

# **EPBC Act Self-Assessment**

## **Bulli Creek Solar Farm**

Prepared for Bulli Creek Solar Farm Pty Ltd

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### Document Records - Quality

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## TABLE OF ABBREVIATIONS

Abbreviation	Description
CE	Critically Endangered
DNPSR	Department of National Parks, Sport and Racing (Qld)
DSDIP	Department of State Development, Infrastructure and Planning (Qld)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cwth)
E	Endangered
EWP	Environmental Works Plan
EVNT	Endangered, Vulnerable and Near Threatened
HVR	regrowth
LC	Least Concern
LGA	Local Government Area
GW	Gigawatt
M	Marine
MM	Migratory Marine
MNES	Matters of National Environmental Significance
MT	Migratory Terrestrial
MW	Migratory Wetlands
NT	Near Threatened
RE	Regional Ecosystem
QPWS	Queensland Parks and Wildlife Service
SPRAT	Species Profile and Threats Database
TEC	Threatened Ecological Community

V	Vulnerable
VM Status	Vegetation Management Status

# 1.0 Introduction

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## 1.1 Background

Bulli Creek Solar Farm Pty Ltd, being a partnership between First Solar Australia Pty Ltd and Solar Choice Pty Ltd, has obtained planning approval to build a large-scale solar farm over multiple stages on 13,340 acres (5,398 ha) of freehold land at Bulli Creek, west of the township of Millmerran in southern Queensland.

To connect the solar farm to Queensland's transmission network, the project requires the 43m widening and clearing of a five (5) kilometre length of electricity corridor to connect the proposed development to a nearby sub-station located in Western Creek State Forest. This proposed corridor will be adjacent to the existing 330kV electricity transmission easement. To support this action, an ecological assessment was undertaken by RPS Australia in 2015, and an Environmental Works Plan (EWP) was subsequently prepared to outline measures to minimise potential environmental impacts associated with this clearing. This EWP has been prepared in accordance with Queensland Government guidelines for developing an EWP prepared by the Department of National Parks, Sport and Racing (DNPSR). The Queensland Parks and Wildlife Service (QPWS) approved this EWP and issued an Occupation Permit to allow the proponent to occupy and clear vegetation along the section of the connection easement that traverses the state forest.

Planning approval for the project was granted by the Toowoomba Regional Council in February 2015 (application no. MCUI/2014/3278) (Toowoomba Regional Council, 2015).

The ecological assessments undertaken by RPS included assessment of site vegetation against Threatened Ecological Community (TEC) criteria under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and opportunistic threatened species surveys. These surveys determined that whilst some areas of Brigalow community were present on the project site, these communities do not meet the criteria for the listed Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC. Further fauna targeted surveys were undertaken by Green Tape Solutions in September 2017.

Furthermore, the ecological assessments did not detect the presence of any threatened flora or fauna species listed under the EPBC Act. No detailed trapping surveys were undertaken as part of these assessments and, whilst a number of EPBC-listed threatened species are known to occur within the broader area, the land on which the majority of the project is to be located is heavily disturbed as a result of historical clearing, cultivation and grazing. On this basis, the assessments concluded that the project would be unlikely to have significant ecological impacts on any populations of threatened species listed as MNES. Subsequently, it is considered that the project should be assessed as a 'not controlled action'. To support this, Green Tape Solutions has been engaged by Bulli Creek Solar Farm Pty. Ltd. to undertake a self-assessment of the project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The development area and proposed electricity corridor in Western Creek State Forest are hereinafter collectively referred to as the 'project site'.

## 1.2 Project Description

The project site is situated on either side of the Gore Highway within the locality of Bulli Creek,

approximately 275 km due-west of Brisbane, and 35 km due-west of Milmerran (**Figure 1**). The site is located within the Toowoomba Regional Council Local Government Area (LGA).

The project will be constructed in stages across four freehold lots on three adjoining properties over a period of up to eight (8) or more years (**Figure 2**). All lots are currently, and have historically been, used for cattle grazing or cultivation. The subject lots are described in **Table 1**.

**Table 1: Description of property holdings**

Property Name	Title description	Address	Area (hectares)
Karriba	Lot 5 on DY1025; and Lot 37 on DY1103	400 Gore Highway, Bulli Creek	1, 964
Minnaminane	Lot 4 on DY1024	Gore Highway, Bulli Creek	1, 980
Balinga	Lot 39 on DY916	397 Karriba Road, Bulli Creek	1, 457
Total			5, 401

The project site has optimal proximity and easement access to the major 330 kV Bulli Creek substation on the arterial power interconnector between Queensland and New South Wales. Infrastructure associated with the project, in particular the solar array, will be predominantly located within existing areas of cleared flat terrain across the project site. Under the current development plan, pre-existing wildlife corridors across the site will be retained in their entirety.

The project requires clearing through Western Creek State Forest to connect the proposed development to a nearby sub-station located in Western Creek State Forest. The proposed corridor is approximately 5,000 m long x 43 m wide and will run parallel on the western side of the existing cleared easement to the Bulli Creek substation. Construction of the proposed easement will impact on approximately 2.1ha of remnant vegetation.

### 1.3 Description of Solar Farm Works

The development will comprise a ground-mounted solar farm, deployed in stages across the three adjoining properties. The solar arrays will be erected on a metal-framed supporting structure, likely to be pile driven, with the individual solar panels framed in aluminium by a tempered glass panel.

Due to the modularity of solar array technology, minimal heavy machinery is required for construction of the solar farm, with no heavy machinery required post construction. This enables the construction period to be managed and confined within a relatively short period of time within minimal disturbance.

The construction of the solar farm would require:

- The widening of a 5km length and 43m wide electricity corridor that connects the proposed Bulli Creek Solar Farm to a nearby sub-station located in Western Creek State Forest;
- Temporary laydown area for equipment and shipping containers in the vicinity of the site office;
- Staggered delivery of shipping containers of equipment throughout an approximate 10 month construction period per stage;

- Pile driving equipment in install the piers that support the solar array;
- Mechanical installation of the mounting structure and PV modules;
- Trenching of underground cabling;
- Installation of electrical cabling, inverters and associated electrical equipment;
- Preparation and installation of kiosk transformer and associated upgrade works to existing distribution lines if required; and,
- Commissioning and testing of the solar farm.

#### **I.4 Purpose and scope**

Under the provisions of the EPBC Act, if a development proposal involves an action that is likely to result in a significant impact on any Matter of National Environmental Significance (MNES), the proposal must be referred to the Commonwealth Department of the Environment and Energy (DoEE) for assessment and approval under the environmental assessment provisions of the Act.

This report provides an assessment of the risks to MNES posed by the development of the project and determines whether any action associated with the project is likely to have a significant impact of any MNES present within the project area. This assessment has been based on a number of previous ecological assessment surveys undertaken directly on-site by RPS's ecologists, and a detailed desktop assessment encompassing current results from database searches, including EPBC Species Profile and Threats Database (SPRAT) (DoEE, 2017b) and Protected Matters Search Tool results, Queensland's WildNet database (using the Wildlife Online search facility) (DEHP, 2016) and Atlas of Living Australia (ALA, 2016) occurrence searches, which encompasses records from the Queensland Museum and the Queensland Herbarium.

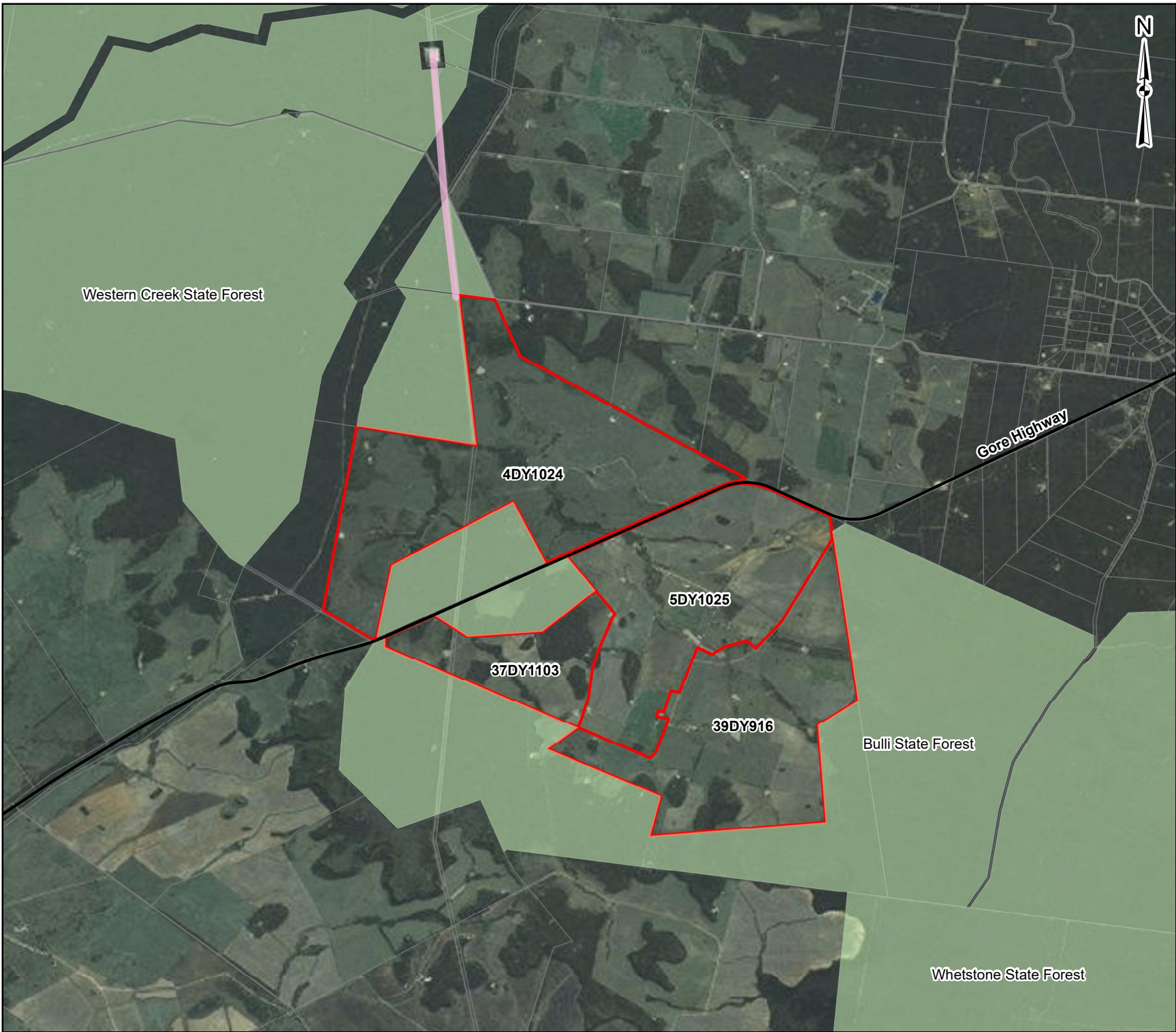
As a result of the above surveys and analysis, further field investigations have not been needed by Green Tape Solutions. On this basis, Green Tape Solutions relies on, though makes no guarantee as to, the accuracy of the information presented in the previous ecological studies undertaken within the project area.

#### **I.5 Sources of information**

The following project documents have been reviewed in the preparation of this self-assessment report:

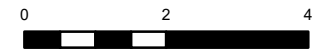
- RPS Australia East (2013). *Bulli Creek Solar Farm Ecological Assessment: Ecological Assessment of Karriba (Lot 5 DY1025 & Lot 37 DY1103), Minnaminane (Lot 4 DY1024) and Balinga (Lot 39DY916)*;
- RPS Australia East (2015). *Bulli Creek Solar Farm Ecological Assessment/Environmental Works Plan: Environmental Works Plan for Proposed Electricity Corridor in Western Creek State Forest*; and
- Documentation and correspondence associated with the development application made to Toowoomba Regional Council – application reference MCUI/2014/3278.





# Bulli Creek Solar Farm






## Figure 1 - Project Location



Kilometres  
 Coordinate System: GCS GDA 1994  
 Datum: GDA 1994  
 Units: Degree

Compiled by: CP  
 Date: 21st December 2016

### Legend

-  Proposed new easement through Western Creek SF
-  Road network
-  Project area (cadastral boundaries)
-  Protected Areas
-  Cadastral boundaries

Data sources: Cadastral boundaries - DCDB, © Department of Natural Resources and Mines, Protected Areas - © Department of National Parks, Sport and Racing.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**AMENDED PLAN REQUIRED TO BE SUBMITTED FOR APPROVAL**  
 Development Area with Buffers  
 Subject to Condition (s)  
 8 & 9  
**Bull Creek Indicative Site Plan**  
 of Decision Notice Compliance Permit / Compliance Certificate  
 9 FEBRUARY 2014  
 Project

Figure 1 PR119938-3

Compiled by:	GG	22/01/2014
Approved by:	JJ	22/01/2014

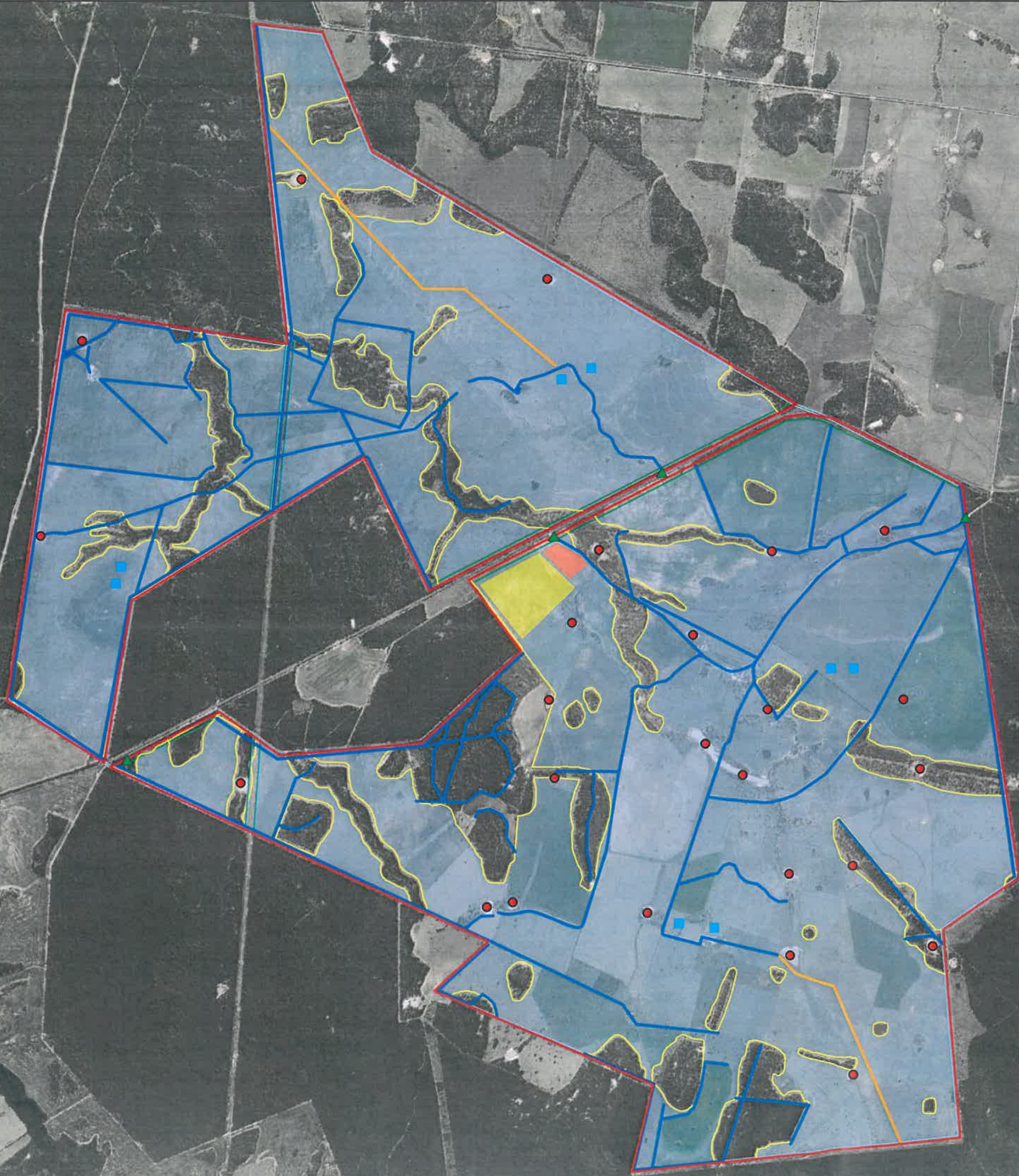
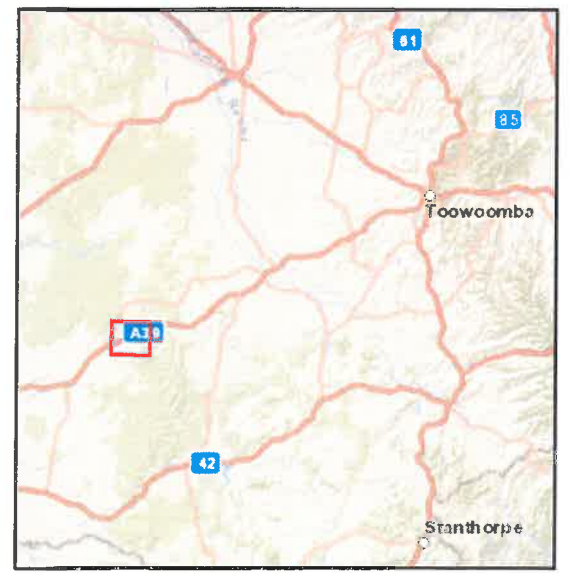
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is accurate, no guarantee is given that the map is free from error or omission. The accuracy of all information prior to its source: Department of Natural Resources and Mines, 2012; Google Earth Pro, 2014.

Design: The maximum height of a building will not exceed 7.0 metres above ground level. The maximum height of any solar array or structure are to be constructed above or within the buffer areas.

**RECEIVED**  
 03 JUL 2014  
**TOOWOOMBA REGIONAL COUNCIL**

0 0.5 1 2 Kilometer

Defined as  
**RPS**



- Legend**
- Subject Site
  - ▲ Proposed Site Access to Gore Highway
  - Dam Locations
  - Existing Internal Road (Maximum Width 6.0m)
  - New Internal Road (Maximum Width 6.0m)
  - Battery Storage Shed Locations
  - Site Office
  - Container Lay Down Area
  - 10 m Easement Buffer
  - 20 m Bushfire Buffer Extent
  - 20 m Property Boundary Buffer Extent
  - 40 m Gore Highway Buffer
  - Development Area

## 2.0 Existing Environment

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### 2.1 Methodology

Ecological assessments and detailed surveyance of the project site were undertaken by RPS in 2013 and 2015. As part of these assessments, a desktop analysis and field investigation were undertaken to determine the presence of a number of significant environmental matters. Desktop and field assessments consisted of:

- an assessment of the accuracy of remnant regional ecosystems (REs) and regrowth (HVR) mapped by the Queensland Department of Natural Resources and Mines (DNRM);
- assessment of vegetation communities against Threatened Ecological Community (TEC) criteria under the EPBC Act;
- identification of invasive flora and fauna species, significant habitat features and erosion features;
- opportunistic searches for Endangered, Vulnerable and Near Threatened (EVNT) flora and fauna species;
- watercourse assessment; and
- fuel load and bushfire threat assessment for the purposes of developing a Bushfire Management Plan.

Further details of the methodology and information sources used to undertake the desktop and field assessments for the project are given in:

- Bulli Creek Solar Farm Ecological Assessment: Ecological Assessment of Karriba (Lot 5DY1025 & Lot 37DY1103), Minnaminana (Lot 4DY1024) and Balinga (Lot 39DY916) (RPS, 2013); and
- Bulli Creek Solar Farm Ecological Assessment/Environmental Works Plan – Environmental Works Plan (EWP) for Proposed Electricity Corridor in Western Creek State Forest (RPS, 2015).

### 2.2 Vegetation Communities

The results of the ecological assessments show that the development area supports patches of remnant and regrowth vegetation. Existing retained vegetation across the four lots currently ranges from 10% to 40% of the total area of each lot, mostly along watercourses. These vegetated watercourses provide wildlife corridors and linkages across the properties to larger core conservation hubs (e.g. larger tracts of remnant vegetation within Bulli State Forest, Western Creek State Forest, Whetstone State Forest and Wondul Range National Park). Some patches of remnant vegetation are connected to remnant patches within adjoining State Forest. The remaining landscape is dominated by low density pasture dominated by native and exotic grasses. The native pasture is highly modified and is floristically non-diverse and retains almost none of the pre-European characteristics of the ecological community.

Watercourses within the development area consist of stream order 1 or 2, or ephemeral drainage lines, and are in generally good condition with mapped and unmapped vegetation along the banks. Some erosion along creeks is evident, however poses no environmental issues.

Based on RE mapping and site verification across the three properties, the vegetation within the development area contains areas of remnant and regrowth vegetation classified as:

- Possible RE11.3.2 - *Eucalyptus populnea* woodland on alluvial plains, classified under the *Vegetation Management Act 1999* (VM Act) as Of Concern;

- RE11.9.5 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks, classified under the VM Act as Endangered (E);
- RE11.7.4 – *Eucalyptus decorticans* and/or *Eucalyptus* spp., *Corymbia* spp., *Acacia* spp., *Lysicarpus angustifolius* woodland on Cainozoic lateritic duricrust, classified under the VM Act as Least concern (LC);
- RE11.7.7 – *Eucalyptus fibrosa* subsp. *nubila* +/- *Corymbia* spp. +/- *Eucalyptus* spp. woodland on Cainozoic lateritic duricrust, classified under the VM Act as LC;
- RE11.5.1/11.7.4/11.7.7 (mosaic) - *Eucalyptus crebra* and/or *E. populnea*, *Callitris glaucophylla*, *Angophora leiocarpa*, *Allocasuarina luehmannii* woodland on Cainozoic sand plains and/or remnant surfaces / *Eucalyptus decorticans* and/or *Eucalyptus* spp., *Corymbia* spp., *Acacia* spp., *Lysicarpus angustifolius* woodland on Cainozoic lateritic duricrust / *Eucalyptus fibrosa* subsp. *nubila* +/- *Corymbia* spp. +/- *Eucalyptus* spp. woodland on Cainozoic lateritic duricrust, classified under the VM Act as LC/LC/LC;
- RE11.5.4/11.7.4 (mosaic) – *Eucalyptus chloroclada*, *Callitris glaucophylla*, *C. endlicheri*, *Angophora leiocarpa* woodland on Cainozoic sand plains and/or remnant surfaces / *Eucalyptus decorticans* and/or *Eucalyptus* spp., *Corymbia* spp., *Acacia* spp., *Lysicarpus angustifolius* woodland on Cainozoic lateritic duricrust, classified under the VM Act as LC/LC; and,
- RE11.7.4/11.7.5 (mosaic).

Small areas of the Brigalow community (RE11.9.5) were identified within the project development area, however these areas were assessed as not meeting the size, structure or floristic diversity criteria for the Brigalow (*Acacia harpophylla* dominant and codominant) TEC under the EPBC Act.

The ecological assessment of the proposed electricity corridor identified that the area to be cleared consists of remnant vegetation with a number of watercourses crossing the proposed easement. Vegetation was ground-truthed as likely RE11.7.2 and RE 11.5.1/11.5.1a.

A number of threatened and migratory species were considered during the ecological assessments, with a total of thirteen (13) species listed as MNES under the EPBC Act being assessed as possibly occurring within the project area. The area to be cleared within Western Creek State Forest is considered to be more likely to support threatened species. Only one migratory species (Rufous fantail, *Rhipidura rufifrons*) was identified within the project area during the field assessment of the proposed electricity corridor through the Western Creek State Forest. No threatened flora or fauna species were identified within the development area during the field assessments.

Within the development area itself, high ecological values habitat is mostly associated with watercourses and areas immediately surrounding the watercourses which are set back from the solar farm footprint by buffer zones. Significant habitat features recorded within this area includes tree hollows, large trees with nests, coarse woody debris and fallen timber with hollows, vertical earth banks, tussock grasses and aquatic habitat. Remnant and non-remnant vegetation on deep sandy substrates and rocky outcrops contained a number of habitat trees, a dense shrub layer providing shelter and refuge values for small birds, as well as rocks and crevices. Based on the current development layout, these areas will not be disturbed and therefore, the ecological impact of the project with the main development area is considered to be low.

A large number of habitat features were identified along the proposed electricity corridor within the Western Creek State Forest. These features included standing dead trees ('stags'), trees with hollow, log piles from previous clearing and coarse woody debris/fallen logs with hollows.

Velvety tree-pear (*Opuntia tomentosa*) and common pest pear (*O. stricta*) were present as low density infestations, particularly along watercourses, with some infestations within open paddocks. Harrisia cactus (*Harrisia martinii*) and Groundsel bush (*Baccharis halimifolia*) were noted in paddocks surrounding the proposed electricity corridor in Western Creek State Forest and along roads. No pest fauna species were directly observed; however, evidence of site occupation of feral pigs (scats and diggings) were observed near watercourses.

Clearing

## 3.0 Matters of National Environmental Significance (MNES)

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### 3.1 Overview of the EPBC Act

The EPBC Act protects the environment in relation to Matters of National Environmental Significance (MNES). Under the EPBC Act, if a development proposal involves an action that is likely to result in a significant impact on an MNES, the proposal must be referred to the Commonwealth Department of the Environment and Energy (DoEE) (an EPBC Referral). MNES are defined as:

- Listed threatened species and ecological communities;
- Migratory species protected under international agreements;
- Ramsar wetlands of international importance;
- The Commonwealth marine environment;
- World Heritage properties;
- The Great Barrier Reef Marine Park;
- National Heritage places;
- Nuclear actions; and,
- A water resource, in relation to coal seam gas development and large coal mining development.

When an EPBC Referral for a development proposal is submitted, DoE provides a determination as to whether the project is considered a Controlled Action or a Not Controlled Action. Controlled Actions require assessment under the EPBC Act in accordance with a formal assessment and approval process (as defined by DoE).

The Department of Environment and Energy (DoEE) have issued Significant Impact Guidelines (DoEE, 2013) to clarify what may constitute a significant impact on MNES. These guidelines outline a set of criteria for each MNES and outlines the types of actions and impacts that may be considered significant.

### 3.2 Matters of National Environmental Significance (MNES)

#### 3.2.1 Wetlands of International Importance

The EPBC Act recognises Ramsar wetlands (Wetlands of International Importance) as a Matter of National Environmental Significance. A 'declared Ramsar wetland' is an area that has been designated under Article 2 of the Ramsar Convention or declared by the Minister to be a declared Ramsar Wetland under the EPBC Act.

The EPBC Act Protected Matters Search Tool results (DoEE, 2017a) (**Appendix 1**) lists three (3) Wetlands of International Importance (Ramsar) as potentially occurring within proximity of the site. These wetlands are:

- Banrock Station Wetland Complex, Murray – Darling Basin, South Australia;
- Riverland, Murray – Darling Basin, South Australia; and
- The Coorong, and Lakes Alexandrina and Albert Wetland, Murray – Darling Basin, South Australia.

#### 3.2.2 Listed Ecological Communities

The EPBC Act Protected Matters Search Tool results (DoEE, 2017a) (**Appendix 1**) lists four (4) Threatened Ecological Communities (TECs) as potentially occurring within a 10 km radius of the site. These TECs are:

- Brigalow (*Acacia harpophylla* dominant and co-dominant);
- Coolibah – Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions;
- Weeping Myall Woodlands; and
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The ecological assessment undertaken by RPS identified a number of vegetation communities present within the project site. These communities are:

- Brigalow (*Acacia harpophylla*) open forest (RE11.9.5);
- Poplar box (*Eucalyptus populnea*) and River Red Gum (*E. camaldulensis*) open forest with an understorey of Wilga (*Geijera parviflora*) (possible RE11.3.2);
- Mixed *Eucalyptus* spp. woodland containing *Eucalyptus decorticans* and/or other *Eucalyptus* spp., *Corymbia* spp., *Acacia* spp., *Lysicarpus angustifolius* (RE11.7.4);
- Broad-leaved Red Ironbark (*Eucalyptus fibrosa* subsp. *nubila*) ± *Corymbia* spp. ± *Eucalyptus* spp. woodland (RE11.7.7);
- Mixed *Eucalyptus* spp. woodland containing RE11.5.1 (*Eucalyptus crebra* and/or *E. populnea*, *Callitris glaucophylla*, *Angophora leiocarpa*, *Allocasuarina luehmannii* woodland) and RE11.7.4; and
- Mixed *Eucalyptus* spp. woodland containing RE11.5.4 (*Eucalyptus chloroclada*, *Callitris glaucophylla*, *C. endlicheri*, *Angophora leiocarpa* woodland) and RE11.7.4.

The ecological assessment confirmed that small areas of Brigalow community occur within the project site; however, the Brigalow communities within these areas were assessed as not viable and did not meet the TEC criteria for size, structure and floristic diversity. No other threatened ecological communities were confirmed as being present within the site.

### 3.2.3 Listed Threatened Flora Species

The EPBC Protected Matters Search Tool results (DoEE, 2017a) (**Appendix 1**) identified eight (8) threatened flora species listed under the EPBC Act that may potentially occur within a 10 km radius of the project site. **Table 2** provides a summary of the status, preferred habitat and distribution of these species, as well as an assessment of the likelihood of occurrence of these species within the project area.

**Table 2: Assessment of likelihood of occurrence of listed threatened flora species identified by EPBC Protected Matters search.**

Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
<i>Cadellia pentastylis</i>	Ooline, Scrub Myrtle	V	V	Occurs in dry rainforest, semi-evergreen vine thickets and sclerophyll ecological communities (Threatened Species Scientific Committee, 2008), however it can also be found in predominantly cleared grazing paddocks, generally on slay plains, sandstone slopes and ridgelines between 200 and 500 m above sea level, on low- to medium-nutrient soils of sandy clay or clayey consistencies (DECC, 2005). This species is often found in association with Brigalow ( <i>Acacia harpophylla</i> ), Belah ( <i>Casuarina cristata</i> ), Bendee ( <i>Acacia catenula</i> ) and Red Bauhinia ( <i>Lysiphyllum carronii</i> ). Regional ecosystems in which this species has been recorded include RE11.9.4 and RE11.9.5. The distribution range of this species extends from the western edge of the NSW north-west slopes, from Mt Black Jack near Gunnedah to west of Tenterfield, and extends into Queensland to the Carnarvon Range and Callide Valley, south-west of Rockhampton (Harden et al., 2006; cited by Threatened Species Scientific Committee, 2008).	Possible – whilst one of the vegetation communities in which this species is known to occur has been confirmed within the project area (RE11.9.5 – Brigalow open forest), this community is in a disturbed condition and was assessed as a non-viable community. Ooline is known to persist as single paddock trees, and Queensland Herbarium records show this species has been identified within 5 km of the site; however, threatened species surveys undertaken by RPS did not detect the presence of this species.  The project area is unlikely to support an important population of <i>Cadellia pentastylis</i> .
<i>Homopholis belsonii</i>	Belson's Panic	E	V	Occurs within the southern Brigalow belt, Queensland and on the north-western slopes and plains of NSW (Trémont & Whalley, 1993; Menkins, 1998), at elevations ranging from 200 m to 520 m above sea level (Trémont & Whalley, 1993; Menkins, 1998). It is known to occur in dry woodland	Possible – whilst one of the vegetation communities in which this species is known to occur has been confirmed within the project area (RE11.9.5 – Brigalow open forest), this community is in a disturbed condition and was assessed as a



Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
				habitats on poor soils, such as those derived from basalt, as well as on rocky hills supporting White Box ( <i>Eucalyptus albens</i> ); Wilga ( <i>Geijera parviflora</i> ) woodland; flat to gently undulating alluvial areas supporting Belah ( <i>Casuarina cristata</i> ) forest, and Poplar Box ( <i>Eucalyptus populnea</i> ) woodland (Leigh et al. 1984; Menkins, 1998). It may also be associated with shadier areas of Brigalow ( <i>Acacia harpophylla</i> ), Myall ( <i>Acacia melvillei</i> ) and Weeping Myall ( <i>A. pendula</i> ); in Mountain Coolibah ( <i>E. orgadophila</i> ) communities and on roadsides. REs which are likely to support Belson's Panic include RE11.9.5. It generally grows among fallen timber at the base of trees or shrubs, among branches and leaves of tree hanging to ground level.	non-viable community.  Herbarium records show this species had been identified within 5 km of the site; however, threatened species surveys undertaken by RPS did not detect the presence of this species.  The project area is unlikely to support an important population of <i>Homopholis belsonii</i> .
<i>Macrozamia machinii</i>	A cycad	V	V	Occurs on the Darling Downs in Queensland, between Texas and the Wondul Range National Park. Most populations are found on deep sandy soils in areas of flat terrain in association with Smooth-barked Apple ( <i>Angophora leiocarpa</i> ), Stringybark She-oak ( <i>Allocasuarina inophloia</i> ), White Cypress ( <i>Callitris glaucophylla</i> ), Budgeroo ( <i>Lysicarpus angustifolius</i> ) and Crowded-leaf Wattle ( <i>Acacia conferta</i> ). A single population occurs on a red lateritic ridge with Black Cypress ( <i>Callitris endlicheri</i> ), Tumbledown Ironbark ( <i>Eucalyptus panda</i> ) and Inland White Mahogany ( <i>E. apothalassica</i> ) (Threatened Species Scientific Committee, 2008). Recorded in Whetstone State	Possible – potentially suitable habitat may be present in area to be cleared within Western Creek State Forest. The remainder of the project area is predominantly cleared or in a disturbed state, and therefore is unlikely to support an important population of this species.  Herbarium records show this species had been identified within 5 km of the site; however, threatened species surveys undertaken by RPS did not detect the presence of this species.  The project area is unlikely to support an important

Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
				Forest, Brigalilly State Forest and Wondul Range National Park.	population of <i>Macrozamia machinii</i> .
<i>Prostanthera</i> sp. Dunmore (D.M. Gordon 8A)	Dunmore Mint Bush	E	V	Known from four populations within a small area of less than 100 km <sup>2</sup> , west of Millmerran in southern Queensland. Occurs in Eucalyptus and Callitris woodland in shallow sandy soil or Eucalyptus woodland on hard sandstone ridge tops. Three of the known populations occur in State Forest, including one that borders Wondul Range National Park (Threatened Species Scientific Committee, 2008). This species has been recorded in RE11.10.11 ( <i>Eucalyptus populnea</i> , <i>E. melanophloia</i> ± <i>Callitris glaucophylla</i> woodland on coarse-grained sedimentary rocks).	Possible – potentially suitable habitat may be present in area to be cleared within Western Creek State Forest. The remainder of the project area is predominantly cleared or in a disturbed state, and therefore is unlikely to support an important population of this species.  Herbarium records show this species had been identified within 5 km of the site; however, threatened species surveys undertaken by RPS did not detect the presence of this species.  The project area is unlikely to support an important population of <i>Macrozamia Prostanthera</i> sp.
<i>Thesium australe</i>	Austral Toadflax	V	V	Occurs in NSW, ACT, Qld and Victoria with the currently known distribution being sporadic but widespread between the Bunya Mountains in south-east Queensland to north-east Victoria (Scarlett et. al., 2003) and as far inland as the southern, central and northern tablelands in NSW and the Toowoomba region (Atlas of Living Australia, 2103). Occurs in grasslands on coastal headlands or grassy woodlands away from the coast and is often found in damp sites. This species is semi-parasitic on the roots of grassland species, in particular Kangaroo Grass ( <i>Themeda</i>	Unlikely – the ecological assessments undertaken for the project did not identify suitable habitat and did not detect the presence of this species.

Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
				<i>australis</i> ) and less frequently, <i>Poa</i> spp.	
<i>Tylophora linearis</i>	Slender Tylophora	E	E	Known from eight localities in the Dubbo area and Mt Crow near Barraba in NSW, and 'Myall Park' near Glenmorgan in Queensland. This species grows in dry scrubland, open forest and woodlands associated with <i>Melaleuca uncinata</i> , <i>Eucalyptus fibrosa</i> , <i>E. sideroxylon</i> , <i>E. albens</i> , <i>Callitris endlicheri</i> , <i>C. glaucophylla</i> , <i>Allocasuarina luehmannii</i> , <i>Acacia hakeoides</i> , <i>A. lineata</i> , <i>Myoporum</i> spp., and <i>Casuarina</i> spp. (DECC, 2005a; Forster et al., 2004).	Unlikely – the ecological assessments undertaken for the project did not identify suitable habitat and did not detect the presence of this species.
<i>Westringia parvifolia</i>	Westringia	V	V	This species is known from a small area between Yelarbon and Inglewood, in southern Queensland and near Dthinna Dthinnawan National Park, north of Yetman in New South Wales. It grows in association with Baker's Mallee ( <i>Eucalyptus bakeri</i> ) and Green Mallee ( <i>E. viridis</i> ) on sandy and stony soils.	Unlikely – the ecological assessments undertaken for the project did not identify suitable habitat and did not detect the presence of this species.
<i>Xerothamnella herbacea</i>	-	E	E	Occurs in Brigalow ( <i>Acacia harpophylla</i> ) dominated communities in shaded situations, often in leaf litter and associated with gilgais (Threatened Species Scientific Committee, 2008). Soils are heavy, grey to dark brown clays. Known to occur in the Banana – Theodore area, Arcadia Valley and north of Injune, the Durong – Chinchilla area and north of Yelarbon (Queensland Herbarium, 2012).	Unlikely – whilst one of the vegetation communities in which this species is known to occur has been confirmed within the project area (RE11.9.5 – Brigalow open forest), this community is in a disturbed condition and was assessed as a non-viable community.  Threatened species surveys undertaken during site ecological assessments did not detect the

Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
					presence of this species. The project area is unlikely to support an important population of <i>Xerothamnella herbacea</i> .

**\*Sources:** (DoEE, 2017b) and (DEHP, 2016).

**Status:** **E:** Endangered, **V:** Vulnerable, **NT:** Near Threatened, **MM:** Migratory Marine, **MT:** Migratory Terrestrial, **MW:** Migratory Wetland, **M:** Marine.

**Likelihood of Occurrence:** **Unlikely** – no suitable habitat present, **Possible** – suitable species habitat present, **Likely** – suitable species habitat present and has previously been recorded within 5 km, **Known** – species recorded during field survey

### **3.2.4 Listed Threatened Fauna Species**

The EPBC Protected Matters Search Tool results (DoEE, 2017b) (**Appendix 1**) identified fifteen (15) threatened fauna species listed under the EPBC Act that may potentially occur within a 10 km radius of the project site. **Table 3** provides a summary of the status, preferred habitat and distribution of these species, as well as an assessment of the likelihood of occurrence of these species within the project area.

**Table 3: Assessment of likelihood of occurrence of listed threatened fauna species identified by EPBC Protected Matters search.**

Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
<i>Anthochaera phrygia</i>	Regent Honeyeater	E	CE	Inhabits inland slopes of the Great Dividing Range, in areas of low to moderate relief with moist-fertile soils in box – ironbark eucalypt woodland, especially those containing Red Ironbark ( <i>Eucalyptus sideroxylon</i> ), Yellow Box ( <i>E. melliodora</i> ), and Yellow Gum ( <i>E. leucoxyton</i> ) and dry sclerophyll forest. Also inhabits riparian vegetation containing mistletoe on She-oaks ( <i>Casuarina</i> spp.), lowland costal forest, remnant patches and trees in farmland, streets and gardens, roadside reserves, and travelling stock routes (Pizzey and Knight, 2007). This species is a patchy, irregular, spring to summer breeding migrant to Dubbo/Warrumbungle National Park, Munghorn Gap NR, Hunter R. and Windsor regions (New South Wales) (Pizzey and Knight, 2007). Movement patterns are thought to be governed by the flowering of select eucalypt species (Threatened Species Scientific Committee, 2015). Records from Queensland are now uncommon (DoEE, 2016).	<p>Possible – suitable habitat may be present while native species are flowering; however, the project site is outside of the main distribution range for this species and records in Queensland are scarce.</p> <p>The main development area is situated within existing cleared or disturbed areas, and therefore will not significantly impact on species habitat.</p> <p>Clearing within the Western Creek State Forest will impact on potentially suitable habitat. However, threatened species surveys undertaken by RPS did not detect the presence of this species.</p> <p>The project area is unlikely to support an important population of <i>Anthochaera phrygia</i>.</p>
<i>Calidris ferruginea</i>	Curlew Sandpiper	-	CE	The Curlew Sandpiper is mainly found on intertidal mudflats in sheltered coastal areas such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons, saltmarsh, saltfields, fresh, brackish or saline wetland and sewage ponds (DoEE, 2016; Pizzey and Knight, 2007). Also recorded inland, though less often, including around ephemeral and permanent lakes, dams,	<p>Unlikely – the site ecological assessments did not identify any suitable habitat. Threatened species surveys undertaken by RPS did not detect the presence of this species.</p>

				waterholes and bore drains, usually with bare edges of mud or sand (DoEE, 2016).	The project area is unlikely to support an important population of <i>Calidris ferruginea</i> .
<i>Chalinolobus dwyeri</i>	Large-eared Pied bat, Large Pied Bat	V	V	This species inhabits caves, mines and crevices within sandstone cliffs in dry sclerophyll forests and woodlands, as well as higher altitude moist Eucalyptus forest and edges of rainforest. Current distribution is poorly known, with records from Shoalwater Bay, north of Rockhampton through to Ulladulla, NSW.	Unlikely – the site ecological assessments undertaken by RPS did not identify any suitable habitat.  The project area is unlikely to support an important population of <i>Chalinolobus dwyeri</i> .
<i>Delma torquata</i>	Collared Delma	V	V	Inhabits eucalypt-dominated woodland and open forest where it is associated with suitable micro-habitats e.g. exposed rocky outcrops where it shelters under rocks and in soil cracks. Soils are heavy, stony and lightly timbered soils. Ground cover is predominantly native grasses, such as Kangaroo Grass ( <i>Themeda australis</i> ), Barbed-wire Grass ( <i>Cymbopogon refractus</i> ), Wiregrass ( <i>Aristida</i> spp.) and <i>Lomandra</i> sp. (Peck & Hobson, 2007). Endemic to south east Queensland – recorded from the western suburbs of Brisbane (Kenmore, Brookfield and Mt Crosby), Bunya Mountains, Blackdown Tableland National Park, the Toowoomba Range and Western Creek State Forest. Also found in numerous disturbed habitats throughout south-east Queensland (Cogger, 2000).	Possible – suitable habitat is potentially present.  The main development area is situated within existing cleared or disturbed areas, and therefore will not significantly impact on species habitat in this area.  This species has been recorded within 5 km of the site, within Bulli State Forest. A small patch of rocky outcrop was identified in proximity of the sighting. Searches did not confirm the presence of this species on site. This patch of vegetation will be retained as part of the project.
<i>Egernia rugosa</i>	Yakka Skink	V	V	The Yakka Skink occurs in a wide variety of vegetation types, including poplar box, ironbark, brigalow, white cypress pine, mulga, bendee and lancewood woodlands and open forest. Usually takes refuge under dense vegetation, hollow logs, in cavities in soil-bound root systems of fallen trees and beneath rocks in open dry sclerophyll forest or woodland throughout its range. They can persist in clearings where	Possible – potentially suitable habitat may be present in area to be cleared within Western Creek State Forest.  The remainder of the project area is predominantly cleared or in a disturbed state, and therefore is unlikely to support

				shelter site such as tunnel erosion, rabbit warrens and log piles exist.	an important population of this species.  Threatened species surveys undertaken by RPS did not detect the presence of this species.
<i>Erythroriorchis radiatus</i>	Red Goshawk	E	V	Inhabits open forests and woodlands, tropical savannahs, especially near rivers, wetlands and rainforest fringes in coastal and sub-coastal north and north east Australia from the Kimberley to the Queensland/New South Wales border (Pizzey and Knight, 2007).	Possible – potentially suitable habitat may be present within the project area; however, the project is located outside the known location of this species.  Threatened species surveys undertaken by RPS did not detect the presence of this species.  The project area is unlikely to support an important population of <i>Erythroriorchis radiatus</i> .
<i>Furina dunmali</i>	Dunmall's Snake	V	V	Open forest and woodland, particularly brigalow ( <i>Acacia harpophylla</i> ) forest and woodland growing on floodplains of deep-cracking black clay and clay loam soils. Occurs in the south-eastern interior of Queensland, especially the Darling Downs.	Possible - whilst one of the vegetation communities in which this species is known to occur has been confirmed within the project area (RE11.9.5 – Brigalow open forest), this community is in a disturbed condition and was assessed as a non-viable community, and therefore is unlikely to support an important population of Dunmall's Snake.  Threatened species surveys undertaken by RPS did not detect the presence of this species.
<i>Geophaps</i>	Squatter	V	V	The Squatter Pigeon is never far from water in grassed woodlands;	Possible – suitable habitat is present



<i>scripta scripta</i>	Pigeon (Southern)			foothills, watercourses, riverflats, grassy plains; environs of homesteads (Pizzey and Knight, 2012). It occurs in eastern Queensland, extending a short way into northern New South Wales.	within the project area. Threatened species surveys undertaken during site ecological assessments did not detect the presence of this species.
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Habitat includes mistletoes in Eucalyptus forests, Box Ironbark/Yellow Gum woodlands, Paperbarks, Casuarinas, Mulgas/Acacias (BirdLife International, 2017). Rare migrant/nomad with range extending across eastern Australia (Pizzey and Knight, 2012).	Possible – suitable habitat may be present while mistletoe species are fruiting.  The main development area is situated within existing cleared or disturbed areas, and therefore will not significantly impact on species habitat.  Clearing within the Western Creek State Forest will impact on potentially suitable habitat. Threatened species surveys undertaken by RPS did not detect the presence of this species.
<i>Lathamus discolor</i>	Swift Parrot	E	CE	The Swift Parrot is endemic to south eastern Australia, breeding in Tasmania and migrating to the Australian mainland. It inhabits Eucalyptus forests and woodlands, plantations and Banksias; street trees, parks and gardens (Pizzey and Knight, 2012). In Tasmania, Swift Parrots are mostly associated with Tasmanian Blue Gums in both dry and wet sclerophyll forests and woodlands (BirdLife International, 2017). They also occur in habitats dominated by other Eucalypts, such as Swamp Gums, but often supporting a few clumps of Tasmanian Blue Gums. On mainland Australia, they mainly inhabit dry open Eucalyptus forests and woodlands, usually Box Ironbark communities, especially those with Red Ironbark, Mugga Ironbark, Grey Box, White Box and Yellow Gum, and sometimes (especially in dry years) in other Eucalyptus dominated associations, such as Spotted Gum, Swamp Mahogany or Blackbutt forests in coastal areas. Both in Tasmania and	Possible – suitable habitat may be present while native species are flowering.  The main development area is situated within existing cleared or disturbed areas, and therefore will not significantly impact on species habitat.  Clearing within the Western Creek State Forest will impact on potentially suitable habitat. Threatened species surveys undertaken by RPS did not detect the presence of this species.

				on the mainland, Swift Parrots often occur in urban areas, including parks and gardens, street trees and golf courses, and in farmland with remnant patches of Eucalyptus woodland (Bird Atlas Bird Lists, 2017).	
<i>Maccullochella peelii</i>	Murray Cod	-	V	The Murray Cod is found extensively throughout the Murray Darling Basin in the south eastern region of Australia. The Murray Cod has the ability to live in a diverse range of habitats, including clear rocky streams (such as those found in the upper western slopes of New South Wales), to slow flowing, turbid rivers and billabongs. Within the large range of habitats, the Murray Cod is usually found near complex structural cover such as large rocks, snags, overhanging vegetation and other woody structures.	Unlikely - the site ecological assessments did not identify any suitable habitat.
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat, Southern Long-eared Bat	V	V	Has a limited distribution that is restricted around the Murray-Darling Basin in south eastern Australia. Even in this region its distribution is scattered and it is rarely recorded. Occurs in a range of inland woodland vegetation types, including Box/Ironbark/Cypress Pine woodlands, Buloke woodlands, Brigalow woodland, and Belah woodland. Throughout inland Queensland, the species habitat is dominated by various Eucalyptus and Bloodwood species, and various types of tree Mallee. This species is more abundant in extensive stands of vegetation in comparison to smaller woodland patches, and in habitats that have a distinct tree canopy and a dense, cluttered understorey layer.	Possible but not confirmed during trapping survey - suitable habitat is present in area to be cleared within Western Creek State Forest.  The remainder of the project area is predominantly cleared or in a disturbed state, and therefore is unlikely to support an important population of this species.  Threatened species surveys undertaken by RPS (2013 and 2015) and GTS (2017) did not detect the presence of this species. This species has been recorded within 5 km of the site, within Wondul Range National Park.
<i>Petauroides volans</i>	Greater Glider	-	V	The Greater Glider is largely restricted to eucalypt forests and woodlands, typically taller montane, moist eucalypt forests with relatively old trees, abundant hollows and a diversity of eucalypt	Possible - potentially suitable habitat may be present in area to be cleared within Western Creek State Forest.

				species, due to seasonal variation in its preferred tree species (Threatened Species Scientific Committee, 2012). Distribution ranges from the Windsor Tableland in north Queensland through to Wombat State Forest in central Victoria, within an altitudinal range from sea level to 1200 m above sea level. An isolated inland population occurs in the Gregory Range, west of Townsville and another in the Einasleigh Uplands.	The remainder of the project area is predominantly cleared or in a disturbed state, and therefore is unlikely to support an important population of this species.  Threatened species surveys undertaken by RPS did not detect the presence of this species and this species was not recorded in proximity by other (e.g. Wildlife online).
<i>Phascolarctos cinereus</i>	Koala (combined populations of Qld, NSW and the ACT)	V	V	The Koala occurs in Eucalyptus woodlands and forests throughout eastern Australia. The Koala feeds almost exclusively on the foliage of particular Eucalypts, and may prefer certain species within any local or regional area (Strahan, 1995, Phillips <i>et al.</i> , 2007).	Possible - suitable habitat may be present within the project area.  Threatened species surveys undertaken by RPS did not detect the presence of this species.
<i>Rostratula australis</i>	Australian Painted Snipe	V	E	Inhabits well-vegetated shallows and margins of wetlands, dams, sewage ponds and other water courses; wet pastures, marshy areas, irrigation systems, Lignum, Tea-tree scrub and open timber (Pizzey and Knight, 2007). Occurs mostly in south eastern Australia but dispersive in response to rainfall (Pizzey and Knight, 2007).	Unlikely - the site ecological assessments did not identify any suitable habitat.

\*Sources: DoEE (2017) and DEHP (2016b).

Status: E: Endangered, V: Vulnerable, NT: Near Threatened, MM: Migratory Marine, MT: Migratory Terrestrial, MW: Migratory Wetland, M: Marine.

Likelihood of Occurrence: **Unlikely** – no suitable habitat present, **Possible** – suitable species habitat present, **Likely** – suitable species habitat present and has previously been recorded within 5km, **Known** – species recorded during field survey

### **3.2.5 Listed Migratory and Marine Species**

The EPBC Protected Matters Search Tool results (**Appendix 1**) identified fifteen (15) marine, migratory terrestrial and migratory wetland fauna species listed under the EPBC Act that may potentially occur within a 10 km radius of the project site. Table 4 provides a summary of the status, preferred habitat and distribution of these species, as well as an assessment of the likelihood of occurrence of these species within the project area.

**Table 4: Assessment of likelihood of occurrence of listed migratory and marine species identified by EPBC Protected Matters search.**

Species	Common Name	Nature Conservation Act (NC Act) (Qld) Status	EPBC Act Status	Habitat	Likelihood of Occurrence
<i>Apus pacificus</i>	Fork-tailed Swift	-	MM, M	The Fork-tailed Swift is almost exclusively aerial. 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.	Possible – may fly over the site and may forage whilst flying over.  Site ecological assessments did not detect the presence of this species.
<i>Ardea alba</i>	Great Egret, White Egret	-	M	Occurs in a wide range of wetland habitats both inland and coastal including swamps, rivers and agricultural dams.	Possible – likely to periodically utilise agricultural dams present on site. These dams are to be retained by the project.  Site ecological assessments did not detect the presence of this species.
<i>Ardea ibis</i>	Cattle Egret	-	M	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It predominantly uses shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation and abundant aquatic flora. This species is often found in association with cattle.	Possible – likely to periodically utilise grassland and cleared areas present on site, particularly adjacent to any dam overflows or periodically inundated areas.  Site ecological assessments did not detect the presence of this species.
<i>Calidris ferruginea</i>	Curlew Sandpiper	-	CE, MW, M	The Curlew Sandpiper is mainly found on intertidal mudflats in sheltered coastal areas such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons, saltmarsh, saltfields, fresh, brackish or saline wetland and sewage ponds (DoEE, 2016; Pizzey and Knight, 2007).	Unlikely - the site ecological assessments did not identify any suitable habitat.

				Also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand.	
<i>Cuculus optatus</i>	Oriental Cuckoo	-	MT, M	Found in many wooded habitats (such as open and dry woodland and forest) with a range of understoreys from grasses to shrubs or heath. Sometimes found near clearings and in recently logged or burnt forests. Found in farmland with some trees, orchards, vineyards and urban parks and gardens.	Possible – the site may potentially provide suitable foraging and roosting habitat.  Site ecological assessments did not detect the presence of this species.
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe	-	MW, M	Soft wet ground or shallow water with tussocks and other green or dead growth. Wet parts of paddocks, seepage below dams, irrigated areas, scrub or open woodland from sea level to alpine bogs over 2000 m above sea level, samphire on salt marshes and mangrove fringes.	Unlikely – may fly over the site, however this species is not an aerial feeder and is unlikely to interact with the habitat whilst flying over.  The site ecological assessments did not identify any suitable habitat.
<i>Haliaeetus leucogaster</i>	White-Bullied Sea-Eagle	-	M	Found on coasts, islands, estuaries, inlets, large rivers, inland lakes and reservoirs in coastal Australia and Tasmania. Sedentary (Pizzey and Knight, 2007).	Possible – may fly over the site and may forage whilst flying over.
<i>Hirundapus caudacutus</i>	White-throated Needletail	-	MT, M	Almost exclusively aerial from heights of less than 1m up to more than 1000m above the ground. Most often recorded above wooded areas, including open forest and rainforest and also are commonly recorded over heathland and coastal cliffs (DoEE, 2017b).	Possible – may fly over the site. Site ecological assessments did not detect the presence of this species.
<i>Lathamus discolor</i>	Swift Parrot	E	CE, M	The Swift Parrot is endemic to south eastern Australia, breeding in Tasmania and migrating to the Australian mainland. It inhabits Eucalyptus forests and woodlands, plantations and Banksias; street trees, parks and gardens (Pizzey and Knight, 2007). In Tasmania, Swift Parrots are	Possible – suitable habitat may be present while native species are flowering.  The main development area is situated

				<p>mostly associated with Tasmanian Blue Gums in both dry and wet sclerophyll forests and woodlands (Birds Australia, 2010). They also occur in habitats dominated by other Eucalypts, such as Swamp Gums, but often supporting a few clumps of Tasmanian Blue Gums. On mainland Australia, they mainly inhabit dry open Eucalyptus forests and woodlands, usually Box Ironbark communities, especially those with Red Ironbark, Mugga Ironbark, Grey Box, White Box and Yellow Gum, and sometimes (especially in dry years) in other Eucalyptus dominated associations, such as Spotted Gum, Swamp Mahogany or Blackbutt forests in coastal areas. Both in Tasmania and on the mainland, Swift Parrots often occur in urban areas, including parks and gardens, street trees and golf courses, and in farmland with remnant patches of Eucalyptus woodland (Birds Australia, 2010).</p>	<p>within existing cleared or disturbed areas, and therefore will not significantly impact on species habitat. Clearing within the Western Creek State Forest will impact on potentially suitable habitat.</p> <p>Threatened species surveys undertaken during site ecological assessments did not detect the presence of this species.</p>
<i>Merops ornatus</i>	Rainbow Bee-eater	-	M	<p>Occurs mainly in open forests and woodlands, shrublands and in various cleared or semi-cleared habitats including farmland. Usually occurs in open, cleared or lightly-timbered areas sometimes in close proximity to permanent water. Also occurs in inland and coastal dune systems, and in mangroves in northern Australia (SPRAT, 2010).</p>	<p>Possible – may fly over the site and may forage whilst flying over.</p> <p>Site ecological assessments did not detect the presence of this species.</p>
<i>Motacilla flava</i>	Yellow Wagtail	-	MT, M	<p>Regular summer migrant to coastal Australia, especially Darwin to Broome, but also north eastern Queensland from November to April. Found in short grass and bare ground, swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land and town lands (Pizzey and Knight, 2007).</p>	<p>Unlikely - the site ecological assessments did not identify any suitable habitat.</p>
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	-	MT, M	<p>The Satin Flycatcher is found in tall forests, preferring wetter habitats such as heavily forested gullies, but not rainforests.</p>	<p>Unlikely - the site ecological assessments did not identify any suitable habitat.</p>

<i>Pandion heliaetus</i>	Osprey	-	MW, M	Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers.	Unlikely - the site ecological assessments did not identify any suitable habitat.
<i>Rhipidura rufifrons</i>	Rufous Fantail	-	MT, M	In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts.	<b>Known</b> – site ecological assessment undertaken within the area to be cleared in Western Creek State Forest confirmed the presence of this species.
<i>Rostratula australis</i>	Australian Painted Snipe	V	E	Inhabits well-vegetated shallows and margins of wetlands, dams, sewage ponds and other water courses; wet pastures, marshy areas, irrigation systems, Lignum, Tea-tree scrub and open timber (Pizzey and Knight, 2007). Occurs mostly in south eastern Australia but dispersive in response to rainfall (Pizzey and Knight, 2007).	Unlikely - the site ecological assessments did not identify any suitable habitat.

\*Sources: DoEE (2017) and DEHP (2016b).

**Status:** E: Endangered, V: Vulnerable, NT: Near Threatened, MM: Migratory Marine, MT: Migratory Terrestrial, MW: Migratory Wetland, M: Marine.

**Likelihood of Occurrence:** **Unlikely** – no suitable habitat present, **Possible** – suitable species habitat present, **Likely** – suitable species habitat present and has previously been recorded within 5km, **Known** – species recorded during field survey



## 4.0 Impacts on MNES

### 4.1 Significant Impact Criteria

Significant impact guidelines (DotE, 2013) provide over-arching guidance on determining whether an action is likely to have a significant impact on an MNES. The guidelines outline specific significant impact criteria to assist with deciding whether a referral may be warranted. Matters listed under the EPBC Act relevant to this development are TEC, threatened flora and fauna species and listed migratory species, however since a number of Wetlands of International Importance (Ramsar) have been identified with desktop search results, an assessment has also been made for this MNES.

Specific detailed criteria are provided for each MNES, except for threatened species and ecological communities, in which case separate criteria are provided for species listed as endangered and vulnerable under the EPBC Act. The criteria relevant to this proposed development are given in **Table 5**.

**Table 5: Significant impact criteria relevant to the proposed development.**

Status	Significant Impact Criteria
Wetlands of International Importance	<p>An action is likely to have a significant impact on the ecological character of a declared Ramsar wetland if there is a real chance or possibility that it will result in:</p> <ul style="list-style-type: none"> <li>• areas of the wetland being destroyed or substantially modified;</li> <li>• a substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland;</li> <li>• the habitat or lifecycle of native species, including invertebrate fauna and fish species, dependent upon the wetland being seriously affected;</li> <li>• a substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health, or</li> <li>• an invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland.</li> </ul>
Critically endangered and endangered ecological communities	<p>An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:</p> <ul style="list-style-type: none"> <li>• reduce the extent of an ecological community;</li> <li>• fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines;</li> <li>• adversely affect habitat critical to the survival of an ecological community;</li> <li>• modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns</li> <li>• cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting</li> <li>• cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: <ul style="list-style-type: none"> <li>○ assisting invasive species, that are harmful to the listed ecological</li> </ul> </li> </ul>

Status	Significant Impact Criteria
	<p>community, to become established, or</p> <ul style="list-style-type: none"> <li>○ causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or</li> <li>• interfere with the recovery of an ecological community.</li> </ul>
Critically endangered and endangered species	<p>An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:</p> <ul style="list-style-type: none"> <li>• lead to a long-term decrease in the size of a population</li> <li>• reduce the area of occupancy of the species</li> <li>• fragment an existing population into two or more populations</li> <li>• adversely affect habitat critical to the survival of a species</li> <li>• disrupt the breeding cycle of a population</li> <li>• modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</li> <li>• result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat</li> <li>• introduce disease that may cause the species to decline, or</li> <li>• interfere with the recovery of the species.</li> </ul>
Vulnerable species	<p>An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:</p> <ul style="list-style-type: none"> <li>• lead to a long-term decrease in the size of an important population of a species</li> <li>• reduce the area of occupancy of an important population</li> <li>• fragment an existing important population into two or more populations</li> <li>• adversely affect habitat critical to the survival of a species</li> <li>• disrupt the breeding cycle of an important population</li> <li>• modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</li> <li>• result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</li> <li>• introduce disease that may cause the species to decline, or</li> <li>• interfere substantially with the recovery of the species.</li> </ul>
Migratory species	<p>An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.</li> </ul>

## 4.2 Impacts to Wetlands of International Importance

The EPBC Act Protected Matters Search Tool results (**Section 3.2.1** and **Appendix 1**) identifies the following wetlands are occurring within proximity of the project site:

- Banrock Station Wetland Complex, Murray – Darling Basin, South Australia;
- Riverland, Murray – Darling Basin, South Australia; and
- The Coorong, and Lakes Alexandrina and Albert Wetland, Murray – Darling Basin, South Australia.

These wetlands are situated within 1100 – 1400 km of the project site. Whilst the project site is situated within the Border Rivers river region of the Murray – Darling Basin, the project will not have any impacts on the hydrological regime of the wetland (directly or indirectly). Furthermore, the small amount of clearing required to support the project will not have any impact on the wetland's ecosystems, species or hydrology. Therefore, given the low impact nature of the development means that it is unlikely that the project impacts on the listed Wetlands of International Importance (Ramsar).

The development will not result in any of the impacts outlined under the significant impact criteria outlined in the Significant Impact Guidelines.

## 4.3 Impacts to Threatened Ecological Communities

The ecological assessment confirmed that small areas of Brigalow community occur within the project site; however, the Brigalow communities were assessed as not viable and did not meet the TEC criteria for size, structure and floristic diversity. No other threatened ecological communities were confirmed as being present within the site.

Based on the current development layout, most of the infrastructure associated with the development will be installed within existing cleared areas, thereby avoiding clearing of any remnant or regrowth vegetation. Areas of significant ecological habitats along and surrounding watercourses will not be disturbed, thereby preserving habitat and wildlife corridors across the site.

Clearing with the proposed electricity corridor will result in the removal of approximately 2.1 ha of remnant native vegetation (5km length and 43m wide clearing). This vegetation is characterised as RE11.5.1 - *Eucalyptus crebra* and/or *E. populnea*, *Callitris glaucophylla*, *Angophora leiocarpa*, *Allocasuarina luehmannii* woodland, which is listed under the Queensland VM Act as LC, and is not listed under the EPBC Act.

Given that the proposed development will not result in any clearing or disturbance of any listed threatened ecological communities, the development shall not result in any of the impacts outlined under the significant impact criteria provided in the Significant Impact Guidelines (DotE, 2013), as they pertain to the listed Brigalow (*Acacia harpophylla* dominant and codominant) threatened ecological community.

## 4.4 Impacts to Threatened Flora and Threatened Flora Habitat

Most of the infrastructure associated with the development will be installed within existing cleared areas, thereby avoiding clearing of any remnant or regrowth vegetation which may provide suitable habitat for threatened flora species. Areas of significant ecological habitats along and surrounding watercourses will not be disturbed, thereby preserving habitat across the site.

Clearing within the proposed electricity corridor shall result in the removal of approximately 2.1 ha of remnant native vegetation. This area is already disturbed as a result of an existing electricity easement and installation of logging tracks; therefore, the clearing (43m widening of the existing corridor) shall have minimal impacts in terms of fragmentation.

A total of eight (8) EPBC-listed threatened flora species were identified by desktop searches as potentially occurring within a 10 km radius of the project site. Based on an assessment of the likelihood of occurrence (Section 3.2.3), four (4) species were assessed as being possibly likely to occur within the project area. The other species identified by desktop searches are considered as unlikely to occur. These species are:

- *Cadellia pentastylis* (ooline) – listed as Vulnerable under the EPBC Act;
- *Hompholis belsonii* (Belson's panic) listed as Vulnerable under the EPBC Act;
- *Macrozamia machinii* (a cycad) listed as Vulnerable under the EPBC Act; and
- *Prostanthera* sp. Dunmore (D.M. Gordon 8A) (Dunmore mint bush) listed as Vulnerable under the EPBC Act.

The area to be cleared within Western Creek State Forest is considered to be more likely to support threatened species and threatened flora species habitat. The ecological assessments revealed that none of these threatened flora species were identified within this area.

The action may also result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat; however, the control of invasive species is addressed by the Environmental Works Plan prepared for this area. Ongoing maintenance is also undertaken by the land custodians (DNPSR/QPWS, Powerlink). Maintenance activities include management of fuel load through fire management planning and planned burns, weed control and pest animal management.

Threatened species surveys undertaken during the ecological assessments of the site (RPS, 2015) did not detect the presence of any threatened flora or fauna species listed under the EPBC Act. The area to be cleared is also adjacent to an existing electricity easement, which is heavily disturbed. Consequently it is unlikely that the project area support an important population of threatened flora species.

Based on the above information, the action is unlikely to result in any of the impacts outlined under the significant impact criteria provided in the Significant Impact Guidelines (DotE, 2013).

#### **4.5 Impacts to Threatened Fauna and Threatened Fauna Habitat**

Most of the infrastructure associated with the development will be installed within existing cleared areas that have either been heavily grazed and/or cropped for cattle fodder, thereby avoiding clearing of any remnant or regrowth vegetation which may provide suitable habitat for threatened fauna species. Areas of significant ecological habitat along and surrounding watercourses will not be disturbed, thereby preserving existing fauna habitat across the site.

Clearing within the proposed electricity corridor shall result in the removal of approximately 2.1 ha of remnant native vegetation. This area is already disturbed as a result of an existing electricity easement; therefore, the clearing shall have minimal impacts in terms of fragmentation.

A total of fifteen (15) EPBC-listed threatened flora species were identified by desktop searches as potentially occurring within a 10 km radius of the project site. Based on an assessment of the likelihood of occurrence (Section 3.2.4), nine (9) species were assessed as being possibly likely to occur within the project area and two (2) species were assessed as being likely to occur. The other species identified by desktop searches are considered as unlikely to occur. These species are:

- *Delma torquata* (Collared Delma) – listed as Vulnerable and considered to be likely to occur;

- *Nyctophilus corbeni* (Corben's Long-eared Bat) – listed as Vulnerable and considered to be likely to occur;
- *Anthochaera phrygia* (Regent Honeyeater) – listed as Critically Endangered and considered as possibly occurring;
- *Egernia rugosa* (Yakka Skink) – listed as Vulnerable and considered as possibly occurring;
- *Erythrotriorchis radiatus* (Red Goshawk) - listed as Vulnerable and considered as possibly occurring;
- *Furina dunmalli* (Dunmall's Snake) - listed as Vulnerable and considered as possibly occurring;
- *Geophaps scripta scripta* (Squatter Pigeon (southern)) - listed as Vulnerable and considered as possibly occurring;
- *Grantiella picta* (Painted Honeyeater) - listed as Vulnerable and considered as possibly occurring;
- *Lathamus discolor* (Swift Parrot) - listed as Critically Endangered and considered as possibly occurring;
- *Petauroides Volans* (Greater Glider) - listed as Vulnerable and considered as possibly occurring;
- *Phascolarctos cinereus* (Koala) - listed as Vulnerable and considered as possibly occurring.

Threatened species surveys undertaken as part of ecological assessments of the project area did not detect the presence of any of these species; given the cryptic nature of many of the listed species identified as potentially occurring in the area, these species may occur sporadically.

The area to be cleared within Western Creek State Forest is considered to be more likely to support threatened species and threatened fauna species habitat. Given that the area to be cleared is adjacent to an existing electricity easement, the action will not significantly contribute to increased fragmentation of fauna habitat and the area would be already subject to edge effects as a result of the existing disturbance.

An assessment of the project's impacts on the above fauna species is provided below.

#### ***Delma torquata***

*Delma torquata* (Collared Delma) is known to occur within the Bulli State Forest area, with confirmed records located within very close proximity (less than 1 km) of the site. This species normally inhabits eucalypt-dominated woodland and open forest, particularly in association with suitable micro-habitats such as rocky exposed outcrops (DoEE, 2017b). It appears to be a sedentary species and therefore, is considered to be highly sensitive to disturbance. A population of this species is known to occur within the Bulli State Forest which is geographically isolated from other known populations as a result of land clearing associated with agricultural land uses. Therefore, the Bulli State Forest population is an important population of this species.

Suitable habitat including rocky outcrops were identified within open woodland communities to be retained. These habitats were patchily distributed and were relatively small and isolated. No suitable habitat was identified within the powerline easement. No further fragmentation of the habitat will be created. The proposed action is not likely to result in a significant impact upon important population of this species.

#### ***Nyctophilus corbeni***

*Nyctophilus corbeni* (Corben's Long-eared Bat) is known to occur within proximity of the site, with confirmed records in Wondul Range National Park to the east of the project site. The ecological assessment undertaken within the area to be cleared within Western Creek State Forest noted the presence of a large

number of habitat features, including standing dead trees, trees with hollows and log piles from previous clearing, which may provide suitable roosting and foraging habitat for this species.

A detailed bat trapping survey was undertaken by Green Tape Solutions (Green Tape Solutions, 2017), in September 2017 to assess the presence of threatened bat species within the easement corridor. A total of 12 microbat species were detected occurring within the site. The presence of *Nyctophilus corbeni* (Vulnerable under the EPBC Act and NC Act) could not be distinguishable reliably from other sympatric *Nyctophilus* species using songmeter detectors and processing with zero-crossing analysis. However, *Nyctophilus gouldi* and *Nyctophilus bifax* were both captured in the harp traps during the survey. While the absence of *Nyctophilus corbeni* cannot be totally confirmed, we are confident that the calls recorded by the songmeter would match these two non-threatened species (calls recorded at the same location of capture).

While this species was not captured during the field assessment, its absence within the area could not be totally confirmed (e.g. this species could fly temporally from a more intact area within the Western Creek State Forest and feed on insects located in the corridor). To minimise any potential impacts on this species and other common bat species, a series of mitigation measures are proposed to reduce potential adverse impacts on this species. All mitigation measures are detailed in the Construction Environmental Management Plan (RPS, 2017) and are summarised in **Section 5.0**.

By implementing a number of key recommended actions designed to minimise impacts during the construction and operational phases, it is considered that the proposed solar farm will not adversely impact upon this species within the local area.

#### ***Anthochaera phrygia***

Vegetation within the project area does not include core foraging or breeding habitat for the Regent Honeyeater (*Anthochaera phrygia*), as the site is outside of the usual distribution range for this species. This species is highly nomadic, and may potentially utilise the site at times when other foraging resources are not available within its usual range, for example due to poor seasonal or drought conditions resulting in poor flowering within core habitat.

The proposed action would remove potential foraging and roosting habitat within the project area; however, the amount of habitat that would be directly impacted comprises only a small proportion of potential habitat for this species within its usual range. This species can also access vegetation outside of the project area, in particular the larger and more intact tracts of remnant vegetation within adjacent State Forests. Given the level of existing disturbance, the proposed action is unlikely to result in an increase in the incidence of these species within the project area.

#### ***Egernia rugosa***

Whilst suitable habitat is present with the project area for Yakka Skink (*Egernia rugosa*), there are no confirmed records within proximity of the site and modelling shows that the area is only considered within the potential, rather than likely, distribution range for the species (ALA, 2016). Suitable habitat within the project area consists of log piles from previous clearing, hollows and cavities with fallen logs, and rocks which may potentially provide shelter sites. Based on the low likelihood of occurrence, the proposed action is unlikely to significant impact upon populations of this species within the project area

#### ***Furina dunmallii***

There are no confirmed records of Dunmall's Snake (*Furina dunmallii*) within proximity of the project area, and modelling shows that the area is only considered within the potential, rather than likely, distribution range for the species (ALA, 2016). Preferred habitat for this species consists of open forest, particularly

Brigalow (*Acacia harpophylla*) forest and woodland on floodplains of deep-cracking black clay and clay loam soils. Given the presence of Brigalow communities, albeit disturbed, it could be inferred that suitable micro-habitat for this species may be present within the project area. However, based on the low likelihood of occurrence, the proposed action is unlikely to significant impact upon population of this species within the project area.

### ***Erythrorchis radiatus***

The site contains suitable foraging and roosting habitat for *Erythrorchis radiatus* (Red Goshawk), particularly within the proposed electricity corridor within Western Creek State Forest. However, a lack of recent sightings in southern Queensland in recent years suggests that populations may be in substantial decline and that the species range may have contracted to the north (Red Goshawk Recovery Team, 2015). Given the low likelihood of occurrence of this species, the proposed action is unlikely to significant impact upon populations of this species.

### ***Geophaps scripta scripta***

The Squatter Pigeon (*Geophaps scripta scripta*) inhabits the grassy understorey of open eucalypt woodland and is nearly always found near permanent water such as rivers, creeks, waterholes and farm dams. Suitable habitat is present with the project area for this species; however, there are no confirmed records within proximity of the site and modelling shows that the area is only considered within the potential, rather than likely, distribution range for the species (ALA, 2016). Given the low likelihood of occurrence of this species, the proposed action is unlikely to significant impact upon populations of this species.

### ***Grantiella picta***

The Painted Honeyeater (*Grantiella picta*) preferentially inhabits dry eucalypt open forests and woodlands and is strongly associated with the presence of mistletoe, the preferred food source for this species. It has also been recorded along watercourses, on farmland with remnant vegetation and in paddock trees. This species exhibits seasonal movements linked to the fruiting of mistletoe, however whilst no records are present within proximity of the site, modelling shows that the area is considered within the likely distribution range for the species (ALA, 2016). The area to be cleared within Western Creek State Forest is considered to be more likely to support threatened species and threatened fauna species habitat.

Given that the area to be cleared within Western Creek State Forest is adjacent to an existing electricity easement, and therefore, due to edge effects, may contain significant populations of mistletoe, the site may provide suitable habitat for this species. The ecological assessments undertaken by RPS do not provide any indication of whether mistletoe is present. The proposed action would remove potential foraging and roosting habitat within the project area but the amount of habitat that would be directly impacted comprises only a small proportion of potential habitat for this species within its usual range. This species can also access vegetation outside of the project area, in particular the larger and more intact tracts of remnant vegetation within adjacent State Forests.

Given the low likelihood of occurrence, the proposed action is unlikely to result in a significant impact upon populations of this species.

### ***Lathamus discolor***

The Swift Parrot (*Lathamus discolor*) is migratory – the species breeds in Tasmania before moving to mainland Australia for the non-breeding season. Movements within suitable habitat on the mainland is thought to be dependent on flowering times of the different flowering trees on which they feed. No records

are present within proximity of the site; however, modelling shows that the area is considered within the likely distribution range for the species (ALA, 2016).

The project area would provide potentially suitable food resources while native species are flowering. The proposed action would remove potential foraging and roosting habitat within the project area but the amount of habitat that would be directly impacted comprises only a small proportion of potential habitat for this species within its usual range. This species can also access vegetation outside of the project area, in particular the larger and more intact tracts of remnant vegetation within adjacent State Forests.

Given the low likelihood of occurrence, the proposed action is unlikely to result in a significant impact upon populations of this species.

#### ***Petauroides Volans***

The Greater Glider (*Petauroides Volans*) is largely restricted to eucalypt forests and woodlands with a preference for taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. It is primarily folivorous. The project area may provide suitable habitat for this species; however, given the lack of records within proximity of the site, the likelihood of occurrence is low and therefore, the proposed action is unlikely to result in a significant impact upon populations of this species.

#### ***Phascolarctos cinereus***

Vegetation within the project area provides suitable feeding and shelter resources for the Koala (*Phascolarctos cinereus*), particularly within the proposed electricity corridor in Western Creek State Forest. No records have been made within close proximity of the project area (the closest record is within Bringalily State Forest, approximately 25 km to the south of the project site). As the site contains preferred and primary Koala food trees (in particular, *Eucalyptus chloroclada* and *E. camaldulensis*), it may be possible that Koalas would periodically utilise the project area for foraging and refuge/shelter purposes, and during passage or dispersal. However, given the low likelihood of occurrence, the proposed action is unlikely to result in a significant impact upon populations of this species.

### **4.6 Impacts to Migratory Species and Migratory Species Habitat**

A total of fifteen (15) EPBC-listed migratory species were identified by desktop searches as potentially occurring within a 10 km radius of the project site. Based on an assessment of the likelihood of occurrence (Section 3.2.4), six (6) species were assessed as being possibly likely to occur with one species confirmed as occurring within the project area. The other species identified by desktop searches are considered as unlikely to occur. These species are:

- Fork-tailed Swift (*Apus pacificus*) - considered as possibly occurring;
- Great Egret (*Ardea alba*) considered as possibly occurring;
- Cattle Egret (*Ardea ibis*) - considered as possibly occurring;
- Oriental Cuckoo (*Cuculus optatus*) - considered as possibly occurring;
- Swift Parrot (*Lathamus discolor*) - considered as possibly occurring (refer to **Section 4.5**);
- White-throated Needletail (*Hirundapus caudacutus*) - considered as possibly occurring;
- Rainbow Bee-eater (*Merops ornatus*) - considered as possibly occurring; and
- Rufous Fantail (*Rhipidura rufifrons*) – known to occur.



Based on the current development layout, infrastructure associated with the development will be installed within existing cleared areas, thereby avoiding clearing of any remnant or regrowth vegetation. Areas of significant ecological habitats along and surrounding watercourses will not be disturbed, thereby preserving habitat and wildlife corridors across the site. On this basis, the development is unlikely to result in any significant impacts on species which show an association with watercourses or wetland areas that may potentially occur with the project area i.e. Great Egret (*Ardea alba*) and Cattle Egret (*Ardea ibis*).

The proposed action would remove potential foraging and roosting habitat within the project area for the other listed species identified as potentially occurring; however, the amount of habitat that would be directly impacted comprises only a small proportion of potential habitat for this species within proximity of the site and on the edge of an existing cleared easement. No additional fragmentation will be created as a result of the project. These species can also access vegetation outside of the project area, in particular the larger and more intact tracts of remnant vegetation within adjacent State Forests.

Consequently, the action is unlikely to result in any of the impacts outlined under the significant impact criteria provided in the Significant Impact Guidelines for Migratory Species (DEWHA, 2009).

## 5.0 Mitigation Measures

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As stipulated by the conditions imposed as part of the development approval (Toowoomba Regional Council, 2015), a 'no clearing zone' must be established and maintained over existing vegetated area. This zone is identified on the approved plans and in the Referral Agency Response (Vegetation) Plan. This condition will ensure that the significant ecological habitat, connectivity and corridor values associated with these areas of remnant and regrowth vegetation, and watercourses are retained, thereby minimising the potential impact of the development on possible MNES within the project area.

The area to be cleared within Western Creek State Forest is considered to be more likely to support MNES, in particular threatened species and threatened species habitat. Given that this area is adjacent to an existing electricity easement, the proposed electricity corridor is already disturbed and is unlikely to support an important population of threatened flora species. However, it is recommended that a targeted and systematic threatened species survey be undertaken within the proposed clearing by a suitably qualified and/or experienced ecologist. These surveys should be undertaken immediately prior to clearing and may be achieved by engaging personnel experienced in undertaking threatened species surveys to undertake the fauna spotter-catcher services required as part of the Environmental Works Plan.

Should threatened flora or fauna species be found during surveys undertaken prior to clearing, works must immediately cease and not re-commence until a Significant Species Management Plan is developed and implemented. Significant Species Management Plans should take into possible mitigation measures including translocation or propagation and reinstatement of threatened flora species.

The approved Environmental Works Plan (EWP) for the proposed electricity corridor requires that a number of mitigation measures be implemented in order to minimise some of the impacts of the clearing or to manage environmental issues identified during the ecological assessment. These mitigation measures include:

- treatment of restricted invasive plants declared under the *Biosecurity Act 2014* to avoid spread;
- watercourse remediation;
- engagement of spotter-catcher services during clearing operations; and,
- ongoing maintenance undertaken by the land custodians (DNPSR/QPWS, Powerlink). Maintenance activities include management of fuel load through fire management planning and planned burns, weed control and pest animal management.

Section 4.2 of the EWP also requires that if fences are to be re-established following clearing (for example, for stock exclusion or control), they are to be re-installed to a condition equal to or better than the current installation. In addition to this requirement, it is recommended that re-installed fences incorporate design features or modifications to minimise the risk of wildlife entanglement (referred to as 'fauna-friendly fencing'), for example, avoiding the use of barbed wire or at the minimum, using plain or borderline (white plastic-coated) wire as the top strand and attachment of metal reflective tags on the top strand. Fences should also have a 50 cm gap between ground level and the first strand, and 30 cm gaps between remaining strands.

The proponent is open to assisting in improving biodiversity values on the site following construction, including reseeding disturbed areas with native grasses. This may be extended to include rehabilitation to assist with remediation of disturbed areas following clearing, for example, through the use of suitable low-growing native species to assist with soil binding and site stabilisation, and to improve habitat values e.g. through providing food and shelter resources for fauna species.

Potential impacts on the environmental matters are limited to the clearing of some canopy trees at proximity of the existing powerline easement. The installation of a solar farm is bale to retain existing grassland vegetation with a minimal level of ground disturbance. By implementing key recommended actions designed to minimise impacts during the construction and operational phases, it is considered that the proposed development will not significantly adversely impact upon the MNES.

## 6.0 Conclusion

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This report has been prepared to undertake a self-assessment of the proposed Bull Creek Solar Farm project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), in order to determine whether the project presents the likelihood of resulting in any significant impacts on Matters of National Environmental Significance (MNES) and therefore, whether referral of the project to the DoEE is warranted.

This assessment has been undertaken based on information provided in previous ecological assessment studies and surveys undertaken by RPS' ecologists and on results from relevant database searches during a detailed desktop assessment undertaken by Green Tape Solutions.

The project site consists of a development area located across four lots on three adjoining properties as well as a proposed widening of an existing electricity corridor in Western Creek State Forest. The development area itself contains patches of remnant and regrowth vegetation, mostly associated with watercourses. These patches of vegetation and vegetated watercourses provide wildlife corridors and linkages across the properties to larger core conservation hubs (for example, larger tracts of remnant vegetation within Bulli State Forest, Western Creek State Forest, Whetstone State Forest and Wondul Range National Park). Some patches of remnant vegetation are connected to remnant patches within adjoining State Forest. The remaining landscape is dominated by low density pasture dominated by native and exotic grasses. The native pasture is highly modified and is floristically non-diverse and retains almost none of the pre-European characteristics of the ecological community.

All infrastructure associated with development of the solar farm will be sited so as to avoid clearing of existing vegetation. The ecological assessments found that while small areas of the brigalow vegetation community (RE11.9.5) are present within the project area. These communities are not considered to be viable and did not meet the criteria for the listed Brigalow (*Acacia harpophylla* dominant and codominant) TEC. Therefore, it is considered unlikely that the development will result in any significant impacts on MNES in the development area.

Clearing of the proposed new 5 kilometre widening of the existing electricity corridor to connect the proposed development to a nearby sub-station located in Western Creek State Forest will require the removal of approximately 2.1ha of remnant native vegetation containing significant ecological values. This proposed corridor shall be adjacent to the existing electricity connection easement. This area is considered more likely to support threatened flora and fauna species.

Opportunistic threatened species surveys undertaken during the ecological assessments of the site did not detect the presence of any threatened flora or fauna species listed under the EPBC Act. As per the ecological assessments, it is unlikely that any of listed threatened flora species identified as possibly likely to occur, are present within this area. Therefore, the action is unlikely to result in any of the impacts outlined under the significant impact criteria provided in the Significant Impact Guidelines.

Based on available details of potential fauna species habitat provided by the ecological assessment reports for the project, and on searches of occurrence records and modelled threatened species habitat for the relevant species identified by detailed desktop searches, one species, Corben's Long-eared Bat (*Nyctophilus corbenii*), could potentially occur in proximity of the electricity corridor in Western Creek State Forest. A bat survey was therefore undertaken in September 2017 (Green Tape Solutions, 2017), and did not confirm the presence of this species within the corridor. Consequently, it would be unlikely that the vegetation clearing would significantly impact on this species.

Other species that are considered as possibly occurring are Regent Honeyeater (*Anthochaera phrygia*), Yakka Skink (*Egernia rugosa*), Dunmall's Snake (*Furina dunmalli*), Squatter Pigeon (Southern) (*Geophaps scripta scripta*), Painted Honeyeater (*Grantiella picta*), Swift Parrot (*Lathamus discolor*), Greater Glider (*Petauroides volans*) and Koala (*Phascolarctos cinereus*).

The proposed action will remove potential foraging and roosting habitat within the project area but the amount of habitat that would be directly impacted comprises only a small proportion of potential habitat for these species within their usual range. These species can also access vegetation outside of the project area, in particular the larger and more intact tracts of remnant vegetation within adjacent State Forests.

By implementing key recommended actions designed to minimise impacts during the construction and operational phases (refer to mitigation measures outlined in **Section 5.0**), it is considered that the proposed development will not significantly adversely impact upon the MNES.

## 7.0 References

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# Appendix I

## EPBC Act Protected Matters Search



# EPBC Act Protected Matters Report

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

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

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

Report created: 01/11/16 14:54:34

[Summary](#)

[Details](#)

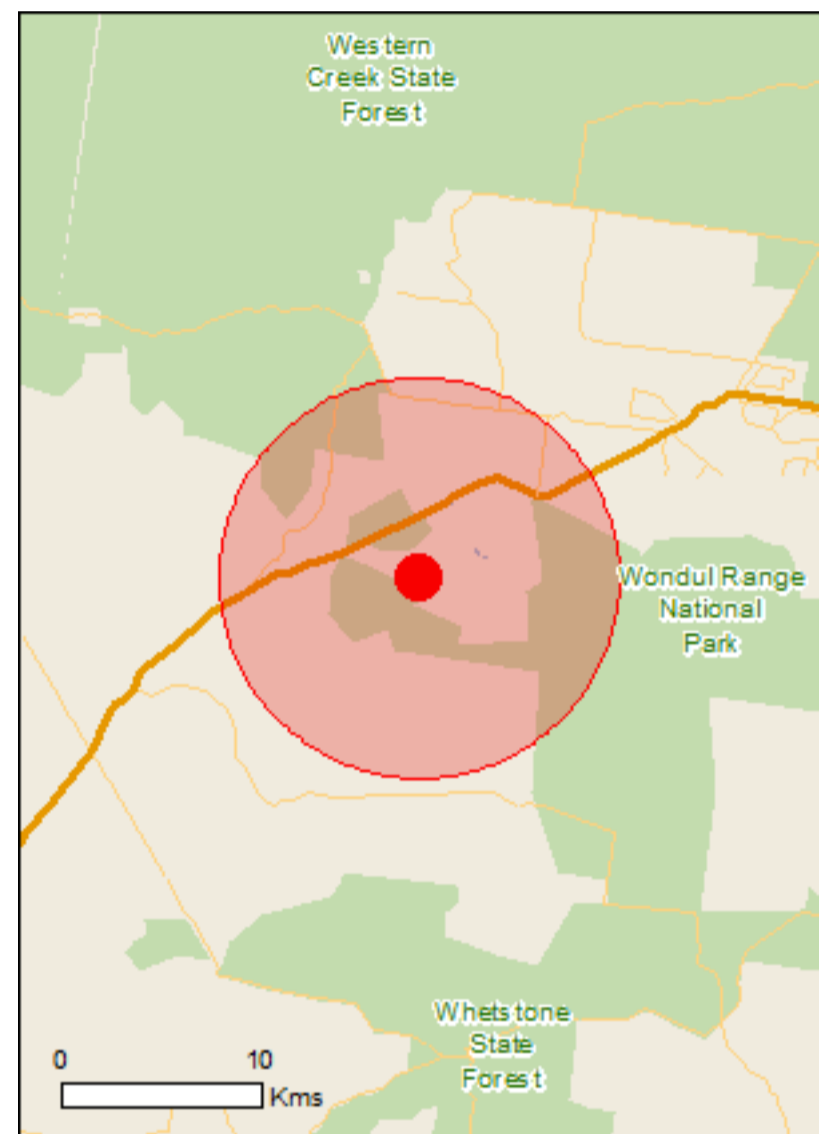
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

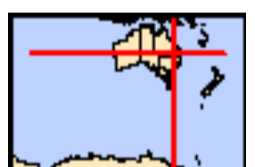
[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 10.0Km](#)





# Summary

## Matters of National Environmental Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	3
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	4
<a href="#">Listed Threatened Species:</a>	23
<a href="#">Listed Migratory Species:</a>	9

## Other Matters Protected by the EPBC Act

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

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

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

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	15
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Commonwealth Reserves Marine:</a>	None

## Extra Information

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

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	20
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

# Details

## Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
<a href="#">Banrock station wetland complex</a>	1200 - 1300km
<a href="#">Riverland</a>	1100 - 1200km
<a href="#">The coorong, and lakes alexandrina and albert wetland</a>	1300 - 1400km

## Listed Threatened Ecological Communities [ Resource Information ]

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

Name	Status	Type of Presence
<a href="#">Brigalow (Acacia harpophylla dominant and co-dominant)</a>	Endangered	Community known to occur within area
<a href="#">Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions</a>	Endangered	Community may occur within area
<a href="#">Weeping Myall Woodlands</a>	Endangered	Community likely to occur within area
<a href="#">White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</a>	Critically Endangered	Community may occur within area

## Listed Threatened Species [ Resource Information ]

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Anthochaera phrygia</a> Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Erythrotriorchis radiatus</a> Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Geophaps scripta scripta</a> Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
<a href="#">Grantiella picta</a> Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
<b>Fish</b>		
<a href="#">Maccullochella peelii</a> Murray Cod [66633]	Vulnerable	Species or species

Name	Status	Type of Presence
habitat may occur within area		
<b>Mammals</b>		
<a href="#">Chalinolobus dwyeri</a> Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Nyctophilus corbeni</a> Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Petauroides volans</a> Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
<a href="#">Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</a> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat likely to occur within area
<b>Other</b>		
<a href="#">Macrozamia machinii</a> [64583]	Vulnerable	Species or species habitat likely to occur within area
<b>Plants</b>		
<a href="#">Cadellia pentastylis</a> Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Homopholis belsonii</a> Belson's Panic [2406]	Vulnerable	Species or species habitat may occur within area
<a href="#">Prostanthera sp. Dunmore (D.M.Gordon 8A)</a> [84115]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Thesium australe</a> Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
<a href="#">Tylophora linearis</a> [55231]	Endangered	Species or species habitat may occur within area
<a href="#">Westringia parvifolia</a> [4822]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Xerothamnella herbacea</a> [4146]	Endangered	Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Delma torquata</a> Collared Delma [1656]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Egernia rugosa</a> Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area
<a href="#">Furina dunmalli</a> Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area

#### 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
<b>Migratory Marine Birds</b>		

Name	Threatened	Type of Presence
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Cuculus optatus</a> Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat likely to occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat may occur within area

<b>Migratory Wetlands Species</b>		
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area

## Other Matters Protected by the EPBC Act

Listed Marine Species	<a href="#">[ Resource Information ]</a>	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Cuculus saturatus</a> Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]		Species or species habitat may occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat likely to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat may occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

## Extra Information

### Invasive Species

### [ Resource Information ]

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

Name	Status	Type of Presence
<b>Birds</b>		
<i>Acridotheres tristis</i> Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur

Name	Status	Type of Presence 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
<b>Frogs</b>		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
<b>Mammals</b>		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
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 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
<b>Plants</b>		
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
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple,		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Silverleaf-nettle, Trompillo [12323]		

# 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.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

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

-28.0403 150.8667



# 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](#)
- [-Parks and Wildlife Commission NT, Northern Territory Government](#)
- [-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, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

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

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

## Appendix 2 Wildlife Online Database



# Queensland Government

## Wildlife Online Extract

Search Criteria: Species List for a Specified Point  
Species: All  
Type: All  
Status: All  
Records: All  
Date: All  
Latitude: -28.0402  
Longitude: 150.8667  
Distance: 10  
Email: kelly.matthews@greentapesolutions.com.au  
Date submitted: Tuesday 01 Nov 2016 13:53:05  
Date extracted: Tuesday 01 Nov 2016 14:00:02

The number of records retrieved = 299

### **Disclaimer**

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

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

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria latopalmata</i>	broad palmed rocketfrog		C		2
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		3
animals	amphibians	Limnodynastidae	<i>Neobatrachus sudellae</i>	meeowing frog		C		1
animals	amphibians	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog		C		9
animals	amphibians	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog		C		2
animals	amphibians	Myobatrachidae	<i>Uperoleia laevigata</i>	eastern gungan		C		1/1
animals	birds	Acanthizidae	<i>Acanthiza nana</i>	yellow thornbill		C		6
animals	birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		C		5
animals	birds	Acanthizidae	<i>Acanthiza apicalis</i>	inland thornbill		C		6
animals	birds	Acanthizidae	<i>Acanthiza reguloides</i>	buff-rumped thornbill		C		1
animals	birds	Acanthizidae	<i>Acanthiza chrysorrhoa</i>	yellow-rumped thornbill		C		1
animals	birds	Acanthizidae	<i>Smicrornis brevirostris</i>	weebill		C		7
animals	birds	Acanthizidae	<i>Chthonicola sagittata</i>	speckled warbler		C		4
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		3
animals	birds	Aegothelidae	<i>Aegotheles cristatus</i>	Australian owl-nightjar		C		2
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		4
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		2
animals	birds	Anatidae	<i>Dendrocygna arcuata</i>	wandering whistling-duck		C		1
animals	birds	Anhingidae	<i>Anhinga novaehollandiae</i>	Australasian darter		C		1
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		1
animals	birds	Ardeidae	<i>Ardea pacifica</i>	white-necked heron		C		1
animals	birds	Artamidae	<i>Artamus leucorynchus</i>	white-breasted woodswallow		C		1
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird		C		4
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		7
animals	birds	Artamidae	<i>Cracticus tibicen</i>	Australian magpie		C		5
animals	birds	Artamidae	<i>Artamus minor</i>	little woodswallow		C		1
animals	birds	Artamidae	<i>Strepera graculina</i>	pied currawong		C		8
animals	birds	Cacatuidae	<i>Eolophus roseicapillus</i>	galah		C		9
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		5
animals	birds	Cacatuidae	<i>Calyptorhynchus lathami lathami</i>	glossy black-cockatoo (eastern)		V		2
animals	birds	Cacatuidae	<i>Calyptorhynchus lathami</i>	glossy black-cockatoo		V		1
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		3
animals	birds	Campephagidae	<i>Coracina papuensis</i>	white-bellied cuckoo-shrike		C		1
animals	birds	Campephagidae	<i>Lalage tricolor</i>	white-winged triller		C		1
animals	birds	Casuariidae	<i>Dromaius novaehollandiae</i>	emu		C		1
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		1
animals	birds	Climacteridae	<i>Cormobates leucophaea</i>	white-throated treecreeper		C		2
animals	birds	Climacteridae	<i>Cormobates leucophaea metastasis</i>	white-throated treecreeper (southern)		C		7
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		3
animals	birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		C		1
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		5
animals	birds	Columbidae	<i>Geopelia striata</i>	peaceful dove		C		2
animals	birds	Corcoracidae	<i>Struthidea cinerea</i>	apostlebird		C		4
animals	birds	Corcoracidae	<i>Corcorax melanorhamphos</i>	white-winged chough		C		2

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animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		13
animals	birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		C		2
animals	birds	Cuculidae	<i>Chalcites osculans</i>	black-eared cuckoo		C		1
animals	birds	Cuculidae	<i>Cacomantis pallidus</i>	pallid cuckoo		C		1
animals	birds	Cuculidae	<i>Chalcites basalii</i>	Horsfield's bronze-cuckoo		C		1
animals	birds	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo		C		2
animals	birds	Cuculidae	<i>Cacomantis variolosus</i>	brush cuckoo		C		2
animals	birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		C		2
animals	birds	Estrildidae	<i>Taeniopygia guttata</i>	zebra finch		C		1
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		6
animals	birds	Eurostopodidae	<i>Eurostopodus mystacalis</i>	white-throated nightjar		C		2
animals	birds	Falconidae	<i>Falco berigora</i>	brown falcon		C		1
animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		5
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		2
animals	birds	Jacanidae	<i>Irediparra gallinacea</i>	comb-crested jacana		C		1
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		2
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		3
animals	birds	Meliphagidae	<i>Lichenostomus melanops</i>	yellow-tufted honeyeater		C		1
animals	birds	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater		C		11
animals	birds	Meliphagidae	<i>Acanthagenys rufogularis</i>	spiny-cheeked honeyeater		C		4
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		3
animals	birds	Meliphagidae	<i>Caligavis chrysops</i>	yellow-faced honeyeater		C		13
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		3
animals	birds	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater		C		3
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		2
animals	birds	Meliphagidae	<i>Nesoptilotis leucotis</i>	white-eared honeyeater		C		3
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		8
animals	birds	Meliphagidae	<i>Melithreptus brevirostris</i>	brown-headed honeyeater		C		1
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		5
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		2
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		1
animals	birds	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher		C		1
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		7
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		6
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		4
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		2
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		3
animals	birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		C		1
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		12
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		13
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		6
animals	birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		C		1
animals	birds	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		C		1
animals	birds	Petroicidae	<i>Petroica rosea</i>	rose robin		C		1
animals	birds	Petroicidae	<i>Microeca fascinans</i>	jacky winter		C		4
animals	birds	Petroicidae	<i>Eopsaltria australis</i>	eastern yellow robin		C		2

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animals	birds	Phalacrocoracidae	<i>Phalacrocorax varius</i>	piebald cormorant		C		1
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		1
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		3
animals	birds	Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian grebe		C		1
animals	birds	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler		C		7
animals	birds	Psittacidae	<i>Psephotus haematonotus</i>	red-rumped parrot		C		1
animals	birds	Psittacidae	<i>Northiella haematogaster</i>	blue bonnet		C		1
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		3
animals	birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		C		2
animals	birds	Psittacidae	<i>Parvipsitta pusilla</i>	little lorikeet		C		1
animals	birds	Psittacidae	<i>Aprosmictus erythropterus</i>	red-winged parrot		C		2
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		1
animals	birds	Ptilonorhynchidae	<i>Ptilonorhynchus maculatus</i>	spotted bowerbird		C		1
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		9
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		7
animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		1
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		1
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silveryeye		C		6
animals	birds	Turnicidae	<i>Turnix sp.</i>					2
animals	insects	Coenagrionidae	<i>Ischnura aurora</i>	aurora bluetail				1
animals	insects	Coenagrionidae	<i>Xanthagrion erythroneurum</i>	red & blue damselfly				1
animals	insects	Libellulidae	<i>Diplacodes bipunctata</i>	wandering percher				1
animals	insects	Libellulidae	<i>Orthetrum caledonicum</i>	blue skimmer				1
animals	insects	Lycaenidae	<i>Candalides xanthospilos</i>	yellow-spotted blue				1
animals	insects	Lycaenidae	<i>Ogyris amaryllis meridionalis</i>	satin azure (inland subspecies)				1
animals	insects	Nymphalidae	<i>Euploea core corinna</i>	common crow				2
animals	insects	Nymphalidae	<i>Danaus petilia</i>	lesser wanderer				1
animals	insects	Papilionidae	<i>Papilio anactus</i>	dingy swallowtail				1
animals	insects	Papilionidae	<i>Papilio aegaeus aegaeus</i>	orchard swallowtail (Australian subspecies)				3
animals	insects	Pieridae	<i>Belenois java teutonia</i>	caper white				1
animals	malacostracans	Parastacidae	<i>Cherax destructor</i>	common yabby				1
animals	mammals	Canidae	<i>Canis sp.</i>					1
animals	mammals	Equidae	<i>Equus caballus</i>	horse	Y			1
animals	mammals	Macropodidae	<i>Macropus rufogriseus</i>	red-necked wallaby		C		3
animals	mammals	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo		C		4
animals	mammals	Macropodidae	<i>Wallabia bicolor</i>	swamp wallaby		C		1
animals	mammals	Molossidae	<i>Tadarida australis</i>	white-striped freetail bat		C		1
animals	mammals	Molossidae	<i>Mormopterus sp.</i>					4
animals	mammals	Molossidae	<i>Mormopterus lumsdenae</i>	northern free-tailed bat		C		1
animals	mammals	Muridae	<i>Pseudomys sp.</i>					1
animals	mammals	Petauridae	<i>Petaurus norfolcensis</i>	squirrel glider		C		1
animals	mammals	Suidae	<i>Sus scrofa</i>	pig	Y			2
animals	mammals	Vespertilionidae	<i>Nyctophilus gouldi</i>	Gould's long-eared bat		C		1
animals	mammals	Vespertilionidae	<i>Scotorepens greyii</i>	little broad-nosed bat		C		5
animals	mammals	Vespertilionidae	<i>Scotorepens sp.</i>					15/2

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animals	mammals	Vespertilionidae	<i>Nyctophilus sp.</i>					2
animals	mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		C		4
animals	mammals	Vespertilionidae	<i>Scotorepens sp. (Parnaby)</i>	central-eastern broad-nosed bat		C		2
animals	mammals	Vespertilionidae	<i>Chalinolobus picatus</i>	little pied bat		C		1
animals	mammals	Vespertilionidae	<i>Scotorepens balstoni</i>	inland broad-nosed bat		C		2
animals	mammals	Vespertilionidae	<i>Vespadelus vulturnus</i>	little forest bat		C		9/1
animals	reptiles	Agamidae	<i>Pogona barbata</i>	bearded dragon		C		1
animals	reptiles	Agamidae	<i>Amphibolurus sp.</i>					2
animals	reptiles	Diplodactylidae	<i>Diplodactylus vittatus</i>	wood gecko		C		3
animals	reptiles	Diplodactylidae	<i>Nebulifera robusta</i>	robust velvet gecko		C		1
animals	reptiles	Elapidae	<i>Hoplocephalus bitorquatus</i>	pale-headed snake		C		1
animals	reptiles	Elapidae	<i>Demansia psammophis</i>	yellow-faced whipsnake		C		1
animals	reptiles	Gekkonidae	<i>Heteronotia binoei</i>	Bynoe's gecko		C		4
animals	reptiles	Gekkonidae	<i>Gehyra dubia</i>	dubious dtella		C		2
animals	reptiles	Pygopodidae	<i>Lialis burtonis</i>	Burton's legless lizard		C		1
animals	reptiles	Pygopodidae	<i>Delma torquata</i>	collared delma		V	V	1/1
animals	reptiles	Pygopodidae	<i>Delma plebeia</i>	common delma		C		1
animals	reptiles	Pygopodidae	<i>Paradelma orientalis</i>	brigalow scaly-foot		C		2
animals	reptiles	Scincidae	<i>Cryptoblepharus pannosus</i>	ragged snake-eyed skink		C		2/1
animals	reptiles	Scincidae	<i>Cyclodomorphus gerrardii</i>	pink-tongued lizard		C		1
animals	reptiles	Scincidae	<i>Carlia pectoralis sensu lato</i>			C		4
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink		C		2
animals	reptiles	Scincidae	<i>Lerista punctatovittata</i>	eastern robust slider		C		1/1
animals	reptiles	Scincidae	<i>Pygmaeascincus timlowi</i>	dwarf litter-skink		C		1/1
animals	reptiles	Scincidae	<i>Morethia boulengeri</i>	south-eastern morethia skink		C		2
animals	reptiles	Scincidae	<i>Lygisaurus foliorum</i>	tree-base litter-skink		C		2
animals	reptiles	Scincidae	<i>Ctenotus spaldingi</i>	straight-browed ctenotus		C		1
animals	reptiles	Scincidae	<i>Egernia striolata</i>	tree skink		C		2
animals	reptiles	Scincidae	<i>Lerista fragilis</i>	eastern mulch slider		C		4
animals	reptiles	Scincidae	<i>Lerista sp.</i>					1
animals	reptiles	Scincidae	<i>Menetia greyii</i>	common dwarf skink		C		1/1
animals	reptiles	Varanidae	<i>Varanus varius</i>	lace monitor		C		2
animals	reptiles	Varanidae	<i>Varanus gouldii</i>	sand monitor		C		2
animals	uncertain	Indeterminate	<i>Indeterminate</i>	Unknown or Code Pending		C		5
plants	conifers	Cupressaceae	<i>Callitris glaucophylla</i>	white cypress pine		C		23
plants	ferns	Adiantaceae	<i>Cheilanthes sieberi subsp. sieberi</i>			C		2
plants	ferns	Adiantaceae	<i>Cheilanthes distans</i>	bristly cloak fern		C		2
plants	higher dicots	Acanthaceae	<i>Xerothamnella herbacea</i>			E	E	2/1
plants	higher dicots	Acanthaceae	<i>Brunoniella australis</i>	blue trumpet		C		2/2
plants	higher dicots	Acanthaceae	<i>Pseuderanthemum variabile</i>	pastel flower		C		1/1
plants	higher dicots	Amaranthaceae	<i>Nyssanthes erecta</i>			C		2/2
plants	higher dicots	Apiaceae	<i>Actinotus gibbonsii</i>	dwarf flannel flower		C		1/1
plants	higher dicots	Apocynaceae	<i>Parsonsia eucalyptophylla</i>	gargaloo		C		1
plants	higher dicots	Apocynaceae	<i>Carissa ovata</i>	currantbush		C		3
plants	higher dicots	Asteraceae	<i>Brachyscome whitei subsp. whitei</i>			C		1/1
plants	higher dicots	Asteraceae	<i>Cassinia laevis</i>			C		1

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plants	higher dicots	Asteraceae	<i>Chrysocephalum apiculatum</i>	yellow buttons		C		1
plants	higher dicots	Asteraceae	<i>Ozothamnus diosmifolius</i>	white dogwood		C		1/1
plants	higher dicots	Asteraceae	<i>Brachyscome multifida</i>			C		1
plants	higher dicots	Asteraceae	<i>Rhodanthe polyphylla</i>			C		1/1
plants	higher dicots	Asteraceae	<i>Euchiton sphaericus</i>			C		1/1
plants	higher dicots	Asteraceae	<i>Conyza sumatrensis</i>	tall fleabane				1
plants	higher dicots	Asteraceae	<i>Calotis lappulacea</i>	yellow burr daisy		C		1
plants	higher dicots	Asteraceae	<i>Calotis cuneifolia</i>	burr daisy		C		1
plants	higher dicots	Cactaceae	<i>Opuntia stricta</i>		Y			3
plants	higher dicots	Cactaceae	<i>Opuntia tomentosa</i>	velvety tree pear	Y			3
plants	higher dicots	Caesalpiniaceae	<i>Senna coronilloides</i>			C		1
plants	higher dicots	Caesalpiniaceae	<i>Senna artemisioides subsp. coriacea</i>			C		1
plants	higher dicots	Campanulaceae	<i>Wahlenbergia</i>			C		1
plants	higher dicots	Capparaceae	<i>Apophyllum anomalum</i>	broom bush		C		1
plants	higher dicots	Capparaceae	<i>Capparis lasiantha</i>	nipan		C		1
plants	higher dicots	Caryophyllaceae	<i>Polycarpon tetraphyllum</i>		Y			1/1
plants	higher dicots	Casuarinaceae	<i>Allocasuarina luehmannii</i>	bull oak		C		36
plants	higher dicots	Casuarinaceae	<i>Casuarina cristata</i>	belah		C		37
plants	higher dicots	Chenopodiaceae	<i>Einadia hastata</i>			C		2
plants	higher dicots	Chenopodiaceae	<i>Rhagodia spinescens</i>	thorny saltbush		C		1
plants	higher dicots	Chenopodiaceae	<i>Sclerolaena tetracuspis</i>	brigalow burr		C		2/2
plants	higher dicots	Chenopodiaceae	<i>Enchylaena tomentosa var. tomentosa</i>			C		1
plants	higher dicots	Chenopodiaceae	<i>Sclerolaena diacantha</i>	grey copper burr		C		1/1
plants	higher dicots	Ericaceae	<i>Lissanthe pluriloculata</i>			C		1
plants	higher dicots	Ericaceae	<i>Styphelia viridis subsp. breviflora</i>			C		3/1
plants	higher dicots	Ericaceae	<i>Leucopogon mitchellii</i>			C		1/1
plants	higher dicots	Ericaceae	<i>Melichrus urceolatus</i>	honey gorse		C		1
plants	higher dicots	Ericaceae	<i>Leucopogon biflorus</i>			C		1
plants	higher dicots	Euphorbiaceae	<i>Beyeria viscosa</i>			C		1/1
plants	higher dicots	Euphorbiaceae	<i>Euphorbia tannensis subsp. eremophila</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Daviesia genistifolia</i>	broom bitter pea		C		1
plants	higher dicots	Fabaceae	<i>Desmodium brachypodium</i>	large ticktrefoil		C		1
plants	higher dicots	Fabaceae	<i>Jacksonia scoparia</i>			C		1
plants	higher dicots	Goodeniaceae	<i>Goodenia glabra</i>			C		1/1
plants	higher dicots	Goodeniaceae	<i>Goodenia rotundifolia</i>			C		1/1
plants	higher dicots	Goodeniaceae	<i>Goodenia delicata</i>			C		2/2
plants	higher dicots	Goodeniaceae	<i>Goodenia hederacea subsp. hederacea</i>			C		2
plants	higher dicots	Haloragaceae	<i>Gonocarpus elatus</i>			C		1/1
plants	higher dicots	Haloragaceae	<i>Gonocarpus chinensis subsp. verrucosus</i>			C		1/1
plants	higher dicots	Lamiaceae	<i>Spartothamnella juncea</i>	native broom		C		1
plants	higher dicots	Lamiaceae	<i>Spartothamnella puberula</i>			C		1/1
plants	higher dicots	Lamiaceae	<i>Ajuga australis</i>	Australian bugle		C		1
plants	higher dicots	Lamiaceae	<i>Plectranthus parviflorus</i>			C		1
plants	higher dicots	Loranthaceae	<i>Amyema gaudichaudii</i>			C		1/1
plants	higher dicots	Loranthaceae	<i>Amyema quandang var. quandang</i>			C		1/1
plants	higher dicots	Malvaceae	<i>Sida sp. (Musselbrook M.B.Thomas+ MRS437)</i>			C		1/1



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plants	higher dicots	Malvaceae	<i>Abutilon oxycarpum</i> var. <i>incanum</i>			C		1/1
plants	higher dicots	Malvaceae	<i>Abutilon oxycarpum</i>			C		1
plants	higher dicots	Malvaceae	<i>Sida corrugata</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia sparsiflora</i>			C		2/2
plants	higher dicots	Mimosaceae	<i>Acacia harpophylla</i>	brigalow		C		46/1
plants	higher dicots	Mimosaceae	<i>Acacia polybotrya</i>	western silver wattle		C		1
plants	higher dicots	Mimosaceae	<i>Acacia conferta</i>			C		2
plants	higher dicots	Myrtaceae	<i>Melaleuca</i>			C		1
plants	higher dicots	Myrtaceae	<i>Melaleuca decora</i>			C		1
plants	higher dicots	Myrtaceae	<i>Eucalyptus bakeri</i>	Baker's mallee		C		2/2
plants	higher dicots	Myrtaceae	<i>Eucalyptus conica</i>	fuzzy box		C		9
plants	higher dicots	Myrtaceae	<i>Eucalyptus viridis</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Angophora leiocarpa</i>	rusty gum		C		1
plants	higher dicots	Myrtaceae	<i>Melaleuca lanceolata</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Eucalyptus microcarpa</i>	inland grey box		C		5
plants	higher dicots	Myrtaceae	<i>Eucalyptus woollsiana</i>			C		1
plants	higher dicots	Myrtaceae	<i>Eucalyptus chloroclada</i>	Baradine red gum		C		2
plants	higher dicots	Myrtaceae	<i>Melaleuca diosmatifolia</i>	mauve honey myrtle		C		2/2
plants	higher dicots	Myrtaceae	<i>Eucalyptus fibrosa</i> subsp. <i>nubilis</i>			C		19
plants	higher dicots	Myrtaceae	<i>Eucalyptus tereticornis</i> subsp. <i>tereticornis</i>			C		3
plants	higher dicots	Phyllanthaceae	<i>Poranthera microphylla</i>	small poranthera		C		1/1
plants	higher dicots	Pittosporaceae	<i>Bursaria incana</i>			C		2/1
plants	higher dicots	Polygalaceae	<i>Polygala triflora</i>			C		1/1
plants	higher dicots	Proteaceae	<i>Hakea purpurea</i>			C		1/1
plants	higher dicots	Rhamnaceae	<i>Cryptandra armata</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Opercularia diphylla</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Asperula geminifolia</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Psydrax oleifolia</i>			C		1
plants	higher dicots	Rubiaceae	<i>Psydrax odorata</i>			C		1
plants	higher dicots	Rubiaceae	<i>Oldenlandia mitrasacmoides</i> subsp. <i>trachymenoides</i>			C		1/1
plants	higher dicots	Rutaceae	<i>Citrus glauca</i>			C		1
plants	higher dicots	Rutaceae	<i>Geijera parviflora</i>	wilga		C		8
plants	higher dicots	Santalaceae	<i>Santalum lanceolatum</i>			C		2
plants	higher dicots	Sapindaceae	<i>Alectryon diversifolius</i>	scrub boonaree		C		2
plants	higher dicots	Sapindaceae	<i>Dodonaea viscosa</i>			C		1
plants	higher dicots	Sapindaceae	<i>Dodonaea triangularis</i>			C		1
plants	higher dicots	Scrophulariaceae	<i>Eremophila debilis</i>	winter apple		C		1
plants	higher dicots	Scrophulariaceae	<i>Eremophila mitchellii</i>			C		1
plants	higher dicots	Solanaceae	<i>Solanum tetraethecum</i>			C		1/1
plants	higher dicots	Solanaceae	<i>Solanum semiaratum</i>	prickly nightshade		C		1
plants	higher dicots	Solanaceae	<i>Solanum parvifolium</i>			C		1
plants	higher dicots	Solanaceae	<i>Solanum elaeagnifolium</i>	silverleaf nightshade	Y			2
plants	higher dicots	Zygophyllaceae	<i>Zygophyllum apiculatum</i>	gall weed		C		6/3
plants	liverworts	Aytoniaceae	<i>Asterella</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Cryptocarya laevigata</i>			C		1
plants	monocots	Asphodelaceae	<i>Bulbine semibarbata</i>	wild onion		C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	monocots	Commelinaceae	<i>Commelina diffusa</i>	wandering jew		C		1
plants	monocots	Commelinaceae	<i>Commelina lanceolata</i>			C		1/1
plants	monocots	Cyperaceae	<i>Gahnia aspera</i>			C		1
plants	monocots	Cyperaceae	<i>Cyperus betchei</i>			C		1
plants	monocots	Hemerocallidaceae	<i>Dianella revoluta var. revoluta</i>			C		1
plants	monocots	Juncaceae	<i>Juncus usitatus</i>			C		1
plants	monocots	Laxmanniaceae	<i>Lomandra</i>			C		1/1
plants	monocots	Laxmanniaceae	<i>Lomandra leucocephala</i>			C		1
plants	monocots	Laxmanniaceae	<i>Lomandra filiformis subsp. filiformis</i>			C		1/1
plants	monocots	Laxmanniaceae	<i>Laxmannia gracilis</i>	slender wire lily		C		1
plants	monocots	Laxmanniaceae	<i>Lomandra longifolia</i>			C		1
plants	monocots	Poaceae	<i>Poaceae</i>			C		2
plants	monocots	Poaceae	<i>Austrostipa ramosissima</i>	bamboo grass		C		1
plants	monocots	Poaceae	<i>Ancistrachne uncinulata</i>	hooky grass		C		1
plants	monocots	Poaceae	<i>Thyridolepis xerophila</i>			C		1/1
plants	monocots	Poaceae	<i>Eragrostis parviflora</i>	weeping lovegrass		C		1/1
plants	monocots	Poaceae	<i>Rytidosperma indutum</i>			C		2
plants	monocots	Poaceae	<i>Cymbopogon refractus</i>	barbed-wire grass		C		2
plants	monocots	Poaceae	<i>Eragrostis elongata</i>			C		1
plants	monocots	Poaceae	<i>Eragrostis curvula</i>		Y			1
plants	monocots	Poaceae	<i>Themeda triandra</i>	kangaroo grass		C		1
plants	monocots	Poaceae	<i>Eulalia aurea</i>	silky browntop		C		1
plants	monocots	Poaceae	<i>Aristida</i>			C		2
plants	monocots	Poaceae	<i>Sporobolus</i>			C		1

#### CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

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

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

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

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