats. Many inland records are of birds on passage (Cramp 1985; Higgins and Davies, 1996). In Queensland, they are recorded in most regions, being widespread along much of the coast and are very sparsely scattered inland (Higgins and Davies, 1996).	**May occur** Suitable habitat for this species was identified during field surveys and a historical record were identified within 1 km of the Study corridor. When in Australia, the species has the potential to temporarily utilise the Subsequent study areas as foraging and roosting habitat.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Pectoral sandpiper *Calidris melanotos*	Mig	SL	Prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. The species is usually found in coastal or near coastal habitats but occasionally found further inland. It prefers wetlands that have open fringing mudflats and low, emergent or fringing vegetation ((Higgins and Davies, 1996). In Queensland, most records for the Pectoral Sandpiper occur around Cairns	**May occur** This species was not encountered during field surveys; however suitable habitat exists within the study area. This species has the potential to infrequently occur within the Project area.
Latham's snipe *Gallinago hardwickii*	Mig	SL	The species inhabits permanent and ephemeral freshwater wetlands with low, dense vegetation (DAWE, 2021). Species sometimes occurs in habitats that have saline or brackish water, such as saltmarshes, mangrove creeks, around bays and beaches (DAWE, 2021).	**May occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor. This species has the potential to infrequently occur within the Study corridor.
Little curlew *Numenius minutus*	Mig	SL	Within Australia, the little curlew is nomadic and very mobile (Bellio et al., 2006). The species is known to gather in large flocks on coastal and inland grasslands, playing fields, tidal mudflats, paddocks and sewage ponds (Pizzey and Knight, 1999).	**May occur** Suitable habitat for the species was encountered during field surveys however no historical records exists within 1 km of the Study corridor. The species has the potential to occur between September – May.
Whimbrel *Numenius phaeopus*	Mig	SL	The whimbrel is often found on the intertidal mudflats of sheltered coasts. It is also found in harbours, lagoons, estuaries and river deltas, often those with mangroves, but also open, unvegetated mudflats. It is occasionally found on sandy or rocky beaches, on coral or rocky islets, or on intertidal reefs and platforms. It has been infrequently recorded using saline or brackish lakes near coastal areas. It also used saltflats with saltmarsh, or saline grasslands with standing water left after high spring-tides, and in similar habitats in sewage farms and saltfields (Higgins and Davies, 1996).	**Unlikely to occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor.

Species	Conservation status		Distribution and habitat requirements	Likelihood of occurrence
	EPBC Act	NC Act		
Osprey *Pandion haliaetus*	Mig	SL	The species occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands (DAWE, 2021). They are mostly found in coastal areas but occasionally travel inland along major rivers (DAWE, 2021). They require extensive areas of open fresh, brackish or saline water for foraging (DAWE, 2021).	**May occur** Sub-optimal habitat for the species was not identified within the Subsequent study area, however has may occur within the Study corridor. This species has the potential to occur along the Logan River.
Glossy ibis *Plegadism falcinellus*	Mig	SL	The glossy ibis preferred habitat for foraging and breeding are freshwater marshes at the edges of lakes and rivers, lagoons, flood- plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. The species is occasionally found in coastal locations such as estuaries, deltas, saltmarshes and coastal lagoons. Within Australia, the largest contiguous areas of prime habitat are inland and upon northern floodplains (Marchant and Higgins, 1990).	**May occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor. This species was previously recorded within the Study corridor (WSP, 2019).
Common greenshank *Tringa nebularia*	Mig	SL	The common greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and saltflats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores (DAWE, 2021).	**May occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor. This species has the potential to infrequently occur within the Subsequent study areas.
Marsh sandpiper *Tringa stagnatilis*	Mig	SL	The marsh sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore- drain swamps and flooded inland lakes	**May occur** This species was not encountered during field surveys; however suitable habitat exists within 1 km of the Study corridor. This species has the potential to infrequently occur within the Subsequent study areas.

Key to table – CE = Critically endangered, E = Endangered, V = Vulnerable, Mig = Migratory, Mar = Marine, NL = Not listed, LC = Least concern.

Appendix D – Fauna species list

Scientific name	Common name
Birds	
Chenonetta jubata	Australia wood duck
Ardea modesta	Eastern great egret
Anhinga novaehollandiae	Australasian darter
Gallinula tenebrosa	Ducky moorhen
Malurus cyaneus	Superb fairy-wren
Trichoglossus moluccanus	Rainbow lorikeet
Corvus orru	Torresian crow
Philemon citreogularis	Little friarbird
Philemon corniculatus	Noisy friarbird
Malurus lamberti	Variegated fairy-wren
Dacelo novaeguineae	Laughing kookaburra
Eopsaltria australis	Eastern yellow robin
Meliphaga lewinii	Lewin's honeyeater
Coracina novaehollandiae	Black-faced cuckoo shrike
Dicrurus bracteatus	Spangled drongo
Manorina melanocephala	Noisy minor
Gymnorhina tibicen	Magpie-lark
Cacatua galerita	Sulphur-crested cockatoo
Alectura lathami	Australian brush turkey
Cacomantis flabelliformis	Fan-tailed cuckoo
Neochmia temporalis	Red-browed finch
Centropus phasianinus	Pheasant coucal
Porphyrio porphyrio	Purple swamphen
Phalacrocorax varius	Pied cormorant
Todiramphus chloris	Collared kingfisher
Reptiles	
Cryptoblepharus pulcher	Elegant snake-eyed skink
Carlia pectoralis	Open-litter rainbow skink
Pseudonaja textilis	Eastern brown snake
Intellagama lesueurii	Eastern water dragon

Scientific name	Common name
Emydura macquarii	Brisbane River turtle
Mammals	
Macropus giganteus	Eastern grey kangaroo
Macropus bicolor	Swamp wallaby

Appendix E – Animal breeding places

ID	Coordinates	Description	Representative photo
1	-27.60326 153.08679	Hollowed out arboreal terminate mount located within patch of eucalypt woodland.	
2	-27.60310 153.08693	Hollowed out arboreal terminate mount located within patch of eucalypt woodland.	
3	-27.60335 153.08695	Hollowed out arboreal terminate mount located within patch of eucalypt woodland.	
4	-27.60886 153.09568	Hollow located in mature canopy tree.	

ID	Coordinates	Description	Representative photo
5	-27.60376 153.09320	Nesting box placed approximately 4 m off the ground within eucalypt woodland.	
6	-27.62362 153.09498	Hollowed out dead stag with opening at base. Located within eucalypt woodland with dense *Allocasuarina* understorey.	

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