REPORT

Ecology Assessment Report

Q-4300-15-RP-322

Australia Pacific LNG Project

This report provides an overview of the environmental and ecological values for the Site contained within Lot 74 BWR188 associated with DA#1774.

Revision	Date	Description	Originator	Checked	QA/Eng	Approved
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- **Will**, **shall** or **must** indicate a mandatory course of action
- **Should** indicates a recommended course of action
- **May** or **can** indicate a possible course of action.

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Table of Contents

1. Introduction 5
1.1. Scope of Works 5
1.2. Definitions & Abbreviations 5
1.2.1. Definitions 5
1.2.2. Abbreviations 6
1.2.3. Document Revision Table 6
1.2.4. Document References 7
2. Site Context 13
3. Methodology 14
3.1. Desktop and Literature Review 14
3.2. Field Survey 15
3.2.1. Vegetation Community Survey 15
3.2.2. Habitat Surveys 15
3.2.3. Threatened Flora and Fauna Survey 15
3.2.4. Exotic Fauna and Flora Survey 16
3.2.5. Disturbance Survey 16
3.2.6. Watercourse/wetland Survey 16
3.2.7. Survey Limitations 16
4. Results and Discussions 17
4.1. Desktop and Literature Review 17
4.2. Field Survey 17
4.2.1. Commonwealth Environmental Matters 17
4.2.2. Queensland Environmental Matters 35
4.2.3. Disturbance 40
4.2.4. Watercourses and Wetlands 40
5. Conclusions 41
Appendix A: Site Location and Survey Points 43
Appendix B: Results of EPBC Protected Matters Search Tool 44
Appendix C: Wildlife Online Database Search Results 45
Appendix D: DNRM Mapped Regional Ecosystems 46
Appendix E: EHP Environmental Values Mapping on Site (ESAs, Referable Wetlands, Protected Plants) 47
Appendix F: List of Flora and Fauna Species Identified on Site 48
Appendix G: Ground Truthed Threatened Ecological Communities 51
Appendix H: Ground Truthed Regional Ecosystems 52
Appendix I: Ground Truthed NC Act Threat-listed and EPBC Act Migratory and Marine Species Present on Site 53

Appendix L: Ground Truthed Drainage Features, Watercourses and Wetlands Present on Site.54

List of Tables

Table 1: Definitions 5
Table 2: Abbreviations 6
Table 3: Revision History 6
Table 4: Associated Document References 7
Table 5: Site Context 13
Table 6: Desktop and Literature Review Sources 14
Table 7: Commonwealth Environmental Matters – Field Survey Results 18
Table 8: Field survey results for EPBC Act threatened flora with potentially suitable habitat and likelihood of occurrence. 19
Table 9: Field survey results for EPBC Act threatened fauna with potentially suitable habitat and likelihood of occurrence. 21
Table 10: Field survey results for EPBC Act migratory fauna with potentially suitable RE and likelihood of occurrence 28
Table 11: Field survey results for EPBC Act marine fauna with potentially suitable RE and likelihood of occurrence. 32
Table 12: State environmental matters – field survey results 35
Table 13: Field survey results for NC Act EVNT flora with potentially suitable RE and likelihood of occurrence. 37
Table 14: Field survey results for NC Act EVNT fauna with potentially suitable habitat and likelihood of occurrence 38

1. Introduction

This report provides a description of the ecological values found within Lot 74 BWR188 herein referred to as 'the Site'. The results are based on an initial desktop assessment followed by a field survey to confirm the vegetation communities, flora and fauna species, habitat values and areas of disturbance.

This report has been compiled by Origin Senior Field Environmental Advisor, Anjeanette Schimpf. The field surveys were conducted by a small team of ecologists led by Anjeanette Schimpf.

Anjeanette Schimpf is approved to undertake ecological surveys by Commonwealth Department of Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities) in writing on 13th September, 2012.

1.1. Scope of Works

An ecological survey was required to be carried out on Lot 74 BWR188 in anticipation of proposed development of the Site. The Survey Area is defined as the area contained within the boundaries of the above listed lot/plan. Refer to Appendix A: Site Location and Survey Points for an overview of the Site and Survey Area.

1.2. Definitions & Abbreviations

1.2.1. Definitions

Table 1: Definitions

Term	Definition
Likely (with regard to likelihood of occurrence assessment)	Species, population or ecological community could occur and study area is likely to provide suitable habitat. Previous records in the locality and/or suitable potential habitat in the study area.
Present (with regard to likelihood of occurrence assessment)	Species, population or ecological community was recorded during the field investigations.
Project	Australia Pacific LNG Project
Ramsar	Convention on Wetlands of International Importance (the Ramsar Convention) was signed in Ramsar, Iran on 2 February 1971. The Ramsar Convention aims to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain. The Convention encourages member countries to nominate sites containing representative, rare or unique wetlands, or that are important for conserving biological diversity, to the List of Wetlands of International Importance (Ramsar sites).
Survey Area	The area encompassed by the cadastral boundaries of Lot 74 BWR188 as well as the adjacent water reserves.
The Site	The area encompassed by the cadastral boundaries of Lot 74 BWR188 as well as the adjacent water reserves.
Trimble	Trimble integrates positioning technologies such as GPS, laser and optical with application software, wireless communications and services to provide innovative positioning solutions for applications such as surveying, construction and engineering.
Unlikely (with regard to likelihood of occurrence assessment)	Species, population or ecological community is not likely to occur. Lack of previous recent (<25 years) records and suitable potential habitat limited or not available in the study area.

1.2.2. Abbreviations

The following abbreviations are found throughout this report.

Table 2: Abbreviations

Abbreviation	Description
°C	Degrees centigrade
BoM	Bureau of Meteorology
DEHP	Department of Environment and Heritage Protection (Qld)
DNRM	Department of Natural Resources and Mines (Qld)
DoTE	Department of the Environment (Cth)
EPBC, EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
ESA	Environmentally Sensitive Area
GES	General Ecological Significance (in relation to mapped wetlands)
GPS	Global positioning system
km	Kilometre
LNG	Liquefied Natural Gas
LP, LP Act	*Land Protection (Pest and Stock Route Management) Act 200* (Qld).
m	Metres
mm	Millimetre
MNES	Matters of National Environmental Significance
N/A	Not applicable
NC, NC Act	*Nature Conservation Act 1992* (Qld)
RE, REs	Regional Ecosystem(s)
TEC, TECs	Threatened Ecological Community(ies)

1.2.3. Document Revision Table

Table 3: Revision History

Revision	Date	Description

1.2.4. Document References

The following documents are referred to throughout this report.

Table 4: Associated Document References

Document Number	Title
Q-4160-15-RP-0002	Ecology Assessment Report, Lot 85BWR181, Lot 2BWR104, Lot 52BWR104 and 85BWR181
Q-4300-15-RP-264	Ecology Assessment Report, Lot 75BWR188 and Lot 14BWR188
Q-4300-15-RP-270	Ecology Assessment Report, Lot 1RP139255 and Lot 2RP139255
Q-4300-15-RP-320	Flora Survey Report (Protected Plants): Australia Pacific LNG Gathering Sustain Phase – Talinga, Schwerin JN & Mackay KS and Australia Pacific LNG Gathering Sustain Phase - Talinga, Road Crossings – Goodland (part)
Q-LNG01-15-MP-0109	Australian Pacific LNG (2011) *Environmental Constraints Planning and Field Development Protocol*.
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2. Site Context

Table 5: Site Context

Bioregion	The Site is located in the Eastern Darling Downs Province (sub-region 11.31) within the Brigalow Belt south bioregion. The Eastern Darling Downs Province comprises spurs and foothills of Main Range along the eastern boundary of the bioregion, low hills in the south and the Condamine River plain in the central and western parts. Substrates include Tertiary basalt in the extreme east, Jurassic sediments in the south-east, Triassic-Jurassic sediments in the north-east and alluvial soils of varying age along the Condamine River plain. The basalt vegetation communities are predominantly woodlands of *Eucalyptus crebra* (narrow-leaved ironbark), *E. melliodora* (yellow box), *E. tereticornis* (forest red gum), *E. albens* (white box) or *E. orgadophila* (mountain coolibah). The sandstone hills support *E. crebra* woodland with *E. moluccana/microcarpa* (gum-topped box) and *E. populnea* (poplar box) woodland on lower slopes and valleys. There are also some areas of semi-evergreen vine thicket/araucarian microphyll rainforest, particularly in the south-east, and *Acacia harpophylla* (brigalow) open forest and vine thicket in the north-east. Prior to clearing, the heavy cracking clays and black earths of the Condamine River plain supported *Dichanthium sericeum* (bluegrass) grassland and grassy woodlands of *E. populnea*, with *E. tereticornis-camaldulensis* (forest red gum-river red gum) and *Angophora floribunda* (rough-barked apple) adjacent to drainage lines. In the eastern part of the Condamine River plain, the black earths appear to have supported a grassy woodland of *E. tereticornis*, *A. floribunda* rather than the *Dichanthium* grasslands and E. populnea woodlands of the central and western parts (Sattler and Williams 1999).
Current land use	The Site is predominantly cleared and currently utilised for grazing and cropping purposes.
Soils and geology	The landform of the site comprises flat clay plains with moderately deep to deep gilgai. Soil types are predominantly brown/grey/dark cracking clays.
Climate	The nearest weather station to the Site is located at the Miles Post Office (Bureau of Meteorology (BoM) station ID 042023) located approximately 21km to the north-west of the Site. The Miles Post Office has a mean annual rainfall of 652 mm, with most rain falling between December and February, with August being the driest month. The average annual maximum temperature at Miles is 27.1oC (BoM, 2015).

3. Methodology

The methodology employed in compilation of this Ecology Assessment Report consisted of:

- A desktop and literature review of ecological databases and literature sources as direct references for the survey undertaken
- A field survey of the Site

An explanation of these activities is outlined in this section.

3.1. Desktop and Literature Review

Sources utilised in the desktop and literature review are listed in Table 6 below.

Table 6: Desktop and Literature Review Sources

Database	Co-ordinates or search area	Date of search	Appendix
Environmental Protection Biodiversity and Conservation Act 1999 (EPBC Act) Protected Matters Search Tool	Lat -26.756, Long: 150.3851	25/11/2015	Appendix B: Results of EPBC Protected Matters Search Tool
Nature Conservation Act 1992 (NC Act) Protected Species Lists Wildlife Online Database	Lat -26.756, Long: 150.3851	25/11/2015	Appendix C: Wildlife Online Database Search Results
Department of Natural Resources and Mines (DNRM) Regulated Vegetation, Regional Ecosystem and Remnant Map—version 9	Lot 74 BWR188	25/11/2015	Appendix D: DNRM Mapped Regional Ecosystems
EHP Map of Environmentally Sensitive Areas	Lat -26.756, Long: 150.3851	25/11/2015	Appendix E: EHP Environmental Values Mapping on Site (ESAs, Referable Wetlands, Protected Plants)
EHP Map of Referable Wetlands and Wetland Protection Areas	Lot 74 BWR188	25/11/2015	Appendix E: EHP Environmental Values Mapping on Site (ESAs, Referable Wetlands, Protected Plants)
EHP Protected Plants Flora Survey Trigger Map	Lot 74 BWR188	25/11/2015	Appendix E: EHP Environmental Values Mapping on Site (ESAs, Referable Wetlands, Protected Plants)
Queensland Geological Mapping, Chinchilla Map SHEET SG56-09 and 1:250,000 Geological series (1971).	Lot 74 BWR188	N/A	N/A

Data searches were conducted using a 10 km buffer around the coordinate Lat -26.756, Long: 150.3851 which corresponds to the approximate centre point of the property.

3.2. Field Survey

Ecological surveys were conducted in accordance with:

- The *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland* (Neldner et al. 2012)
- In line with the methodology described in the *Environmental Constraints Planning and Field Development Protocol* (Q-LNG01-15-MP-0109, Australia Pacific LNG 2011).

Field surveys were undertaken on 8th December, 2015.

3.2.1. Vegetation Community Survey

Baseline botanical surveys were undertaken to describe dominant flora and vegetation community structures throughout the survey site. Botanical surveys were consistent with the quaternary level of data collection as described in Neldner et al. (2012).

The vegetation community surveys were undertaken within 50m x 10m plots for the purpose of typifying the vegetation community under assessment. Vegetation community data was entered into the data fields provided by the Trimble data capture system. A total of thirteen (13) formal vegetation community surveys were undertaken within the Site. Ground-truthing of the DNRM RE designation (DNRM 2015) at and surrounding the Site was undertaken via quaternary level and random meanders transect assessments, as defined by Neldner et al. (2012).

The locations of the vegetation community survey sites are presented in Appendix A: Site Location and Survey Points.

Relative abundance data was collected for each stratum within the community as per the methodology described in the *Environmental Constraints Planning and Field Development Protocol* (Q-LNG01-15-MP-0109 Australia Pacific LNG (2011)), as presented by the vegetation structure point data sheet of the Trimble unit. Where necessary, representative photo(s) were taken of the subject vegetation community via the Trimble unit or camera. Photo aspect data was recorded as required.

Vegetation community polygons were verified in accordance with Queensland regional ecosystem (biodiversity status) (DNRM 2015) and EPBC threatened ecological community (TEC) criteria (DoTE 2015a).

3.2.2. Habitat Surveys

Habitat surveys were undertaken in conjunction with vegetation community survey within the 50m x 10m quadrant. A total of six (6) formal habitat surveys were undertaken across the Site (Appendix A: Site Location and Survey Points).

Within each habitat survey, a range of habitat features were recorded on the relevant Trimble data sheet. Where deemed appropriate, representative photo(s) were taken of the given habitat patch via the Trimble unit. Photo aspect data was entered into the relevant data sheet as required.

3.2.3. Threatened Flora and Fauna Survey

Threat-listed species are those listed under the *EPBC Act 1999* and the *Nature Conservation (Wildlife) Regulation 2006*.

Targeted threat-listed flora searches were undertaken for species highlighted by the database and literature review. Searches were undertaken based on incidental field observations of high quality habitat, the identification of distinct ecological features through the preliminary desktop and literature review, or within the vicinity of a vegetation community survey/habitat feature plots where field ecologists deemed the given area to be of sufficient potential value to a threatened species to warrant such a search.

Fauna species were recorded opportunistically throughout the survey area.

Any observations of threatened species (whether within search areas or opportunistically) were recorded using the Trimble data capture system. Where practicable, photo(s) were taken of the subject

threatened species. Any flora specimens deemed as potential threatened species and not conclusively identified by the ecologists were forwarded to the Queensland Herbarium for verification.

3.2.4. Exotic Fauna and Flora Survey

Presence and abundance of declared fauna and flora species as defined by the *Land Protection (Pest and Stock Route Management) Act 2002 (LP Act)*, were recorded at the time of the survey both within survey plots and opportunistically while traversing the Site. Exotic fauna and flora species were entered into the Trimble data capture system when encountered.

3.2.5. Disturbance Survey

Evidence of disturbance at survey sites was recorded for type, severity and estimated time of most recent occurrence. The recording of disturbance was also conducted at opportunistic levels where appropriate.

3.2.6. Watercourse/wetland Survey

All mapped ordered streams within The Site were assessed, across their full length, to determine if these mapped features were watercourses or drainage features as defined by the *Water Act 2000*. Ordered stream assessments included assessment of the presence/absence of a defined channel with bed and banks, riparian vegetation and presence/absence of hydrophytes. The extent of streams assessed as watercourses was mapped using imagery and/or a GPS-derived track log.

3.2.7. Survey Limitations

A number of factors are considered likely to influence survey results for particular species or species groups. These factors are:

- Timing (seasons) and duration of the survey period
- Weather conditions in the preceding seasons and immediately prior to the survey
- Restricted spatial area of the habitats within the Site

Due to the above-listed items, the surveys undertaken may not provide a true indication of seasonal habitat utilisation by fauna species within the Site. Some cryptic flora species may only be detected during particular flowering periods. The field investigations undertaken were limited to passive techniques (e.g. no live trapping) and were limited to the spring season. Additional survey effort would be required to provide a more comprehensive inventory of species, both threatened and common.

4. Results and Discussions

This section includes the results of the database and literature review. Some information is contained in the appendices and is referenced below.

4.1. Desktop and Literature Review

Results of the desktop and literature review can be found in Appendices B to E, as listed in Table 6.

4.2. Field Survey

Results of field surveys are detailed in the following sections. A comprehensive list of flora and fauna species identified during the field survey is included in Appendix F: List of Flora and Fauna Species Identified on Site.

4.2.1. Commonwealth Environmental Matters

Field survey results for Commonwealth environmental matters (Matters of National Environmental Significance (MNES), TECs, threat-listed species) are outlined in Table 7.

Table 7: Commonwealth Environmental Matters – Field Survey Results

Commonwealth environmental matters	Present (Y/N)	Location	Description	EPBC Act Status	Condition *[TECs only]*	Comments
TECs	Y	Lot 74 BWR188, northern boundary	Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered	Regrowth vegetation attaining remnant status on cover and height criteria. Ground layer dominated by native grasses and forbs. Achieves Brigalow TEC condition class criteria for regrowth vegetation. Some disturbance from livestock grazing and clearing for fence lines evident.	Two small patches located along northern boundary of Lot 74 BWR188. Patches approximately 4ha and 2.5ha in size.
EPBC threat-listed flora	N	--	--	--	--	--
EPBC threat-listed fauna	N	--	--	--	--	--
Migratory species	N	--	--	--	--	--
Marine species	Y	Lot 74 BWR188	*Grallina cyanoleuca* (Australian magpie-lark)	Listed Marine Species	--	Recorded in numerous locations across Lot 74 BWR188.

4.2.1.1. Ground-truthed Threatened Ecological Communities

No EPBC Act listed threatened ecological communities were recorded during the field survey at the Site.

4.2.1.2. Threatened Flora

No EPBC Act listed threatened flora were recorded during the field survey at the Site.

Based on field inspection results, an assessment of the likelihood of occurrence of *EPBC Act* listed threatened flora identified within the desktop searches (Table 6) is summarised in Table 8.

Table 8: Field survey results for EPBC Act threatened flora with potentially suitable habitat and likelihood of occurrence.

Family	Scientific/Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
Surianaceae	*Cadellia pentastylis* (ooline)	Vulnerable	Ooline occurs in a range of vegetation types including semi-evergreen vine thicket, brigalow-belah, poplar box and bendee communities. Ooline often occurs on the edges of sandstone and basalt escarpments, 200 to 500 m above sea level. In most areas of its range, ooline grows on the moderately fertile soils preferred for agriculture and pasture development. (Pollock 1999; DoTE 2015b)	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is not present on site and there are no previous records of this species within close proximity to the survey area.
Poaceae	*Homopholis belsonii* (Belson's panic)	Vulnerable	*Homopholis belsonii* is generally found among fallen timber at the base of trees or shrubs, among branches and leaves of trees hanging to ground level or along the bottom of netting fences. It may also be associated with shadier areas of brigalow (*Acacia harpophylla*), myall (*A. melvillei*), and weeping myall	Yes - habitat features preferred by this species are present within the site.	Likely – suitable habitat for this species exists in some of the *C. cristata*, *A. harpophylla* and *E. populnea* vegetation communities within the survey area. However, in general, these communities were found to be slightly to significantly degraded as a result of grazing and use by livestock as shade/rest areas.

			(*A. pendula*) communities; in mountain coolibah (*Eucalyptus orgadophila*) communities; and on roadsides (DoTE, 2015c; Queensland Herbarium, 2012).		Additionally, there are no previous records of this species within close proximity to the survey area.
Santalaceae	*Thesium austral* (Austral toadflax)	Vulnerable	This species occurs on a range of soils including black clay loams to yellow podzolics and peaty loams (Leigh et al. 1984; Hunter et al. 1999; Cohn 2004). It occurs in shrubland, grassland or woodland, often on damp sites (George 1984; Harden 1992). Vegetation types include open grassy heath dominated by swamp myrtle (*Leptospermum myrtifolium*), small-fruit hakea (*Hakea microcarpa*), alpine bottlebrush (*Callistemon sieberi*), woolly grevillea (*Grevillea lanigera*), coral heath (*Epacris microphylla*) and *Poa* spp. (Griffith 1991); kangaroo grass grassland surrounded by *Eucalyptus* woodland; and grassland dominated by barbed-wire grass (*Cymbopogon refractus*) (Leigh et al. 1984; Hunter et al. 1999).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is not present on site and there are no previous records of this species within close proximity to the survey area.
Lamiaceae	*Westringia parvifolia*	Vulnerable	*Westringia parvifolia* grows with Baker's mallee (*Eucalyptus bakeri*) and green mallee (*E. viridis*) and between clumps of spinifex (*Triodia* sp.) on sandy and stony soils (BRI n.d.; White & Francis 1921).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is not present on site and there are no previous records of this species within close proximity to the survey area.

4.2.1.3. Threatened Fauna

As detailed in Table 6, no EPBC Act Migratory Species and one (1) Listed Marine Species were recorded as a result of the field surveys.

Further, an assessment of the likelihood of occurrence of EPBC Act listed threatened fauna, based on field results, is summarised within Table 9.

Table 9: Field survey results for EPBC Act threatened fauna with potentially suitable habitat and likelihood of occurrence.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
Birds	*Erythrotriorchis radiatus* (red goshawk)	Vulnerable	The red goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia (Marchant & Higgins 1993). Riverine forests are also used frequently (Debus 1991, 1993). Such habitats typically support high bird numbers and biodiversity, especially medium to large species which the goshawk requires for prey. The red goshawk nests in large trees, frequently the tallest and most massive in a tall stand, and nest trees are invariably within one km of permanent water (Aumann & Baker-Gabb 1991; Debus & Czechura 1988).	No - habitat features preferred by this species are not present within the site.	Unlikely – vegetation within the survey area does not support large, old growth trees which may serve as appropriate nesting habitat. However, the survey area may be utilised as hunting range. There are no previous records of this species within the search area.
	Geophaps scripta scripta (squatter pigeon)	Vulnerable	Squatter pigeon (southern) habitat is generally defined as open-forests to sparse, open-woodlands and scrub that are mostly dominated in the overstorey by Eucalyptus, Corymbia, Acacia or Callitris species; remnant, regrowth or partly modified vegetation communities, and within 3 km of water bodies or courses (Baldwin 1975; Beruldsen 1972; Cooper et al. 2014; Frith 1982; Leach 1988; North 1913-14; Squatter Pigeon Workshop 2011).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is not present within the survey area and this species has not previously been recorded within close proximity to the survey area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Grantiella picta (painted honeyeater)	Vulnerable	Frequents mistletoes in Eucalypt forests/woodlands, black-box on watercourses, box-ironbark-yellow gum woodlands, Melaleuca, Casuarina and mulga (Acacia) woodlands (Pizzey and Knight 2012).	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the survey area, although fragmented and isolated. There are three (3) previous records of this species within the search area.
	Lathamus discolor (swift parrot)	Endangered	The swift parrot inhabits dry sclerophyll eucalypt forests and woodlands. It occasionally occurs in wet sclerophyll forests (Higgins 1999; Swift Parrot Recovery Team 2001). Saunders and Heinsohn (2008) observed that the swift parrot predominantly forages within habitats that have been so significantly cleared that they are classified as endangered ecological communities.	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is absent from the site. There are no previous records of this species within the search area.
	Poephila cincta cincta (black-throated finch (southern)	Endangered	The black-throated finch (southern) occurs mainly in grassy, open woodlands and forests, typically dominated by Eucalyptus, Corymbia and Melaleuca, and occasionally in tussock grasslands or other habitats (for example freshwater wetlands), often along or near watercourses, or in the vicinity of water (Baldwin 1976; Britton & Britton 2000; BTF Recovery Team 2004; Ley & Cook 2001; NRA 2005; Wieneke 1989). Almost all recent records of the finch from south of the tropics have been in riparian habitat (Baldwin 1976; BTF Recovery Team 2004; Ley & Cook 2001). The subspecies is thought to require a mosaic of different habitats in which it can find seed during the wet season (Mitchell 1996).	No – riparian open woodlands are not present within the site.	Unlikely – appropriate habitat for this species is absent from the site. There are no previous records of this species within the search area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Rostratula australis (Australian painted snipe)	Endangered	The Australian painted snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum (Muehlenbecki) or canegrass or sometimes tea-tree (Melaleuca). The Australian painted snipe sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber (Marchant & Higgins 1993).	No – shallow freshwater wetland areas are not present within the survey area.	Unlikely – appropriate habitat for this species is absent from the site and there are no previous records of this species within the search area.
Fish	*Maccullochella peelii* (Murray cod)	Vulnerable	The Murray cod is considered a main channel specialist. The species is frequently found in the main channel of the stream, and its larger tributaries during spring flooding. It is also found in floodplain channels when they contain water (i.e. during spring flooding), although the species use of habitats in such waterways appears limited. Juveniles less than one year old have been found in main river channels where it appears they settle at a late larval (newly born) stage (National Murray Cod Recovery Team 2010). The species is described as demersal (inhabits at or close to the bed of the waterbody) (Koehn 2009b cited in Koehn & Nicol 2014). It is usually found near complex structural cover such as large rocks, snags (pieces of large submerged woody debris), overhanging stream banks and vegetation, tree stumps, logs, branches and other woody structures. The Murray cod relies primarily on snags as shelter from fast-flowing water (Koehn 1997) and as predatory ambush points for foraging.	No – permanent freshwater waterways are absent from the survey area.	Unlikely – appropriate habitat for this species is absent from the site.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
Mammals	*Chalinolobus dwyeri* (large-eared pied bat)	Vulnerable	This species requires a combination of sandstone cliff/escarpment to provide roosting habitat that is adjacent to higher fertility sites, particularly box gum woodlands or river/rainforest corridors which are used for foraging (Pennay 2010 pers. comm. cited in TSSC 2010). Almost all records have been found within several kilometres of cliff lines or rocky terrain (DERM 2011). Roosting has also been observed in disused mine shafts, caves, overhangs and disused Fairy Martin (*Hirundo ariel*) nests (Hoye & Dwyer 1995; Schulz 1998). It also possibly roosts in the hollows of trees (Duncan et al. 1999).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate roosting features for this species are absent from the site. There are no previous records of this species within the search area.
	Dasyurus hallucatus (northern quoll)	Endangered	Formerly widespread in south-central Queensland, the distribution of this species has declined markedly and is now confined to rugged and remote areas throughout its range (Burnett 2012). Shelters in crevices in rocky hills and escarpments and forages in nearby woodland and forest habitats (DoE 2015d).	No - habitat features preferred by this species are not present within the site.	Unlikely – habitat features preferred by this species are absent from the survey area. There are no previous records of this species within the search area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Nyctophilus corbeni (Corben's Long-eared bat, south-eastern long-eared bat)	Vulnerable	The south-eastern long-eared bat occurs in a range of inland woodland vegetation types, including box, ironbark and cypress pine woodlands. The species also occurs in bull oak woodland, brigalow woodland, belah woodland, smooth-barked apple, *Angophora leiocarpa* woodland; river red gum, *Eucalyptus camaldulensis*, forests lining watercourses and lakes, black box, *Eucalyptus largiflorens* woodland, dry sclerophyll forest. Throughout inland Queensland the species habitat is dominated by various eucalypt and bloodwood species and various types of tree mallee with it being most abundant in vegetation with a distinct canopy and a dense cluttered shrub layer (Dominelli 2000; Ellis et al. 1999; Koehler 2006; Lumsden 1994; McFarland et al. 1999; Parnaby 1995; Turbill & Ellis 2006).	No - habitat features preferred by this species are not present within the site.	Unlikely – although Brigalow, belah and Eucalyptus woodland communities occur within the survey area, these communities are present as small, highly fragmented patches. Habitat features preferred by this species are absent from the survey area. There are no previous records of this species within the search area.
	Phascolarctos cinereus (koala)	Vulnerable	Koala habitat can be broadly defined as any forest or woodland containing species that are known koala food trees, or shrubland with emergent food trees. The distribution of this habitat is largely influenced by land elevation , annual temperature and rainfall patterns, soil types and the resultant soil moisture availability and fertility. Preferred food and shelter trees are naturally abundant on fertile clay soils. On the western slopes of the Great Dividing Range, tablelands and plains in Queensland and New South Wales, koalas are found in sub-humid Eucalyptus-dominated forests and woodlands in riparian and non-riparian environments, and some Acacia-dominated forests and woodlands in non-riparian environments (Melzer et al. 2000).	No - habitat features preferred by this species are not present within the site.	Unlikely – the site is predominantly cleared and habitat features preferred by this species are largely absent from the survey area. There are two (2) previous records of this species within the search area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Pteropus poliocephalus (grey-headed flying-fox)	Vulnerable	This species is a canopy-feeding frugivore and nectarivore, which requires foraging resources and roosting sites and utilises a variety of vegetation communities including rainforests, open forests, closed and open woodlands, *Melaleuca* swamps and *Banksia* woodlands. The primary food source is blossom from *Eucalyptus* and related genera but in some areas it also utilises a wide range of rainforest fruits (Eby 1998).	Yes – small patches of Acacia and Eucalypt woodlands are present within the survey area. No roosts noted.	Likely – suitable foraging habitat for this species occurs within the site. There are no previous records of this species within the search area.
Reptiles	*Anomalopus mackayi* (five-clawed worm-skink)	Vulnerable	The five-clawed worm-skink occurs in bluegrass and/or mitchell grass dominated grassland (RE 11.3.21); coolibah - bimble/poplar box and weeping myall grassy woodlands; white box grassy woodland; myall woodland and brigalow vegetation communities (Brigalow Belt Reptiles Workshop 2010). The species is not likely to be found in soils in which deep cracks do not form, such as hard-setting brown clays or sandy soils types (Spark 2010).	Yes - habitat features preferred by this species are present within the site.	Unlikely – suitable habitat is present at the site however, the ground storey has been significantly disturbed over much of the property as a result of historical clearing and grazing activities. There are no previous records of this species within close proximity.
	Delma torquata (collared delma)	Vulnerable	The collared delma normally inhabits eucalypt-dominated woodlands and open-forests in the following regional ecosystems: RE 11.9.10 - poplar box/brigalow (*Acacia harpophylla*) open-forest on fine-grained sedimentary rocks; RE 11.10.1 - lemon-scented gum (*Corymbia citriodora*) open forest on coarse-grained sedimentary rocks; RE 11.10.4 - gum-topped ironbark (*Eucalyptus decorticans*), budgeroo/brown hazelwood (*Lysicarpus angustifolius*) with Eucalyptus species, Corymbia species, Acacia species woodland on coarse-grained sedimentary rocks (Brigalow Belt Reptiles Workshop 2010).	No – vegetation communities preferred by this species are absent from the site.	Unlikely – appropriate habitat for this species is absent from the site. There are no previous records of this species within the search area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Egernia rugosa (yakka skink)	Vulnerable	The yakka skink is known to occur in open dry sclerophyll forest, woodland and scrub (Brigalow Belt Reptiles Workshop 2010; Cogger 2000; Wilson & Knowles 1988). It occurs in a wide variety of vegetation types within alluvium, clay plains, old loamy and sandy plains, ironstone jump ups, undulating country on fine-grained sedimentary rocks and sandstone ridges (Brigalow Belt Reptiles Workshop 2010).	Yes - habitat features preferred by this species are present within the site.	Unlikely – suitable habitat is present at the site however, the ground storey has been significantly disturbed as a result of historical clearing and grazing activities. There is one (1) previous records of this species within the search area.
	Furina dunmalli (Dunmall's snake)	Vulnerable	Dunmall's snake has been found in a broad range of habitats, including forests and woodlands on black alluvial cracking clay and clay loams dominated by brigalow (*Acacia harpophylla*), other wattles (*A. burowii*, *A. deanii*, *A. leiocalyx*), native cypress (*Callitris* spp.) or bull-oak (*Allocasuarina luehmannii*) as well as various *Corymbia citriodora*, ironbark (*Eucalyptus crebra* and *E. melanophloia*), white cypress pine (*Callitris glaucophylla*) and bulloak open forest and woodland associations on sandstone derived soils (Brigalow Belt Reptiles Workshop 2010; Stephenson & Schmida 2008, Threatened Species Network 2008, Covacevich et al. 1988).	Yes - habitat features preferred by this species are present within the site.	Unlikely – suitable habitat is present at the site however, the ground storey has been significantly disturbed as a result of historical clearing and grazing activities. There are no previous records of this species within close proximity to the site.

4.2.1.4. Migratory Fauna

As detailed in Table 6, no *EPBC Act* Migratory Species were recorded as a result of the field surveys. An assessment of the likelihood of occurrence of *EPBC Act* listed migratory fauna, based on field results, is summarised within Table 10.

Table 10: Field survey results for EPBC Act migratory fauna with potentially suitable RE and likelihood of occurrence

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
Birds	*Apus pacificus* (fork-tailed swift)	Migratory marine	This species often occurs 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. The sometimes occur above rainforests, wet sclerophyll forest or open forest or plantations of pines. They forage aerially, up to hundreds of metres above ground, but also less than 1 m above open areas or over water (Higgins 1999).	Yes –aerial foraging opportunity exists over the survey area.	Likely – suitable aerial foraging opportunity exists above the survey area, with cleared, open lands in proximity. However, there are no previous records of this species within the search area.
	Cuculus optatus (oriental cuckoo, Horsfield's cuckoo)	Migratory terrestrial	This species is a regular non-breeding migrant to coastal northern and eastern Australia, including north-eastern and eastern Queensland. It utilises a variety of habitats including closed forests, rainforest edges, leafy trees in paddocks, river flats and mangroves of coastal and inland environments (Pizzey and Knight 2012).	Yes - habitat features preferred by this species are present within the site.	Likely – suitable habitat is present within the survey area. However, there are no previous records of this species within the search area.
	Hirundapus caudacutus (white-throated needletail)	Migratory terrestrial	This species occurs over most types of habitat, and are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland (Higgins 1999). They also commonly occur over heathland (Cooper 1971; Learmonth 1951; McFarland 1988), but less often over treeless areas, such as grassland or swamps (Cooper 1971; Gosper 1981; Learmonth 1951). When flying above farmland, they are more often recorded above partly cleared pasture, plantations or remnant vegetation at the edge of paddocks (Emison & Porter 1978; Friend 1982; Tarburton 1993).	Yes –aerial foraging opportunity exists over the survey area.	Likely – suitable aerial foraging opportunity exists above the survey area, with cleared, open lands in proximity. There is one (1) previous record of this species within the search area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Merops ornatus (rainbow bee-eater)	Migratory terrestrial	The rainbow bee-eater occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation (Higgins 1999). It usually occurs in open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water (Badman 1979; Boekel 1976; Fry 1984; Roberts 1979; Storr 1984b, 1985). It also occurs in inland and coastal sand dune systems, and in mangroves in northern Australia, and has been recorded in various other habitat types including heathland, sedgeland, vine forest and vine thicket, and on beaches (Higgins 1999).	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the site and there are ten (10) previous records of this species within the search area.
	Motacilla flava (yellow wagtail)	Migratory terrestrial	Family Motacillidae are generally Eurasian and African in distribution, with many differing races. In Australia, species in this family generally reach northern Australia during summer months as non-breeding migrants from Asia (Pizzey and Knight 2012)	No – vegetation communities and habitat features preferred by this species are absent from the site	Unlikely – appropriate habitat for this species is absent from the site. There are no previous records of this species within the search area
	Myiagra cyanoleuca (satin flycatcher)	Migratory terrestrial	Satin flycatchers mainly inhabit eucalypt forests, often near wetlands or watercourses. They generally occur in moister, taller forests than the leaden flycatcher, (*Myiagra rebecula*), often occurring in gullies (Blakers et al. 1984; Emison et al. 1987; Officer 1969). They also occur in eucalypt woodlands with open understorey and grass ground cover, and are generally absent from rainforest (Emison et al. 1987; Officer 1969).	No - habitat features preferred by this species are not present within the site.	Unlikely – whilst suitable vegetation communities present within the survey area, permanent wetlands and watercourses are absent. There are no previous records of this species within close proximity to the survey area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Rhipidura rufifrons (rufous fantail)	Migratory terrestrial	The rufous fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as tallow-wood (*Eucalyptus microcorys*), mountain grey gum (*E. cypellocarpa*), narrow-leaved peppermint (*E. radiata*), mountain ash (*E. regnans*), alpine ash (*E. delegatensis*), blackbutt (*E. pilularis*) or red mahogany (*E. resinifera*); usually with a dense shrubby understorey often including ferns. They also occur in subtropical and temperate rainforests. They occasionally occur in secondary regrowth, following logging or disturbance in forests or rainforests (Higgins et al 2006).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is absent from the survey area and there are no previous records of this species within the search area.
	Ardea alba (white egret) (*Ardea modesta*)	Migratory wetlands species	The white egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). These include swamps and marshes; margins of rivers and lakes; damp or flooded grasslands, pastures or agricultural lands; reservoirs; sewage treatment ponds; drainage channels; salt pans and salt lakes; salt marshes; estuarine mudflats, tidal streams; mangrove swamps; coastal lagoons; and offshore reefs (Kushlan & Hancock 2005; Marchant & Higgins 1990; Martínez-Vilalta & Motis 1992). The species usually frequents shallow waters.	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the site and there are eight (8) previous records of this species within the search area.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Ardea ibis (cattle egret)	Migratory wetlands species	The cattle egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in arid and semi-arid regions. High numbers have been observed in moist, low-lying poorly drained pastures with an abundance of high grass; it avoids low grass pastures. It has been recorded on earthen dam walls and ploughed fields. It is commonly associated with the habitats of farm animals, particularly cattle, but also pigs, sheep, horses and deer. It uses predominately shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation and abundant aquatic flora. They have sometimes been observed in swamps with tall emergent vegetation (Marchant & Higgins 1990; Morton et al. 1989).	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the site and there is (1) previous record of this species within the search area.
	Gallingo hardwickii (Latham's snipe)	Migratory wetlands species	Latham's snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies) (Frith et. al. 1977; Naarding 1983). However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (Frith et al. 1977; Naarding 1983).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is absent from the survey area however there are two (2) previous records of this species within the search area.

4.2.1.5. Marine Fauna

As detailed in Table 6, one (1) Listed Marine Species were recorded as a result of the field surveys. An assessment of the likelihood of occurrence of other *EPBC Act* listed marine fauna, based on field results, is summarised within Table 11.

Table 11: Field survey results for EPBC Act marine fauna with potentially suitable RE and likelihood of occurrence.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
Birds	*Anseranas semipalmata* (magpie goose)	Listed Marine Species	Magpie geese are mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Equally at home in aquatic or terrestrial habitats; often seen walking and grazing on land; feeds on grasses, bulbs and rhizomes. Activities are centred on wetlands, mainly those on floodplains of rivers and large shallow wetlands formed by run-off. Often seen in trios or flocks on shallow wetlands, dry ephemeral swamps, wet grasslands and floodplains; roosts in tall vegetation (New South Wales Department of Environment, Climate Change and Water 2005)	No – shallow freshwater wetland areas not present within the survey area.	Unlikely – appropriate habitat for this species is absent from the site and there are no previous records of this species within the search area.
	Apus pacificus (fork-tailed swift)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Ardea alba (white egret) (*Ardea modesta*)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Ardea ibis (cattle egret)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Cuculus saturatus (Himalayan cuckoo)	Listed Marine Species	Similar to *Cuculus optatus*, this species may be a non-breeding migrant to coastal northern Australia (Pizzey and Knight 2012).	No	Unlikely – the survey area is likely to be outside of the migrating range of this species.

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Gallingo hardwickii (Latham's snipe)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Haliaeetus leucogaster (white-bellied sea-eagle)	Listed Marine Species	This species is found in coastal habitats (especially those close to the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterised by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats (Marchant & Higgins 1993). Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest (including rainforest) and even urban areas (Bell 1984; Czechura 1984; Harris 1980; Johnson & Hooper 1973; Longmore 1978; Quinn 1969; Roberts & Ingram 1976; Smith 1984).	No - habitat features preferred by this species are not present within the site.	Unlikely – appropriate habitat for this species is absent from the survey area and there are no previous records of this species within the search area.
	Hirundapus caudacutus (white-throated needletail)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Lathamus discolor (swift parrot)	Listed Marine Species	Refer Table 9 above	Refer Table 9 above	Refer Table 9 above
	Merops ornatus (rainbow bee-eater)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Motacilla flava (yellow wagtail)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above

Class	Scientific / Common Name	EPBC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat at Site	Likelihood of Occurrence
	Myiagra cyanoleuca (satin flycatcher)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Rhipidura rufifrons (rufous fantail)	Listed Marine Species	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
	Rostratula benghalensis (painted snipe) (syn. *Rostratula australis* (Australian painted snipe)	Endangered	Refer Table 9 above	Refer Table 9 above	Refer Table 9 above

4.2.2. Queensland Environmental Matters

4.2.2.1. Field survey results

Field survey results for State environmental matters are outlined in Table 12.

Table 12: State environmental matters – field survey results

State environmental matters	Present (Y/N)	Location	Description*	Biodiversity or NC Act Status	Comments
Endangered regional ecosystems (biodiversity status)	Y	Lot 74 BWR188, northern, western and southern boundaries	RE11.3.1 - *Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains	Endangered	Present in both remnant and regrowth forms across the site. Two small patches occur along the northern boundary of the property which are also classified as *Acacia harpophylla* TEC (refer Table 7). A patch of regrowth occurs along the western boundary of the site which has recently and historically been bisected by a high voltage powerline and SWER line (respectively). This regrowth patch is highly fragmented and disturbed.
	Y	Lot 74 BWR188, southern boundary	RE11.3.17 - *Eucalyptus populnea* woodland with *Acacia harpophylla* and/or *Casuarina cristata* on alluvial plains	Endangered	Regrowth RE11.3.17 attaining remnant status on cover and height criteria. Occurs in combination with RE11.3.1 surrounding a drainage feature along the southern boundary of the site. Also occurs surrounding a farm dam on the drainage feature and is very disturbed and fragmented at this location due to previous dam construction and use of vegetation by livestock as shade/rest area.
	Y	Lot 74 BWR188	RE11.4.3 - *Acacia harpophylla* and/or *Casuarina cristata* shrubby open forest on Cainozoic clay plains	Endangered	One small patch (approx. 0.3ha in size) of regrowth vegetation located within the central-southern portion of the site. Monospecific *Casuarina cristata* (belah) regrowth.

State environmental matters	Present (Y/N)	Location	Description*	Biodiversity or NC Act Status	Comments
Of concern regional ecosystems (biodiversity status)	N	--	--	--	--
No concern at present regional ecosystems (biodiversity status)	Y	Lot 74 BWR188	RE 11.5.1 - *Eucalyptus crebra* and/or *E. populnea*, *Callitris glaucophylla*, *Angophora leiocarpa*, *Allocasuarina luehmannii* woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	Occurs as a small patch of regrowth in combination with RE11.5.1 within the south-eastern corner or the site.
			RE 11.5.4 - *Eucalyptus chloroclada*, *Callitris glaucophylla*, *C. endlicheri*, *Angophora leiocarpa* woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	Occurs as a small patch of regrowth in combination with RE11.5.4 within the south-eastern corner or the site.
NC Act listed flora (Endangered, Vulnerable, Near Threatened)	N	--	--	--	--
NC Act listed fauna (Endangered, Vulnerable, Near Threatened)	Y	Lot 74 BWR188, south-western corner	*Calyptorhynchus lathami lathami (glossy-black cockatoo)*	Vulnerable	Three birds (two adults, 1 juvenile) recorded within the south-western corner of the site. Three (3) feed trees (*Casuarina cristata*) were also recorded with orts being present on the ground in large numbers.
Special Least Concern plants	Y	Lot 74 BWR188	*Brachychiton populneus* (kurrajong), *Brachychiton rupestris* (narrow-leaved bottle-tree)	Special Least Concern	Recorded commonly across the survey area as individuals in cleared paddocks or in regrowth or remnant vegetation communities.

4.2.2.2. Ground Truthed Regional Ecosystems

DNRM mapping identified one (1) remnant RE to be present on site, this being RE11.3.1. This was ground truthed as incorrect and field verified results are presented in Table 12.

All ground truthed REs are represented schematically in Appendix H: Ground Truthed Regional Ecosystems.

4.2.2.3. Threatened Flora

No NC Act listed flora species were recorded during the field survey at the Site. The eastern portion of the Site is located within a mapped Protected Plant High Risk Area (refer Appendix E). A Flora Survey was conducted within this area and the results are detailed in a separate report (refer Q-4300-15-RP-320).

An assessment of the likelihood of occurrence, based on field inspection results, of NC Act listed threatened flora species potentially present at the Site is summarised in Table 13.

Table 13: Field survey results for NC Act EVNT flora with potentially suitable RE and likelihood of occurrence.

Family	Scientific / Common Name	NC Act Status	General Habitat Requirements/Notes	Potentially Suitable Habitat	Likelihood of Occurrence
Asteraceae	*Rutidosis lanata* (red-soil woolly wrinklewort)	Vulnerable	*Rutidosis lanata* occurs in open eucalypt forests and woodlands including *Eucalyptus populnea* - *Casuarina cristata* forest, ironbark and *Acacia sparsiflora* forest, box ironwood forest, and *E. populnea* woodland with *Eremophila mitchellii*. It has been recorded growing on flat land or stony red ridges in red-brown gravelly sands, grey clays, red-brown clay or sandy loams (EHP 2015a). Further, this species has been recorded in cleared and heavily disturbed grazing paddocks within the local area.	Yes - habitat features preferred by this species are present within the site.	Likely – habitat features including open woodlands (regrowth), red-brown clays and sandy loams are present within the site, particularly in the western portion. Targeted surveys were undertaken for this species in both the eastern and western portions of the site, however this species was not recorded. It is expected that with increased precipitation over summer months, this species may be recorded within the site.

4.2.2.1. Threatened Fauna

One NC Act listed fauna species, *Calyptorhynchus lathami lathami* (glossy-black cockatoo) was recorded during the field survey (refer Table 12).

An assessment of the likelihood of occurrence of all other NC Act listed threatened fauna species potentially present at the Site, based on field results, is summarised within Table 14.

Table 14: Field survey results for NC Act EVNT fauna with potentially suitable habitat and likelihood of occurrence

Scientific/ Common Name	NC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat	Likelihood of Occurrence
Acrocephalus australis (Australian reed warbler)	Special Least Concern	Widespread in eastern Australia. Inhabits reeds, cumbungi and pencil rush over water, riverine vegetation and regrowth, weeping willows, bamboo and crops near irrigation channels (Pizzey and Knight 2012)	No – shallow freshwater wetland and riverine areas not present within the site.	Unlikely – appropriate habitat for this species is absent from the site. There are three (3) previous records of this species within the search area.
Ardea alba (white egret) (*Ardea modesta*)	Special Least Concern	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
Ardea ibis (cattle egret)	Special Least Concern	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
Calyptorhynchus lathami lathami (glossy black-cockatoo)	Vulnerable	Generally inhabits she-oak species (predominantly Allocasuarinas) in forests, woodlands and timbered watercourses. Has also been recorded in Eucalypt forests, cypress (Callitris) forests and brigalow (*Acacia harpophylla*) scrub (Pizzey and Knight 2012).	Yes - habitat features preferred by this species are present within the site.	Present - Three birds (two adults, 1 juvenile) recorded within the south-western corner of the site. Three (3) feed trees (*Casuarina cristata*) were also recorded with orts being present on the ground in large numbers.
Coracina tenuirostris (cicada bird)	Special Least Concern	Inhabits and is most commonly recorded in the canopy of rainforests, Eucalypt forests, Melaleuca woodlands and mangrove areas (Pizzey and Knight 2012).	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the site and there is one (1) previous record of this species within the search area.
Egernia rugosa (yakka skink)	Vulnerable	Refer Table 9 above	Refer Table 9 above	Refer Table 9 above
Gallinago hardwickii (Latham's snipe)	Special Least Concern	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
Grantiella picta (painted honeyeater)	Vulnerable	Refer Table 9 above	Refer Table 9 above	Refer Table 9 above

Scientific/ Common Name	NC Act Status	General Habitat Requirements/ Notes	Potentially Suitable Habitat	Likelihood of Occurrence
Hemiiaspis damelii (grey snake)	Endangered	The grey snake favours woodlands, usually on heavier, cracking clay soils, particularly in association with water bodies or in areas with small gullies and ditches. It shelters under rocks, logs and other debris as well as in soil cracks (DEHP 2013).	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the site and there are two (2) previous records of this species within the search area.
Hirundapus caudacutus (white-throated needle-tail)	Special Least Concern	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
Merops ornatus (rainbow bee-eater)	Special Least Concern	Refer Table 10 above	Refer Table 10 above	Refer Table 10 above
Ornithorhynchus anatinus (platypus)	Special Least Concern	In Queensland, platypus predominantly live in rivers east of the Great Dividing Range, however are also found in some western-flowing streams. Platypus make their home in and near freshwater creeks, slow-moving rivers, lakes joined by rivers, and built water storages such as farm dams. They build a simple burrow in a river bank, just above water level and often among a tangle of tree roots (EHP 2015b).	No – riverine areas are not present within the site.	Unlikely – appropriate habitat for this species is absent from the site. There is one (1) previous record of this species within the search area.
Phascolarctos cinereus (koala)	Special Least Concern	Refer Table 9 above	Refer Table 9 above	Refer Table 9 above
Tachyglossus aculeatus (short-beaked echidna)	Special Least Concern	The echidna inhabits a range of different environments from undisturbed to disturbed habitats, including forests, woodlands, shrublands and grasslands, rocky outcrops and agricultural lands. Echidnas are usually found among rocks, in hollow logs, under vegetation or piles of debris, under tree roots or sometimes in wombat or rabbit burrows (Hyett & Shaw 1980).	Yes - habitat features preferred by this species are present within the site.	Likely – appropriate habitat for this species is present within the site and there are two (2) previous records of this species within the search area.

4.2.2.2. Special Least Concern Species

No listed Special Least Concern fauna species were detected during the field survey. Three (3) Special Least Concern flora species, *Brachychiton populneus* (kurrajong), *Brachychiton rupestris* (narrow-leaved bottle tree), and *Cheilanthes sieberi* (mulga fern), were recorded during the field surveys.

4.2.3. Disturbance

The majority of the site has been cleared and is currently subject to grazing and cropping activities. Several farm dams have been constructed along an ephemeral drainage feature central to the site. A residence and associated outbuildings is also present.

Two easements are also present across the site – a 100m width Powerlink easement, containing a high voltage powerline and a 40m width QGC easement, containing a high pressure gas pipeline.

4.2.4. Watercourses and Wetlands

One (1) mapped stream order located in the south-east corner of the site was inspected as part of the field surveys. This mapped stream order 2 was confirmed to constitute a drainage feature in accordance with the *Water Act 2000.*

Water feature assessment locations are mapped at Appendix L: Ground Truthed Drainage Features, Watercourses and Wetlands Present on Site.

5. Conclusions

An ecological survey was required to be carried out on Lot 74 BWR188 in anticipation of proposed development of the Site. Field surveys were undertaken on 8th December, 2015 by a small team of ecologists led by Origin Energy Senior Field Environmental Advisor Anjeanette Schimpf.

Anjeanette Schimpf was approved to undertake ecological surveys by Commonwealth Department of Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities) in writing on 13th September, 2012.

The following is a summary of ecological and environmental values which were recorded on Lot 74 BWR188 as a result of the field surveys:

- Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC (RE11.3.1, Endangered). This TEC was present as two small patches located along northern boundary of Lot 74 BWR188. Patches were approximately 4ha and 2.5ha in size. This TEC was noted to be regrowth vegetation attaining remnant status on cover and height criteria. The ground layer was dominated by native grasses and forbs and therefore, was deemed to meet the Brigalow TEC condition class criteria for regrowth vegetation. Some disturbance from livestock grazing and clearing for fence lines was evident.
- A patch of regrowth RE11.3.1 (Endangered) occurs along the western boundary of the site which has recently and historically been bisected by a high voltage powerline and SWER line (respectively). This regrowth patch is highly fragmented and disturbed and supported a ground cover of greater than 50% by exotic perennial plants and therefore was not considered to meet the Condition Classes specified for Brigalow regrowth in the TEC profile.
- Regrowth RE11.3.17 (Endangered) attaining remnant status on cover and height criteria was recorded in combination with RE11.3.1 surrounding a drainage feature along the southern boundary of the site and also surrounding a farm dam on the drainage feature. The vegetation was very disturbed and fragmented at this latter location due to previous dam construction and use of vegetation by livestock as shade/rest area. RE11.3.17 is not considered to be one of the constituent REs for the Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC. Further, the RE11.3.1 portion of this vegetation community supported a ground cover of greater than 50% by exotic perennial plants and therefore was not considered to meet the Condition Classes specified for Brigalow regrowth in the TEC profile.
- One small patch (approx. 0.3ha in size) of regrowth RE11.4.3 (Endangered) was recorded within the central-southern portion of the site. This vegetation was dominated by *Casuarina cristata* (belah) regrowth and therefore was not considered to meet the Condition Classes specified for Brigalow regrowth in the TEC profile.
- No EPBC Act listed threatened flora were recorded during the field survey at the site. Based on an assessment of the likelihood of occurrence and habitat features present at the site, one *EPBC Act* listed threatened flora, *Homopholis belsonii* (Belson's panic) is considered likely to occur at the site, although there are no recent records within proximity. Suitable habitat for this species exists in some of the *C. cristata*, *A. harpophylla* and *E. populnea* vegetation communities within the survey area. However, in general, these communities were found to be slightly to significantly degraded as a result of grazing and use by livestock as shade/rest areas.
- No EPBC Act threat-listed or Migratory Species and one (1) Listed Marine Species were recorded as a result of the field surveys. Additionally, based on an assessment of the likelihood of occurrence and habitat features present at the site, two (2) Vulnerable, six (6) Migratory and five (5) Listed Marine species are considered likely to occur at the site
- DNRM mapping identified one (1) regional ecosystems to be present on site, RE11.3.1. This was ground truthed as incorrect and four regional ecosystems were field verified. These included:
    - RE11.3.1 - *Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains. The biodiversity status of this community is Endangered

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  - RE11.3.17 - *Eucalyptus populnea* woodland with *Acacia harpophylla* and/or *Casuarina cristata* on alluvial plains. The biodiversity status of this community is Endangered
  - RE11.4.3 - *Acacia harpophylla* and/or *Casuarina cristata* shrubby open forest on Cainozoic clay plains. The biodiversity status of this community is Endangered
  - RE 11.5.1 - *Eucalyptus crebra* and/or *E. populnea*, *Callitris glaucophylla*, *Angophora leiocarpa*, *Allocasuarina luehmannii* woodland on Cainozoic sand plains and/or remnant surfaces. The biodiversity status of this community is No Concern at Present
  - RE 11.5.4 - *Eucalyptus chloroclada*, *Callitris glaucophylla*, *C. endlicheri*, *Angophora leiocarpa* woodland on Cainozoic sand plains and/or remnant surfaces. The biodiversity status of this community is No Concern at Present
- No NC Act listed flora species were recorded during the field survey at the Site. Additionally, based on an assessment of the likelihood of occurrence and habitat features present at the site, one (1) NC Act listed threatened flora species, *Rutidosis lanata*, is expected to occur at the site
- One NC Act threat-listed fauna species, *Calyptorhynchus lathami lathami* (glossy black-cockatoo) was detected during the field survey. Additionally, based on an assessment of the likelihood of occurrence and habitat features present at the site, one (1) Endangered, one (1) Vulnerable and six (6) SLC NC Act listed fauna species are expected to occur at the site
- One (1) mapped stream order located in the south-east corner of the site was inspected as part of the field surveys. This mapped stream order 2 was confirmed to constitute a drainage feature in accordance with the *Water Act 2000.*

It is recommended that the findings in this report are considered during detailed development planning such that disturbance to the ecological values of the site and locality may be avoided wherever practical. Where disturbance is unavoidable, impact mitigation measures are to be implemented in accordance with the approved site environmental management plan and regulatory approval conditions.

Appendix A: Site Location and Survey Points

Legend

Survey Location

- Habitat Survey Point
- Vegetation Community Survey Point

Queensland Waterways Zoning

Risk of Impact

- 2 - Moderate

Boundary

- Surveyed Cadastral
- Petroleum Lease
- Survey Area

Source Information:
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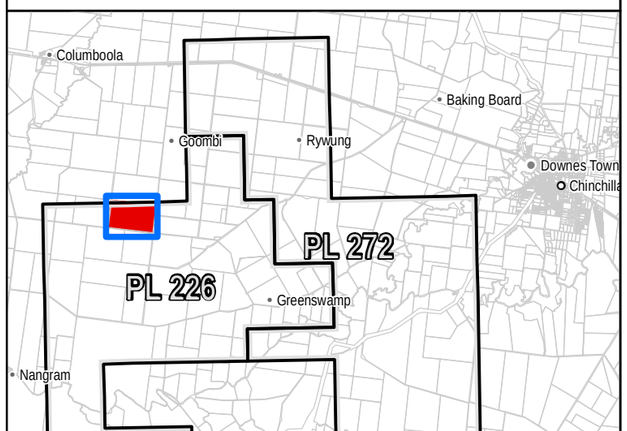

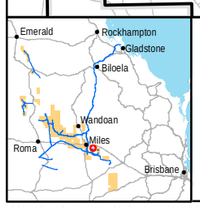

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Scale 1:10,000 (at A3)

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Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
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A	Issued For Review	ALM	TC	PR	AS	14/12/2015

Appendix A :
Site Location and Survey Points
Date: 15 December 2015

Map Number	Doc No	Rev
1 of 1	Q-4300-15-RP-322	0
	Map ID GISWR_30124	

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Appendix B: Results of EPBC Protected Matters Search Tool

Australian Government

Department of the Environment

EPBC Act Protected Matters Report

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

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

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

Report created: 25/11/15 15:34:23

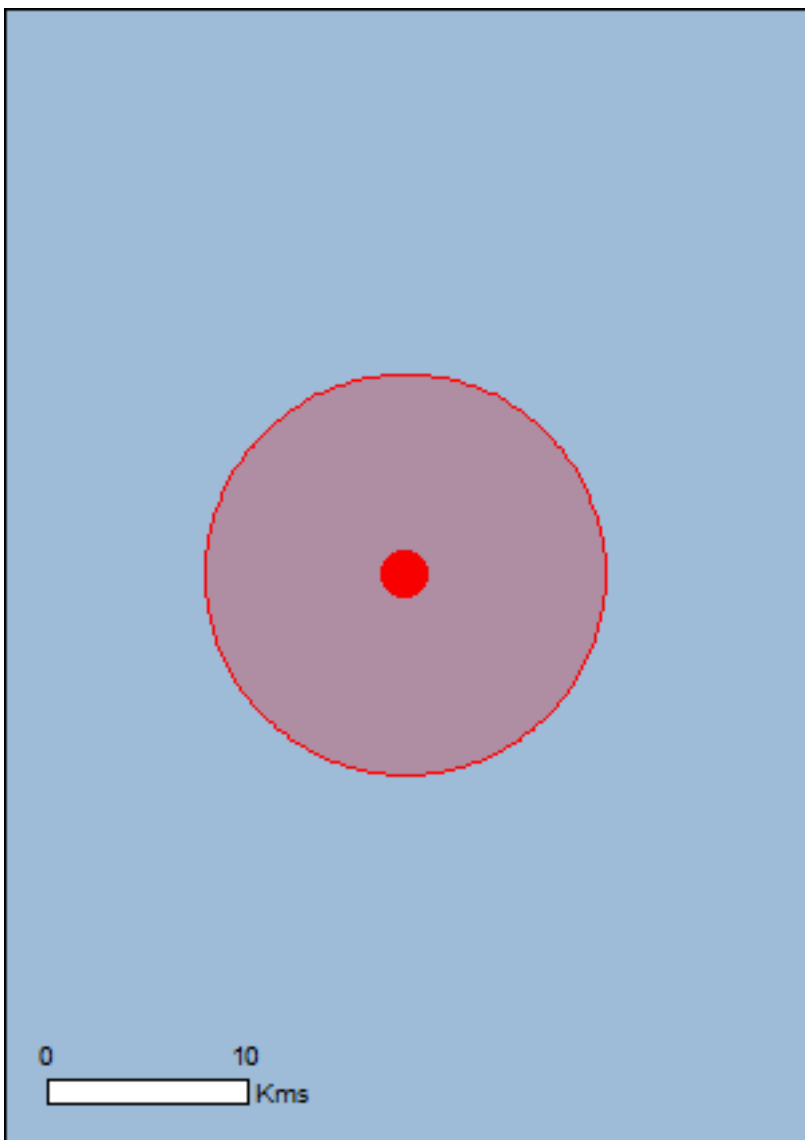
Summary

Details

- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat

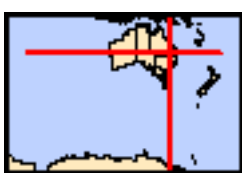
Acknowledgements



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.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	20
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Banrock station wetland complex	1200 - 1300km
Narran lake nature reserve	400 - 500km upstream
Riverland	1100 - 1200km
The coorong, and lakes alexandrina and albert wetland	1400 - 1500km

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
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Erythrotriorchis radiatus		
Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta		
Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta		
Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor		
Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Poephila cincta cincta		
Black-throated Finch (southern) [64447]	Endangered	Species or species habitat may occur within area
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Maccullochella peelii		
Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus hallucatus Northern Quoll [331]	Endangered	Species or species habitat may occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Plants		
Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
Homopholis belsonii Belson's Panic [2406]	Vulnerable	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Westringia parvifolia [4822]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Anomalopus mackayi Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area
Delma torquata Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat known to occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) 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 Resouces Audit, 2001.

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

Name	Status	Type of Presence
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Cylindropuntia spp. Prickly Pears [85131]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

-26.756 150.3851

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.

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Appendix C: Wildlife Online Database Search Results

Uncontrolled when printed unless issued and stamped Controlled Copy.

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: All
Records: All
Date: All
Latitude: -26.756
Longitude: 150.3851
Distance: 10
Email: anje.schimpf@originenergy.com.au
Date submitted: Wednesday 25 Nov 2015 14:31:02
Date extracted: Wednesday 25 Nov 2015 14:40:02

The number of records retrieved = 306

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	*Litoria peronii*	emerald spotted treefrog		C		2
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		2
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		1
animals	amphibians	Hylidae	*Cyclorana verrucosa*	rough collared frog		C		1
animals	amphibians	Hylidae	*Cyclorana alboguttata*	greenstripe frog		C		1
animals	amphibians	Limnodynastidae	*Notaden bennettii*	holy cross frog		C		1
animals	amphibians	Limnodynastidae	*Neobatrachus sudellae*	meeowing frog		C		1
animals	amphibians	Limnodynastidae	*Limnodynastes fletcheri*	barking frog		C		1
animals	amphibians	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk		C		1
animals	amphibians	Myobatrachidae	*Uperoleia rugosa*	chubby gungan		C		1
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		8
animals	birds	Acanthizidae	*Gerygone fusca*	western gerygone		C		3
animals	birds	Acanthizidae	*Gerygone olivacea*	white-throated gerygone		C		6
animals	birds	Acanthizidae	*Acanthiza apicalis*	inland thornbill		C		5
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		15
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		12
animals	birds	Acanthizidae	*Acanthiza uropygialis*	chestnut-rumped thornbill		C		1
animals	birds	Acanthizidae	*Chthonicola sagittata*	speckled warbler		C		3
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		4
animals	birds	Accipitridae	*Accipiter novaehollandiae*	grey goshawk		C		1
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		9
animals	birds	Accipitridae	*Milvus migrans*	black kite		C		1
animals	birds	Accipitridae	*Circus assimilis*	spotted harrier		C		2
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		4
animals	birds	Accipitridae	*Circus approximans*	swamp harrier		C		2
animals	birds	Accipitridae	*Lophoictinia isura*	square-tailed kite		C		1
animals	birds	Accipitridae	*Accipiter fasciatus*	brown goshawk		C		5
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		2
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		5
animals	birds	Accipitridae	*Hieraaetus morphnoides*	little eagle		C		3
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		SL		3
animals	birds	Aegothelidae	*Aegotheles cristatus*	Australian owlet-nightjar		C		4
animals	birds	Alaudidae	*Mirafra javanica*	Horsfield's bushlark		C		2
animals	birds	Anatidae	*Dendrocygna arcuata*	wandering whistling-duck		C		2
animals	birds	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck		C		2
animals	birds	Anatidae	*Malacorhynchus membranaceus*	pink-eared duck		C		2
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		10
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		13
animals	birds	Anatidae	*Aythya australis*	hardhead		C		4
animals	birds	Anatidae	*Anas rhynchotis*	Australasian shoveler		C		2
animals	birds	Anatidae	*Cygnus atratus*	black swan		C		3
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		11
animals	birds	Anatidae	*Anas castanea*	chestnut teal		C		1
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		9
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		SL		1
animals	birds	Ardeidae	*Ardea alba modesta*	eastern great egret		SL		8

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Ardeidae	*Ardea intermedia*	intermediate egret		C		5
animals	birds	Ardeidae	*Ardea ibis*	cattle egret		SL		1
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		7
animals	birds	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron		C		5
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		8
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		3
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		12
animals	birds	Artamidae	*Artamus superciliosus*	white-browed woodswallow		C		1
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		8
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		12
animals	birds	Artamidae	*Cracticus tibicen*	Australian magpie		C		14
animals	birds	Artamidae	*Artamus minor*	little woodswallow		C		1
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		5
animals	birds	Artamidae	*Artamus personatus*	masked woodswallow		C		1
animals	birds	Burhinidae	*Burhinus grallarius*	bush stone-curlew		C		1
animals	birds	Cacatuidae	*Calyptorhynchus banksii*	red-tailed black-cockatoo		C		1
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		12
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		4
animals	birds	Cacatuidae	*Nymphicus hollandicus*	cockatiel		C		14
animals	birds	Cacatuidae	*Calyptorhynchus funereus*	yellow-tailed black-cockatoo		C		1
animals	birds	Cacatuidae	*Calyptorhynchus lathami lathami*	glossy black-cockatoo (eastern)		V		1
animals	birds	Cacatuidae	*Eolophus roseicapillus*	galah		C		16
animals	birds	Campephagidae	*Coracina maxima*	ground cuckoo-shrike		C		3
animals	birds	Campephagidae	*Lalage tricolor*	white-winged triller		C		3
animals	birds	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike		C		2
animals	birds	Campephagidae	*Coracina tenuirostris*	cicadabird		SL		1
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		14
animals	birds	Casuariidae	*Dromaius novaehollandiae*	emu		C		5
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		6
animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		5
animals	birds	Charadriidae	*Vanellus tricolor*	banded lapwing		C		2
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		2
animals	birds	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork		C		3
animals	birds	Cisticolidae	*Cisticola exilis*	golden-headed cisticola		C		2
animals	birds	Climacteridae	*Climacteris picumnus*	brown treecreeper		C		3
animals	birds	Climacteridae	*Cormobates leucophaea metastasis*	white-throated treecreeper (southern)		C		1
animals	birds	Columbidae	*Geopelia cuneata*	diamond dove		C		4
animals	birds	Columbidae	*Streptopelia chinensis*	spotted dove	Y			2
animals	birds	Columbidae	*Geopelia striata*	peaceful dove		C		11
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		14
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		6
animals	birds	Columbidae	*Columba livia*	rock dove	Y			2
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		6
animals	birds	Corcoracidae	*Corcorax melanorhamphos*	white-winged chough		C		6
animals	birds	Corcoracidae	*Struthidea cinerea*	apostlebird		C		12
animals	birds	Corvidae	*Corvus sp.*					1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		20
animals	birds	Corvidae	*Corvus coronoides*	Australian raven		C		5
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		5
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		2
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		1
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		4
animals	birds	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo		C		3
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		2
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		13
animals	birds	Estrildidae	*Stagonopleura guttata*	diamond firetail		C		3
animals	birds	Estrildidae	*Taeniopygia guttata*	zebra finch		C		3
animals	birds	Estrildidae	*Neochmia modesta*	plum-headed finch		C		4
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		10
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		7
animals	birds	Falconidae	*Falco longipennis*	Australian hobby		C		4
animals	birds	Gruidae	*Grus rubicunda*	brolga		C		2
animals	birds	Halcyonidae	*Todiramphus sanctus*	sacred kingfisher		C		8
animals	birds	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra		C		15
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		3
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		4
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		4
animals	birds	Maluridae	*Malurus leucopterus*	white-winged fairy-wren		C		4
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		15
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		1
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		3
animals	birds	Megaluridae	*Cincloramphus cruralis*	brown songlark		C		2
animals	birds	Megaluridae	*Cincloramphus mathewsi*	rufous songlark		C		4
animals	birds	Meliphagidae	*Gavicalis virescens*	singing honeyeater		C		1
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		11
animals	birds	Meliphagidae	*Nesoptilotis leucotis*	white-eared honeyeater		C		2
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		14
animals	birds	Meliphagidae	*Ptilotula penicillata*	white-plumed honeyeater		C		11
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		16
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		2
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		15/1
animals	birds	Meliphagidae	*Acanthagenys rufogularis*	spiny-cheeked honeyeater		C		11
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		17
animals	birds	Meliphagidae	*Melithreptus brevirostris*	brown-headed honeyeater		C		2
animals	birds	Meliphagidae	*Sugomel niger*	black honeyeater		C		1
animals	birds	Meliphagidae	*Grantiella picta*	painted honeyeater		V	V	3
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		5
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		11
animals	birds	Meliphagidae	*Manorina flavigula*	yellow-throated miner		C		6
animals	birds	Meliphagidae	*Epthianura tricolor*	crimson chat		C		1
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		SL		10
animals	birds	Monarchidae	*Myiagra inquieta*	restless flycatcher		C		7

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		19
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		1
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		3
animals	birds	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird		C		16
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		4
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		7
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		2
animals	birds	Otididae	*Ardeotis australis*	Australian bustard		C		6
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		6
animals	birds	Pachycephalidae	*Pachycephala pectoralis*	golden whistler		C		3
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		15
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		10
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		3
animals	birds	Passeridae	*Passer domesticus*	house sparrow	Y			2
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		5
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		1
animals	birds	Petroicidae	*Microeca fascinans*	jacky winter		C		6
animals	birds	Petroicidae	*Petroica goodenovii*	red-capped robin		C		6
animals	birds	Petroicidae	*Melanodryas cucullata*	hooded robin		C		1
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		5
animals	birds	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant		C		1
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		6
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		6
animals	birds	Phasianidae	*Coturnix ypsilophora*	brown quail		C		1
animals	birds	Phasianidae	*Coturnix pectoralis*	stubble quail		C		1
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		5
animals	birds	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe		C		7
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		13
animals	birds	Psittacidae	*Trichoglossus haematodus moluccanus*	rainbow lorikeet		C		2
animals	birds	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		11/2
animals	birds	Psittacidae	*Barnardius zonarius barnardi*	mallee ringneck		C		1
animals	birds	Psittacidae	*Aprosmictus erythropterus*	red-winged parrot		C		11
animals	birds	Psittacidae	*Melopsittacus undulatus*	budgerigar		C		2
animals	birds	Psittacidae	*Psephotus haematonotus*	red-rumped parrot		C		8
animals	birds	Psittacidae	*Platycercus adscitus*	pale-headed rosella		C		11
animals	birds	Psittacidae	*Alisterus scapularis*	Australian king-parrot		C		4
animals	birds	Psittacidae	*Parvipsitta pusilla*	little lorikeet		C		4
animals	birds	Ptilonorhynchidae	*Ptilonorhynchus maculatus*	spotted bowerbird		C		4
animals	birds	Rallidae	*Fulica atra*	Eurasian coot		C		3
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		5
animals	birds	Rallidae	*Porphyrio melanotus*	purple swamphen		C		1
animals	birds	Recurvirostridae	*Himantopus himantopus*	black-winged stilt		C		2
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		20
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		11
animals	birds	Scolopacidae	*Gallinago hardwickii*	Latham's snipe		SL		2
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		4

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Sturnidae	*Sturnus vulgaris*	common starling	Y			4
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		8
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		7
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		7
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		7
animals	birds	Timaliidae	*Zosterops lateralis*	silvereye		C		5
animals	birds	Turnicidae	*Turnix velox*	little button-quail		C		1
animals	mammals	Dasyuridae	*Antechinus flavipes flavipes*	yellow-footed antechinus (south-east Queensland)		C		1
animals	mammals	Dasyuridae	*Sminthopsis murina*	common dunnart		C		1
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Macropodidae	*Macropus robustus*	common wallaroo		C		1
animals	mammals	Macropodidae	*Wallabia bicolor*	swamp wallaby		C		3
animals	mammals	Muridae	*Hydromys chrysogaster*	water rat		C		1
animals	mammals	Ornithorhynchidae	*Ornithorhynchus anatinus*	platypus		SL		1
animals	mammals	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum		C		1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		V	V	2
animals	mammals	Potoroidae	*Aepyprymnus rufescens*	rufous bettong		C		1
animals	mammals	Pteropodidae	*Pteropus scapulatus*	little red flying-fox		C		2
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		SL		2
animals	mammals	Vespertilionidae	*Nyctophilus geoffroyi*	lesser long-eared bat		C		2
animals	mammals	Vespertilionidae	*Chalinolobus picatus*	little pied bat		C		1
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		1
animals	reptiles	Chelidae	*Wollumbinia latisternum*	saw-shelled turtle		C		1
animals	reptiles	Chelidae	*Chelodina longicollis*	eastern snake-necked turtle		C		1
animals	reptiles	Elapidae	*Pseudonaja textilis*	eastern brown snake		C		1
animals	reptiles	Elapidae	*Pseudechis guttatus*	spotted black snake		C		1
animals	reptiles	Elapidae	*Hemiaspis damelii*	grey snake		E		2/1
animals	reptiles	Elapidae	*Furina diadema*	red-naped snake		C		1
animals	reptiles	Elapidae	*Brachyurophis australis*	coral snake		C		1
animals	reptiles	Pygopodidae	*Delma plebeia*	common delma		C		2/2
animals	reptiles	Pygopodidae	*Lialis burtonis*	Burton's legless lizard		C		1
animals	reptiles	Scincidae	*Egernia rugosa*	yakka skink		V	V	1
animals	reptiles	Scincidae	*Anomalopus verreauxii*			C		2
animals	reptiles	Scincidae	*Lerista punctatovittata*			C		1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		1
animals	reptiles	Varanidae	*Varanus gouldii*	sand monitor		C		1
animals	reptiles	Varanidae	*Varanus panoptes*	yellow-spotted monitor		C		1
plants	ferns	Marsileaceae	*Marsilea drummondii*	common nardoo		C		1/1
plants	higher dicots	Apiaceae	*Actinotus gibbonsii*	dwarf flannel flower		C		1/1
plants	higher dicots	Asteraceae	*Leiocarpa semicalva subsp. tenuifolia*			C		1/1
plants	higher dicots	Asteraceae	*Olearia canescens subsp. discolor*			C		1/1
plants	higher dicots	Asteraceae	*Ozothamnus diotophyllus*			C		1/1
plants	higher dicots	Asteraceae	*Rutidosis murchisonii*			C		1/1
plants	higher dicots	Asteraceae	*Brachyscome whitei*			C		1/1
plants	higher dicots	Asteraceae	*Rutidosis lanata*			V		2/2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Caesalpiniaceae	*Senna surattensis*			C		1/1
plants	higher dicots	Capparaceae	*Capparis lasiantha*	nipan		C		1/1
plants	higher dicots	Celastraceae	*Denhamia bilocularis*			C		1/1
plants	higher dicots	Celastraceae	*Denhamia cunninghamii*			C		1/1
plants	higher dicots	Chenopodiaceae	*Dysphania rhadinostachya subsp. inflata*			C		1/1
plants	higher dicots	Chenopodiaceae	*Dysphania valida*			C		1/1
plants	higher dicots	Crassulaceae	*Bryophyllum delagoense*		Y			1/1
plants	higher dicots	Dilleniaceae	*Hibbertia stricta*			C		1/1
plants	higher dicots	Ericaceae	*Leucopogon mitchellii*			C		1/1
plants	higher dicots	Euphorbiaceae	*Acalypha eremorum*	soft acalypha		C		1/1
plants	higher dicots	Euphorbiaceae	*Croton phebalioides*	narrow-leaved croton		C		1/1
plants	higher dicots	Euphorbiaceae	*Monotaxis macrophylla*			C		1/1
plants	higher dicots	Euphorbiaceae	*Euphorbia tannensis subsp. tannensis*			C		1/1
plants	higher dicots	Fabaceae	*Swainsona luteola*	dwarf darling pea		C		1/1
plants	higher dicots	Fabaceae	*Mirbelia pungens*			C		1/1
plants	higher dicots	Fabaceae	*Hovea longipes*	brush hovea		C		1/1
plants	higher dicots	Fabaceae	*Vicia sativa subsp. nigra*		Y			1/1
plants	higher dicots	Goodeniaceae	*Scaevola spinescens*	prickly fan flower		C		1/1
plants	higher dicots	Goodeniaceae	*Dampiera adpressa*			C		1/1
plants	higher dicots	Haloragaceae	*Gonocarpus urceolatus*			C		2/2
plants	higher dicots	Lamiaceae	*Prostanthera*			C		1/1
plants	higher dicots	Lamiaceae	*Prostanthera lithospermoides*			C		2/2
plants	higher dicots	Lamiaceae	*Prostanthera cryptandroides subsp. euphrasioides*			C		1/1
plants	higher dicots	Lentibulariaceae	*Utricularia stellaris*			C		1/1
plants	higher dicots	Loranthaceae	*Dendrophthoe glabrescens*			C		2/2
plants	higher dicots	Loranthaceae	*Lysiana exocarpi subsp. tenuis*			C		1/1
plants	higher dicots	Loranthaceae	*Amyema quandang var. bancroftii*	broad-leaved grey mistletoe		C		2/2
plants	higher dicots	Loranthaceae	*Amyema congener subsp. rotundifolia*			C		1/1
plants	higher dicots	Malvaceae	*Sida aprica var. aprica*			C		1/1
plants	higher dicots	Meliaceae	*Owenia x reliqua*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia blakei subsp. blakei*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia tenuinervis*			C		2/2
plants	higher dicots	Mimosaceae	*Acacia sparsiflora*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia omalophylla*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia microsperma*	bowyakka		C		1/1
plants	higher dicots	Mimosaceae	*Acacia neriifolia*	pechey wattle		C		2/2
plants	higher dicots	Mimosaceae	*Acacia deanei subsp. deanei*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia triptera*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia burrowii*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia jucunda*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia aprepta*	Miles mulga		C		1/1
plants	higher dicots	Mimosaceae	*Acacia excelsa subsp. excelsa*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia melvillei*			C		3/3
plants	higher dicots	Myrtaceae	*Eucalyptus exserta*	Queensland peppermint		C		2/2
plants	higher dicots	Myrtaceae	*Corymbia trachyphloia subsp. trachyphloia*			C		2/2
plants	higher dicots	Myrtaceae	*Melaleuca squamophloia*			C		5/5

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Myrtaceae	*Eucalyptus chloroclada*	Baradine red gum		C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus woollsiana*			C		2/2
plants	higher dicots	Myrtaceae	*Melaleuca lanceolata*			C		2/2
plants	higher dicots	Myrtaceae	*Harmogia densifolia*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus tenuipes*	narrow-leaved white mahogany		C		2/2
plants	higher dicots	Myrtaceae	*Calytrix tetragona*	fringe myrtle		C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark		C		1/1
plants	higher dicots	Myrtaceae	*Kardomia jucunda*			C		1/1
plants	higher dicots	Oleaceae	*Jasminum simplicifolium subsp. australiense*			C		1/1
plants	higher dicots	Oleaceae	*Notelaea microcarpa var. velutina*			C		1/1
plants	higher dicots	Phyllanthaceae	*Phyllanthus virgatus*			C		1/1
plants	higher dicots	Rubiaceae	*Psydrax odorata forma subnitida*			C		1/1
plants	higher dicots	Rutaceae	*Philotheca difformis subsp. difformis*			C		2/2
plants	higher dicots	Rutaceae	*Boronia occidentalis*			C		2/2
plants	higher dicots	Rutaceae	*Geijera parviflora*	wilga		C		1/1
plants	higher dicots	Sapindaceae	*Dodonaea heteromorpha*			C		1/1
plants	higher dicots	Solanaceae	*Duboisia leichhardtii*			C		2/2
plants	higher dicots	Solanaceae	*Solanum ellipticum*	potato bush		C		1/1
plants	higher dicots	Solanaceae	*Solanum tetrathecum*			C		1/1
plants	higher dicots	Solanaceae	*Solanum jucundum*			C		1/1
plants	higher dicots	Thymelaeaceae	*Pimelea neoanglica*	poison pimelea		C		1/1
plants	higher dicots	Viscaceae	*Viscum articulatum*	flat mistletoe		C		1/1
plants	lower dicots	Ranunculaceae	*Clematis*			C		1/1
plants	monocots	Aponogetonaceae	*Aponogeton queenslandicus*			C		1/1
plants	monocots	Cyperaceae	*Cyperus procerus*			C		1/1
plants	monocots	Cyperaceae	*Cyperus isabellinus*			C		1/1
plants	monocots	Juncaginaceae	*Cycnogeton dubius*			C		1/1
plants	monocots	Poaceae	*Calyptochloa gracillima subsp. gracillima*			C		1/1
plants	monocots	Poaceae	*Paspalidium albovillosum*			C		1/1
plants	monocots	Poaceae	*Eragrostis trichophora*		Y			1/1
plants		Linderniaceae	*Lindernia alsinoides*			C		1/1

CODES

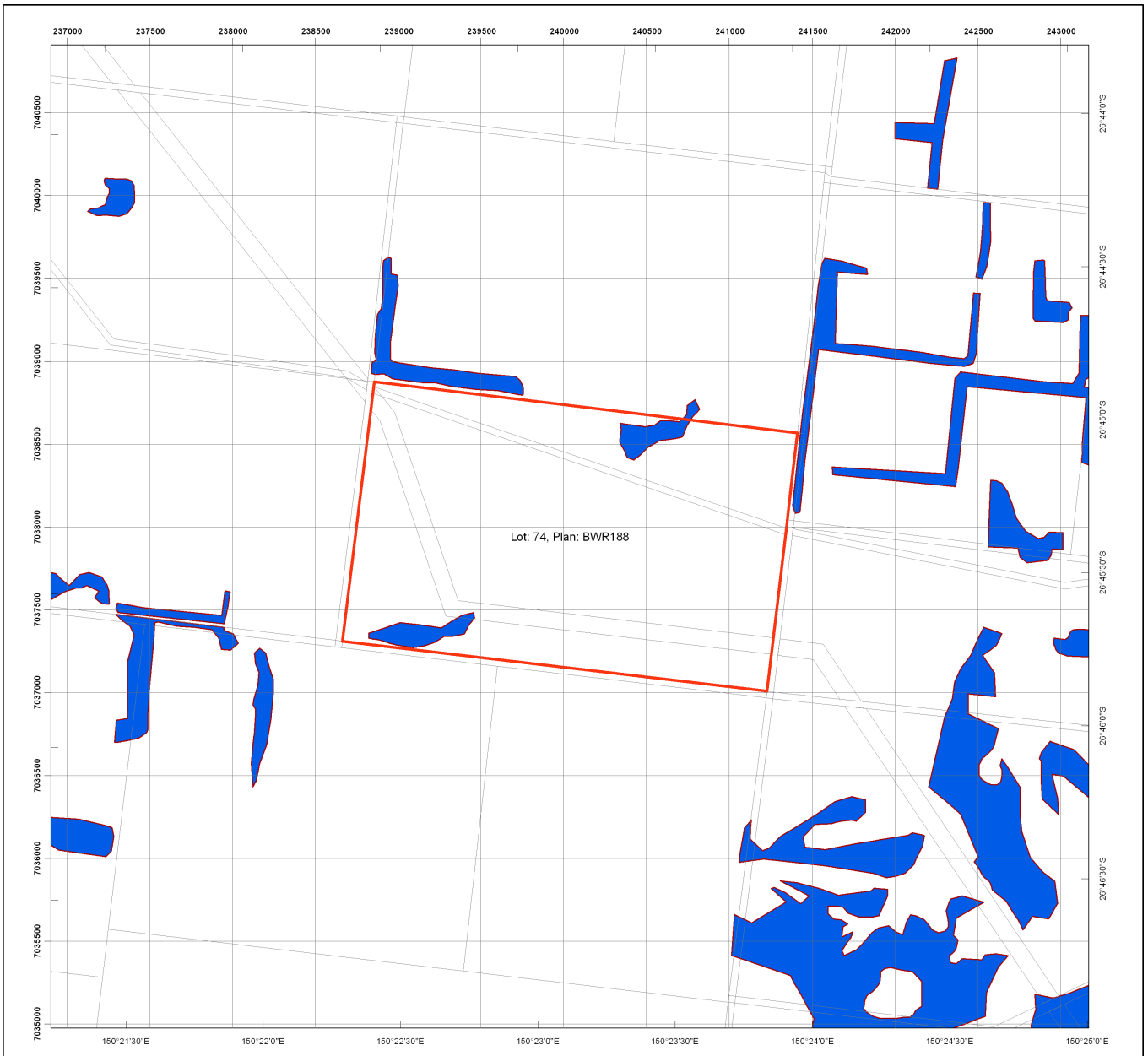
I - Y indicates that the taxon is introduced to Queensland and has naturalised.

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.

Appendix D: DNRM Mapped Regional Ecosystems



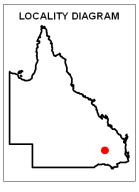
Regulated Vegetation Management Map

Legend

- Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Vegetation not regulated under the VMA)
- Water
- Area not categorised
- Cadastral line
  Property boundaries shown are provided as a locational aid only

Queensland Government

LOCALITY DIAGRAM



N

0 340 680 1,020 1,360 1,700 m

This product is projected into:
GDA 1994 MGA Zone 56

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incurr as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrm.qld.gov.au or contact the Department of Natural Resources and Mines.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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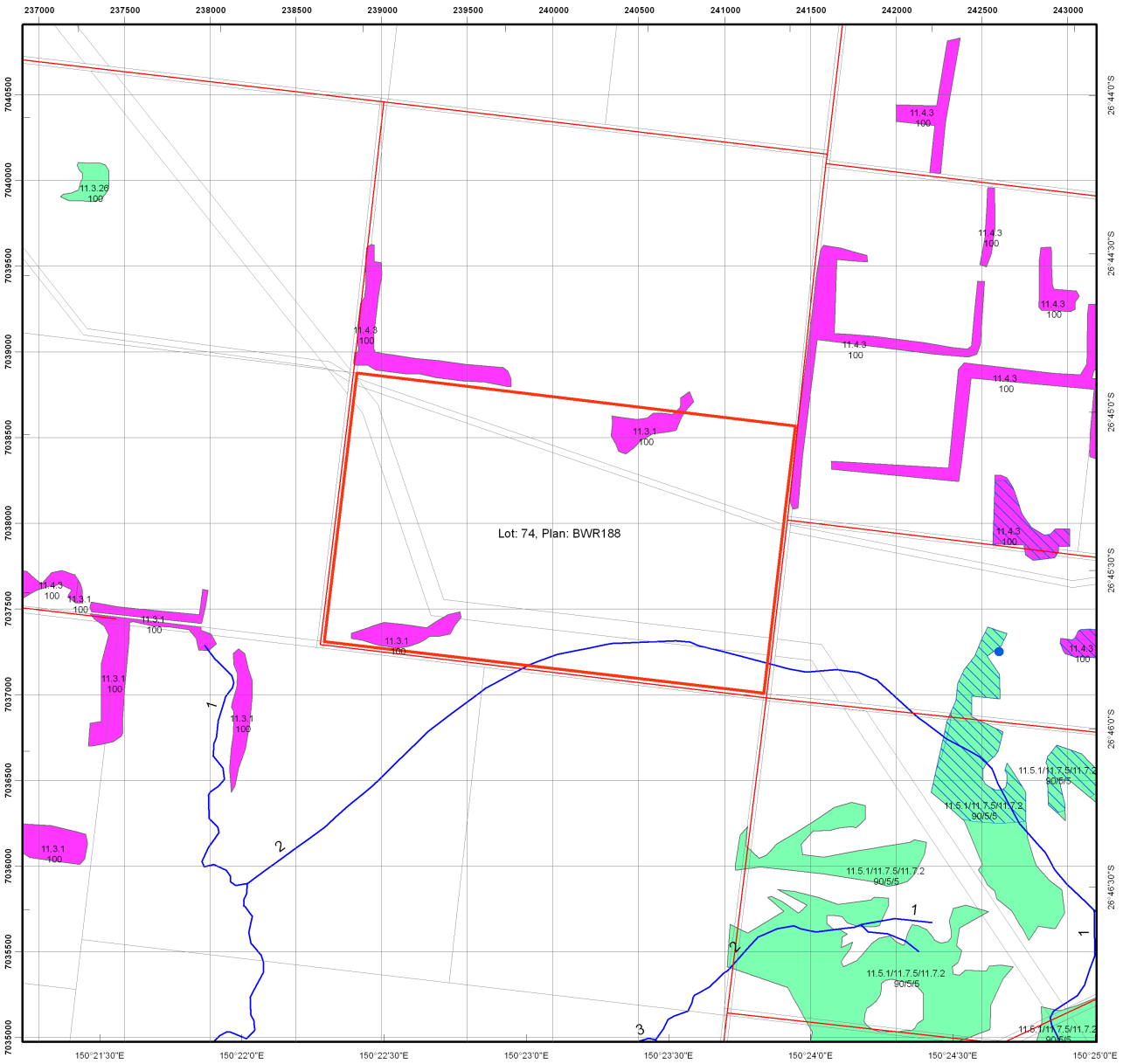


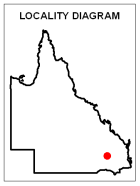
Vegetation Management Supporting Map

Legend

- Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area containing remnant vegetation
- Category A or B area under Section 20AH
  These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area containing high value regrowth vegetation
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourse on the vegetation management watercourse and drainage feature map
  (Stream order shown as black number against stream where available)
- Roads
- National Parks, State Forest and other reserves
- Cadastral line
  Property boundaries shown are provided as a locational aid only

Queensland Government

LOCALITY DIAGRAM



N

0 240 480 720 960 1,200 m

This product is projected into:
GDA 1994 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.dnrm.qld.gov.au or contact the Department of Natural Resources and Mines.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

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Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - Module 8: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Sustainable Planning Act 2009*; and
- Self-assessable vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s or on and within 2.2 km of an identified coordinate on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources and Mines website (http://www.dnrm.qld.gov.au) has more information on how the layer is applied under the State Development Assessment Provisions - Module 8: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

1) (a) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
2) (b) in which the protected wildlife, at any stage of its life cycle, is located.

Essential habitat identifies endangered or vulnerable native wildlife prescribed under the *Nature Conservation Act 1994*.

Essential habitat in Category A and B (Remnant vegetation species record) areas:1100m Species Information

(no results)

Essential habitat in Category A and B (Remnant vegetation species record) areas:1100m Regional Ecosystems Information

(no results)

Essential habitat in Category A and B (Remnant vegetation) areas:1100m Species Information

(no results)

Essential habitat in Category A and B (Remnant vegetation) areas:1100m Regional Ecosystems Information

(no results)

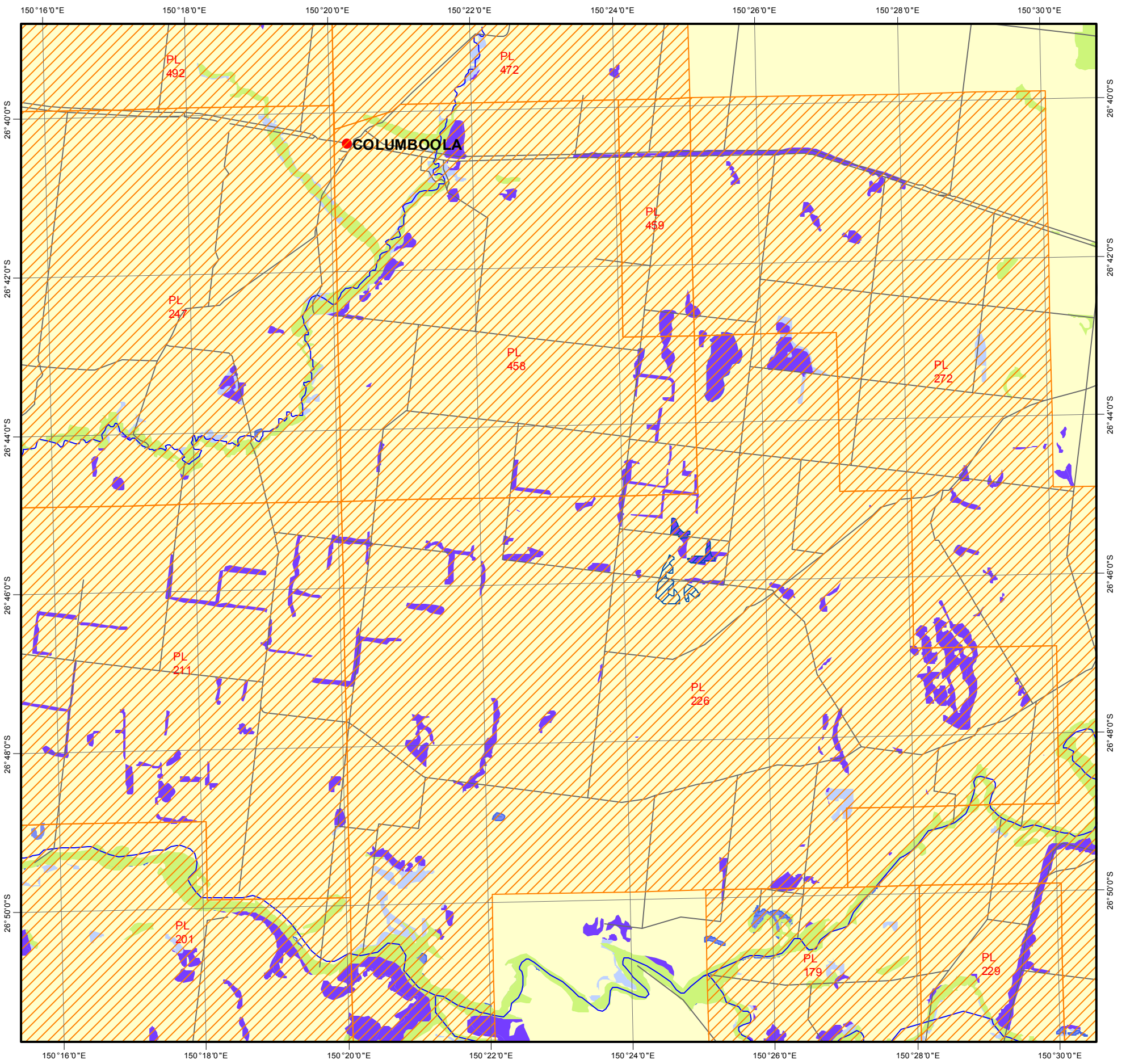
Essential habitat in Category C (High value regrowth vegetation) areas:1100m Species Information

(no results)

Essential habitat in Category C (High value regrowth vegetation) areas:1100m Regional Ecosystems Information

(no results)

Appendix E: EHP Environmental Values Mapping on Site (ESAs, Referable Wetlands, Protected Plants)



ENVIRONMENTALLY SENSITIVE AREAS - non-mining resource activities (EP Act)

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU
Date: 25 Nov 15 Time: 14.33.01

Centred on point position:
Latitude: -26.756 Longitude: 150.3851
(decimal degrees)

Petroleum Leases

CATEGORY A
- National Parks
- Regional Parks (general)
- Forest Reserves
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Area
- Marine Parks other than General Use Zones

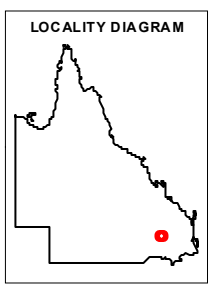
CATEGORY B
- World Heritage Areas
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Fish Habitat Areas
- Koala Plan
- Coordinated Conservation Areas
- Endangered Regional Ecosystems (remnant and mature regrowth (biodiversity status))
- Marine Parks other than General Use Zones
- Marine Plants

CATEGORY C
- Essential Habitat
- Nature Refuges
- Regional Parks (resource use area)
- State Forests
- Timber Reserves
- Of Concern Regional Ecosystems (remnant biodiversity status)

OTHERS
- Towns
- Roads
- Rivers
- Springs
- Referable Wetlands
- Dominant Wetlands (51-100%)
- Subdominant Wetlands (0-50%)
- Queensland

Queensland Government

LOCALITY DIAGRAM



N

0 1300 2600 3900 5200 6500 m

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External contributors (non-government parties) of the data for this product are: Great Barrier Reef Marine Park Authority

Regional ecosystem mapping (remnant biodiversity status) may incorporate amendments, resulting from property level assessments, to the release version of the mapping available on QGIS.

NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

The user should note that some boundaries and indicated values are ambient or subject to change over time (e.g. regional ecosystem boundaries and conservation status, watercourse mapping etc).

The user should be aware that due to multiple overlapping themes present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes are displayed.

Mature Regrowth vegetation, depicting endangered regional ecosystems, was incorporated as of 24/07/2012.

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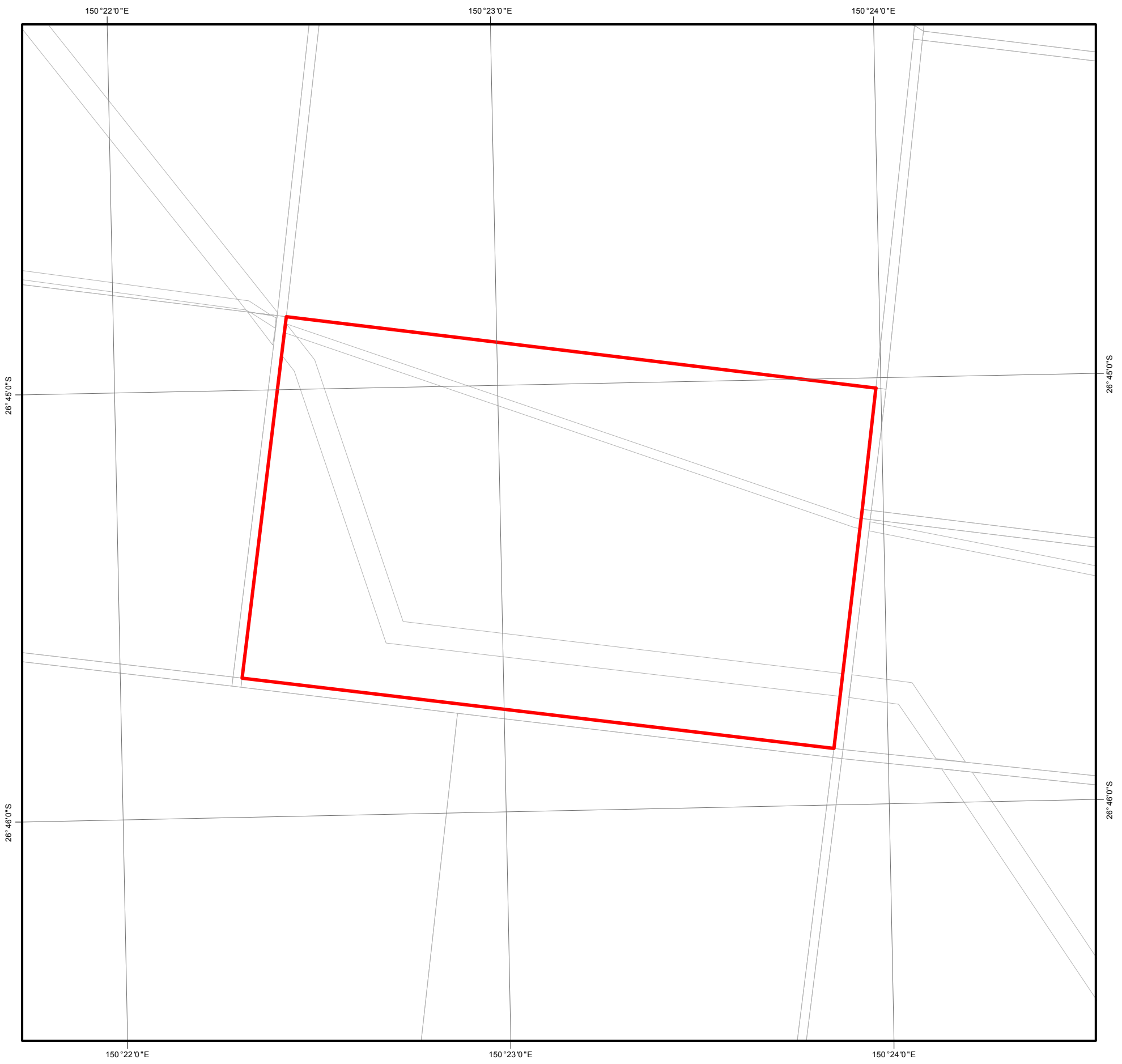


Map of Referable Wetlands
Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU
Date: 25 Nov 15 Time: 14.32.09

Centred on Lot on Plan:
74 BWR188

Selected Land Parcel

Cadastral Boundary

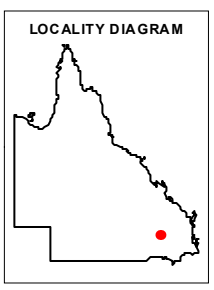
Wetland Protection Areas

Wetland

Trigger Area

Queensland Government

LOCALITY DIAGRAM



N

0 250 500 750 1000 1250 m

This product is projected into GDA 1994 MGA Zone 56

Note:
This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

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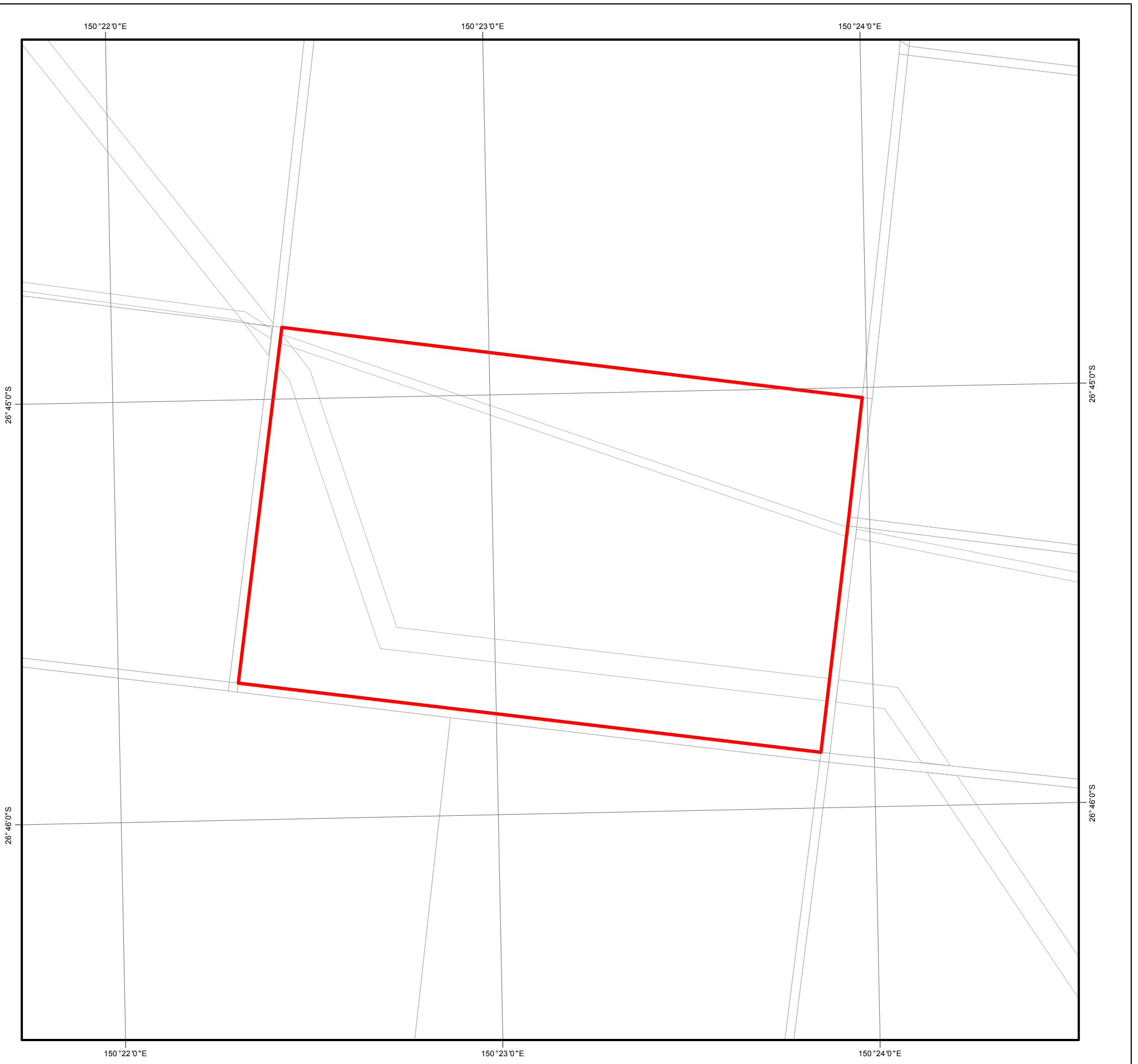


Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU
Date: 25 Nov 15 Time: 14.32.11

Centred on Lot on Plan:
74 BWR188

Selected Land Parcel

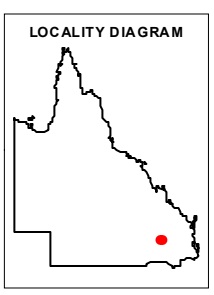
Cadastral Boundary

HES Wetland

GES Wetland

Queensland Government

LOCALITY DIAGRAM



N

0 250 500 750 1000 1250 m

Note:
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

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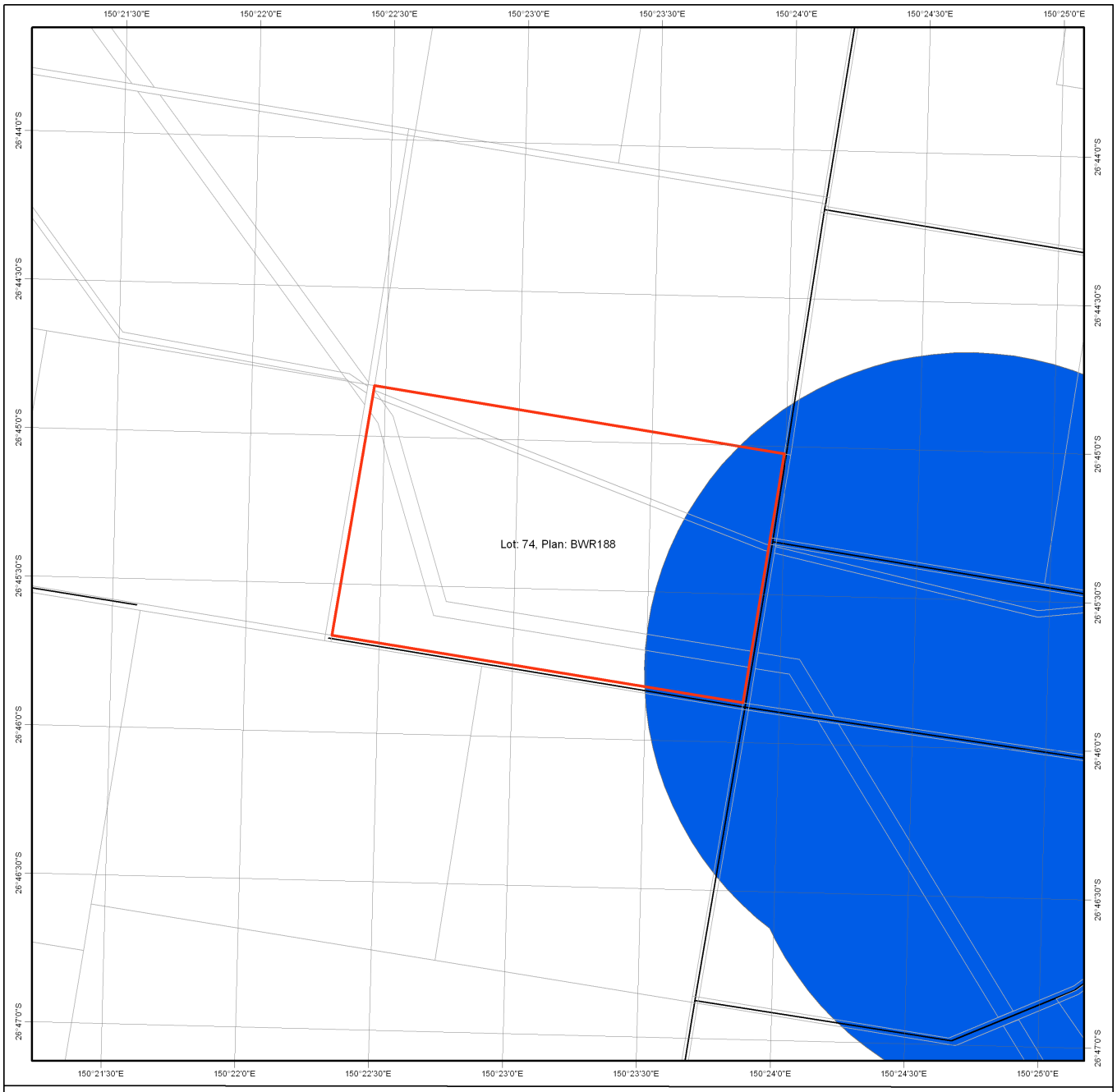
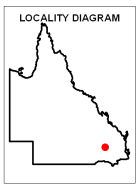


Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
- High risk area
- Cadastral line
  Property boundaries shown are provided as a locational aid only
- Freeways / motorways / highways
- Secondary roads / streets



N

0 240 480 720 960 1,200 m

This product is projected into:
GDA 1994 Queensland Albers

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

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

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Appendix F: List of Flora and Fauna Species Identified on Site

Scientific Name	Common Name	EPBC Act, NC Act, LP Act Status
FLORA		
Acacia harpophylla	brigalow	
Alectryon diversifolius	scrub boonaree	
Allocasuarina luehmannii	bulloak	
Alphitonia excelsa	red ash, soap tree	
Alstonia constricta	bitterbark	
Alternanthera denticulata	lesser joyweed	
Amyema quandang	--	
Ancistrachne uncinulata	hooky grass	
Apophyllum anonalum	warrior bush	
Aristida caput-medusae	many-headed wiregrass	
Aristida jerichoensis	jericho wiregrass	
Atriplex semibaccata	creeping saltbush	
Brachychiton populneus	kurrajong	Special Least Concern (NC Act)
Brachychiton rupestris	narrow-leaved bottle tree	Special Least Concern (NC Act)
Brachyscome sp.	--	
Brunoniella australis	blue trumpet	
Callitris glaucophylla	white cypress pine	
Capparis canescens	wild orange	
Carissa ovata	currant bush	
Casuarina cristata	belah	
*Cenchrus ciliaris**	buffel grass	
Cheilanthes sieberi	mulga fern	Special Least Concern (NC Act)
*Chloris gayana**	Rhodes grass	
Chrysocephalum apiculatum	yellow buttons	
Chrysopogon fallax	--	
*Cirsium vulgare**	spear thistle	
Citrus glauca	desert lime	
Commelina cyanea	native wandering jew	
*Conyza bonariensis**	flaxleaf fleabane	
Corymbia clarksoniana	Clarkson's bloodwood	
Cymbopogon refractus	barbed wire grass	
Dichanthium sericeum	Queensland bluegrass	
*Echinochloa colona**	awnless barnyard grass	
Einadia nutans	climbing saltbush	
Enchylaena tomentosa	ruby saltbush	
Enteropogon acicularis	--	
Enteropogon ramosus	curly windmill grass	
Eragrostis lacunaria	purple love-grass	
Eremophila debilis	winter apple	
Eremophila mitchellii	false sandalwood	
Eucalyptus chloroclada	Baradine red gum	
Eucalyptus crebra	narrow-leaved ironbark	

Scientific Name	Common Name	EPBC Act, NC Act, LP Act Status
Eucalyptus populnea	poplar box	
Eucalyptus woolsiana	grey box	
Geijera parviflora	wilga	
*Glandularia aristigera**	Mayne's pest	
*Gomphrena celosioides**	gomphrena weed	
Grevillea striata	beefwood	
Lomandra multiflora	many-flowered mat rush	
Lysiana exocarpi	--	
Mairena microphylla	small-leaved blue bush	
*Malvastrum americanum**	spiked malvastrum	
Marsilea sp.	nardoo	
*Megathyrsus maximus**	Guinea grass	
*Melinis repens**	red natal grass	
Owenia acidula	emu bush	
*Panicum coloratum**	coolah grass	
Paspalidium caespitosum	brigalow grass	
Paspalidium globoideum	shotgrass	
Petalostigma pubescens	quinine tree	
Physalis minima	native gooseberry	
*Portulaca oleracea**	common purslane	
Psydrax oleifolia	brush myrtle	
Rhagodia spinescens	spiny saltbush	
Salsola kali	soft roly poly	
Sclerolaena birchii	galvanized burr	
Sclerolaena muricata	black rolypoly	
Senecio pinnatifolius	variable groundsel	
*Solanum nigrum**	black-berry nightshade	
Sporobolus caroli	fairy grass	
Sporobolus scabridus	--	
Tetragonia tetragonioides	New Zealand spinach	
Tribulus terrestris	bindii	
Wahlenbergia queenslandica	--	
Walwhalleya subxerophila	gilgai grass	

Scientific Name	Common Name	
FAUNA		
BIRDS		
Calyptorhynchus lathami lathami	glossy-black cockatoo	Vulnerable (NC Act)
Corvus coronoides	Australian raven	
Corvus orru	Torresion crow	
Cracticus tibicen	Australian magpie	
Cracticus nigrogularis	pied butcherbird	
Cracticus torquatus	grey butcherbird	
Dacelo novaeguineae	laughing kookaburra	

Scientific Name	Common Name	
Eolophus roseicapillus	galah	
Geopelia striata	peaceful dove	
Gerygone albogularis	white-throated gerygone	
Grallina cyanoleuca	magpie-lark	Listed Marine Species (EPBC Act)
Manorina melanocephala	noisy miner	
Ocyphaps lophotes	crested pigeon	
Pachycephala pectoralis	golden whistler	
Pomatostomus superciliosus	white-browed babbler	
Rhipidura leucophrys	willie wagtail	
Struthidea cinerea	apostlebird	
MAMMALS		
*Bos taurus**	cow	
Lepus capensis (syn. Lepus europaeus)	European hare	
Macropus sp.	--	
Macropus rufogriseus	red necked wallaby	
Macropus giganteus	eastern grey kangaroo	
*Ovus aries**	sheep	
Wallabia bicolor	swamp wallaby	

* – denotes Introduced species

Appendix G: Ground Truthed Threatened Ecological Communities

Legend

Ground Truthed Threatened Ecological Community

- Brigalow (RE 11.3.1)

Boundary

- Surveyed Cadastral
- Petroleum Lease
- Survey Area

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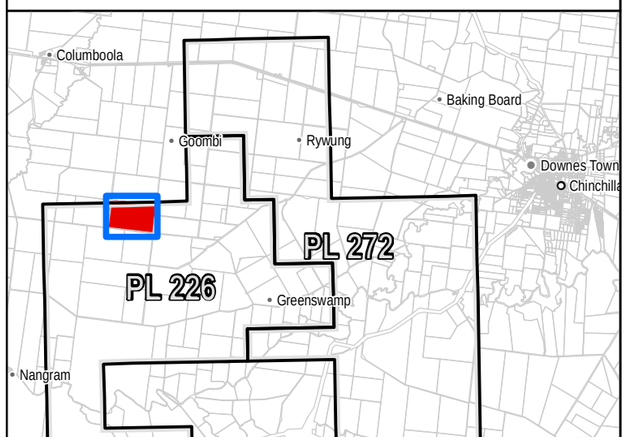

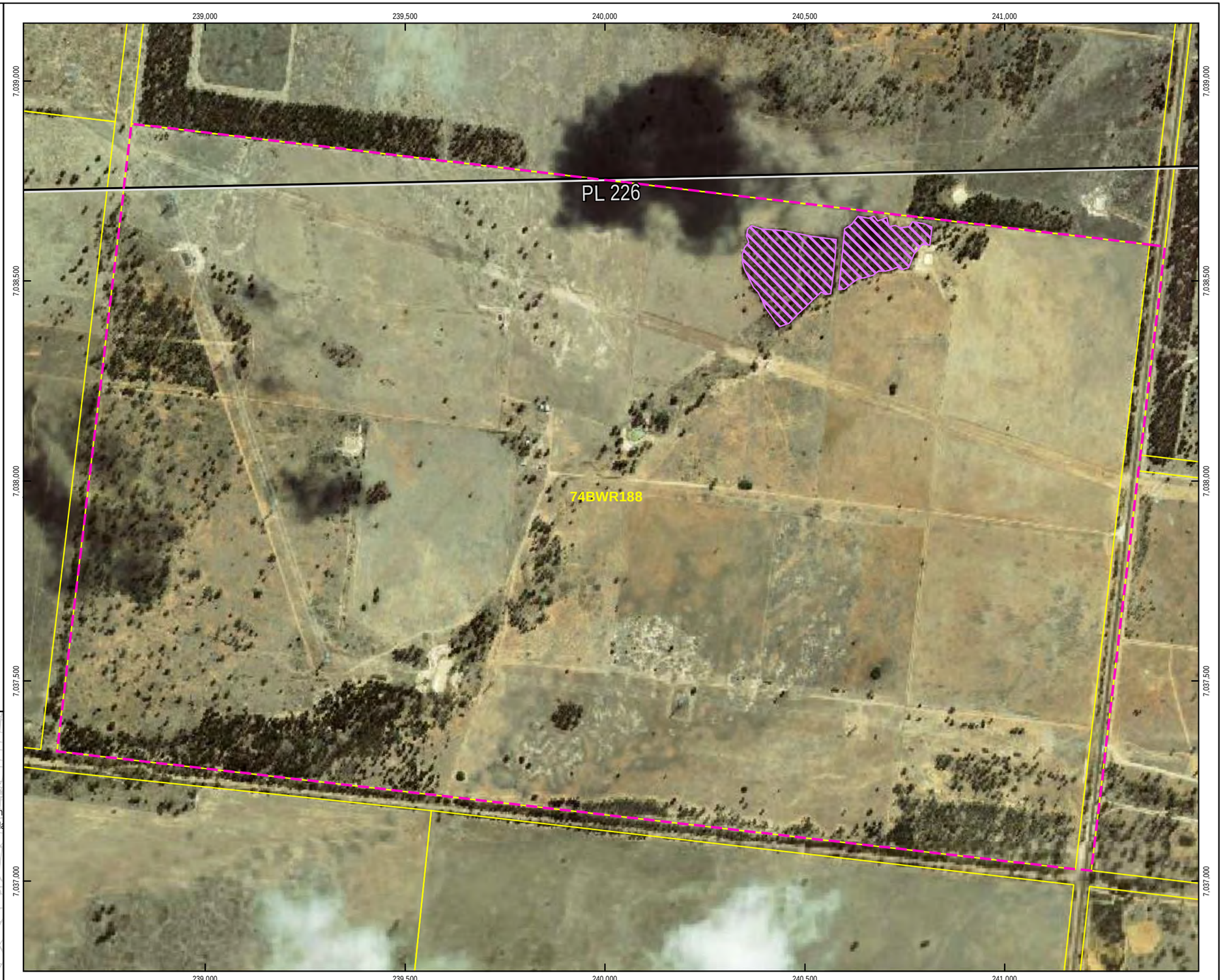

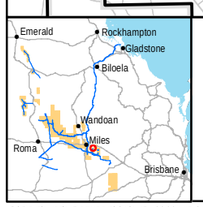

N

Scale 1:10,000 (at A3)

0 200 400 800

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	PR	AS	15/12/2015
A	Issued For Review	ALM	TC	PR	AS	14/12/2015

origin

Appendix G :
Ground Truthed Threatened Ecological Communities
Date: 15 December 2015

Map Number	Doc No	Rev
1 of 1	Q-4300-15-RP-322	0
	Map ID GISWR_30124	

S:\Data\Work_Requests\GISWR_30001 to 30500\GISWR_30124\Rev0\GISWR_30124_G_Rev0.mxd

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Appendix H: Ground Truthed Regional Ecosystems

Legend

DNRM Stream Order

Ground Truthed Regional Ecosystems (RE) Biodiversity Status

Remnant Vegetation

Endangered RE

Regrowth Vegetation

Contains Endangered RE

Not of Concern RE

Boundary

Surveyed Cadastral

Petroleum Lease

Survey Area

Source Information:
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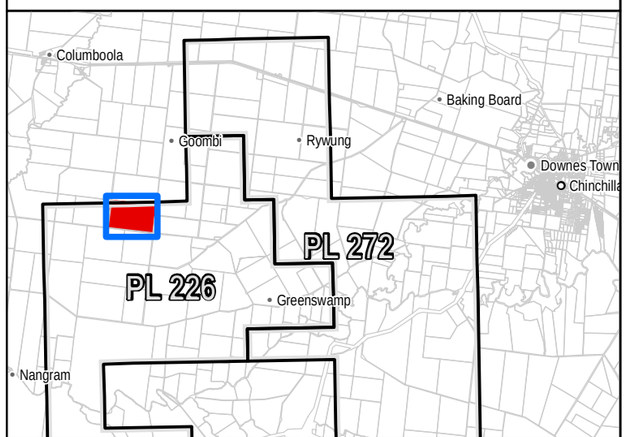

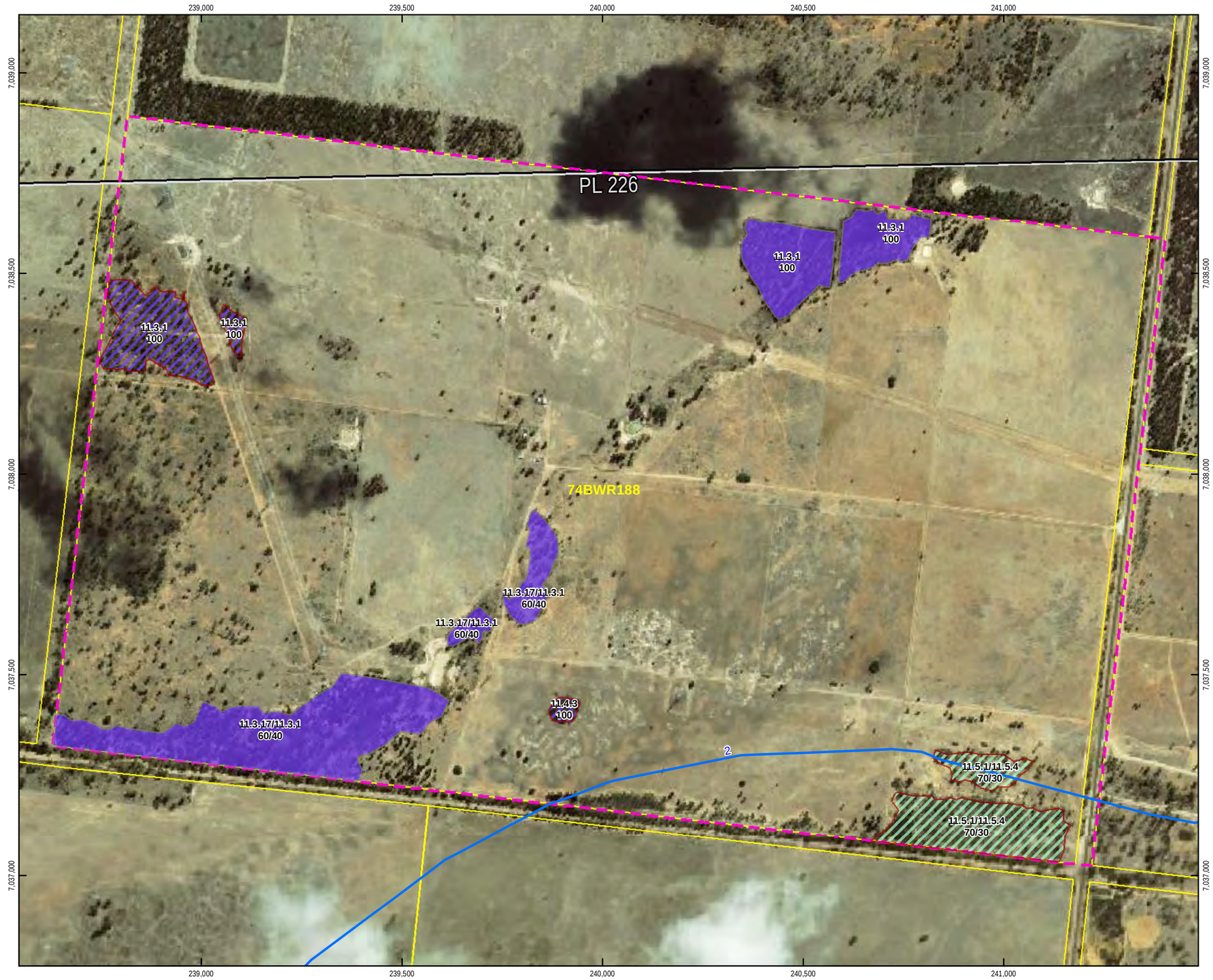

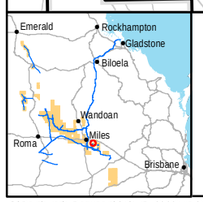

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Scale 1:10,000 (at A3)

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Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	PR	AS	15/12/2015
A	Issued For Review	ALM	TC	PR	AS	14/12/2015

origin

Appendix H :
Ground Truthed Regional Ecosystems
Date: 15 December 2015

Map Number	Doc No	Rev
1 of 1	Q-4300-15-RP-322	0
	Map ID GISWR_30124	

S:\Data\Work_Requests\GISWR_30001 to 30500\GISWR_30124\Rev0\GISWR_30124_H_Rev0.mxd

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Appendix I: Ground Truthed NC Act Threat-listed and EPBC Act Migratory and Marine Species Present on Site

Legend

Ground Truthed EPBC Threat-listed, Migratory and Marine Species

- Glossy Black-Cockatoo (*Calyptorhynchus lathami*)
- Australian Magpie-Lark (*Grallina cyanoleuca*)

Boundary

- Surveyed Cadastral
- Petroleum Lease
- Survey Area

Source Information:
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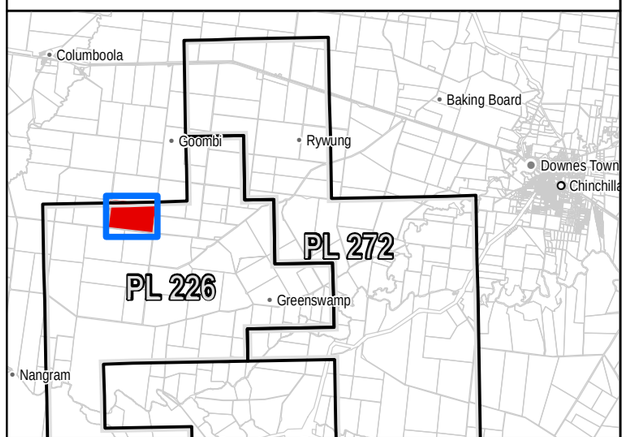

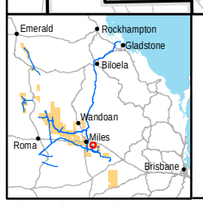

N

Scale 1:10,000 (at A3)

0 200 400 800

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	PR	AS	15/12/2015
A	Issued For Review	ALM	TC	PR	AS	14/12/2015

origin

Appendix I :
Ground Truthed NC Act Threat-listed and EPBC Act Migratory and Marine Species Present on Site
Date: 15 December 2015

Map Number	Doc No	Rev
1 of 1	Q-4300-15-RP-322	0
	Map ID GISWR_30124	

S:\Data\Work_Requests\GISWR_30001 to 30500\GISWR_30124\Rev0\GISWR_30124_I_Rev0.mxd

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Appendix L: Ground Truthed Drainage Features, Watercourses and Wetlands Present on Site.

Legend

Ground Truthed Water Feature

Drainage Feature

Boundary

Surveyed Cadastral

Petroleum Lease

Survey Area

Source Information:
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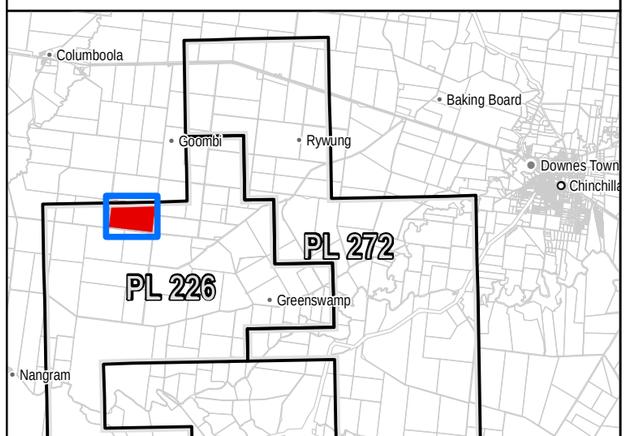

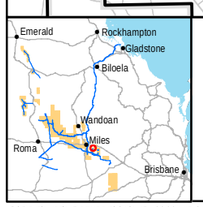

N

Scale 1:10,000 (at A3)

0 200 400 800

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	PR	AS	15/12/2015
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Appendix L :
Ground Truthed Drainage Features, Watercourses and Wetlands Present on Site
Date: 15 December 2015

Map Number	Doc No	Rev
1 of 1	Q-4300-15-RP-322	0
	Map ID GISWR_30124	

S:\Data\Work_Requests\GISWR_30001 to 30500\GISWR_30124\Rev0\GISWR_30124_L_Rev0.mxd

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