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AUSTRALIA PACIFIC LNG

REPORT

Ecology Assessment Report - 2RP60063

Q-4500-15-RP-1227

Australia Pacific LNG Upstream

This report provides an overview of the environmental and ecological values for the Site contained within Lot 2 on Plan RP60063 and Lot 81 on Plan BWR164 associated with DT#1409.

Revision	Date	Description	Originator	Checked	QA/Eng	Approved
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1. Introduction

This report provides a description of the ecological values found within lot plans 2 RP60063 and 81 BWR164 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 Sarah Tune, Senior Field Environmental Advisor and Hamish Bartrim, Field Environmental Advisor, for Origin Energy. The field surveys were conducted by a team of ecologists led by Sarah Tune, Senior Field Environmental Advisor, Ted Stone, Field Environmental Advisor and Hamish Bartrim, Field Environmental Advisor for Origin Energy.

Sarah Tune and Hamish Bartrim are approved to undertake ecological surveys by the Commonwealth Department of the Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities) in writing on 13 September 2012 and 18 December 2013/24 January 2014 respectively.

1.1. Scope of Works

An ecological assessment survey was required to be carried out within lot plans 2 RP60063 and 81 BWR164, in addition to a mapped road reserve that lies between the two lot plans and the Pelham Road reserve located to the east of the property. The survey was confined to a buffer of 150m from the edge of proposed Essential Petroleum Activities, and a buffer of 200m from the edge of Petroleum Activities associated with Coal Seam Gas (CSG) infrastructure only, which consists of approxitimly 5 kms of RoW disturbances and six CSG lease disturbances within the property. Therefore, the survey assessment does not provide a representation of the whole property. Refer to Appendix A: Site Location and Survey Points.

1.2. Definitions & Abbreviations

1.2.1. Definitions

Table 1: Definitions

Term	Definition
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).
Threatened	Flora or fauna species listed as endangered, vulnerable or near threatened by the *EPBC Act* and/or the NC Reg.
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.
Remnant vegetation	Woody vegetation within the Ecologically Dominant Layer comprising >70% of the height and >50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy.
Ecological Survey Buffer	Environmental survey area confined to a buffer of 150m from the edge of proposed Essential Petroleum Activities, and a buffer of 200m from the edge of Petroleum Activities associated with Coal Seam Gas (CSG) infrastructure. The intent of efforts within this survey area is to characterise ecological communities and MNES and EVNT flora and fauna species occurring within proximity to proposed disturbance.

1.2.2. Abbreviations

Table 2: Abbreviations

Abbreviation	Description
BoM	Bureau of Meteorology
CSG	Coal Steam Gas
DAFF	Department of Agriculture, Fisheries and Forestry (Qld) (Formally DPI)
DME	Department of Mines and Energy (Qld) (formally DERM)
DoE	Department of the Environment (C'th) (formally DSEWPaC)
DT	Disturbance Tracker
E	Emergent stratum (vegetation structure classification
EH	Essential Habitat
EHP	Department of Environment and Heritage Protection (Qld) (formally DERM and EPA)
EPBC	*Environmental Protection Biodiversity and Conservation Act 1999 (C'th)*
ESA	Environmentally Sensitive Area
EVNT	Endangered, Vulnerable or Near Threatened fauna listed under the *NC Act*
GIS	Geographic Information System
HVR	High Value Regrowth
LNG	Liquefied Natural Gas
LP/ LP Act	*Land Protection (Pest and Stock Route Management) Act 200 (Qld).*
MNES	Matters of National Environmental Significance as listed under the *EPBC Act*
NC Act	*Nature Conservation Act 1992 (Qld)*
PMST	Protected Matters Search Tool
RE	Regional Ecosystem
REDD	Regional Ecosystem Description Database
S1	Dominant shrub stratum (vegetation structure classification)
SPRAT	Species Profile and Threats Database
T1	Dominant canopy stratum (Vegetation structure classification)
T2	Sub-canopy stratum (vegetation structure classification)
TEC	Threatened Ecological Communities
WoNS	Weed of National Significance

1.2.3. Document Revision Table

Table 3: Revision History

Revision	Date	Description

1.2.4. Document References

Table 4: Associated Document References

Document Number	Title
	Accad, A; Neldner, V.J; Wilson, B. A; and Niehus, R.E. (2012) Remnant Vegetation in Queensland. Analysis of remnant vegetation 1997-2009, including regional ecosystem information. (Queensland Department of Science, Information Technology, Innovation and the Arts: Brisbane). http://www.ehp.qld.gov.au/ecosystems/remnant-vegetation/index.html#subregion_and_bioregion_analysis_of
	BoM (2014) *Bureau of Meteorology - Climate statistics for Australian Locations*. Australian Government, Canberra. Accessed 08/03/2014. http://www.bom.gov.au/climate/averages/tables/cw_042023.shtml
	Department of the Environment (2014). *Nyctophilus corbeni in Species Profile and Threats Database*, Department of the Environment, Canberra. Accessed 15/03/2014. http://www.environment.gov.au/sprat.
	DME (2008).*Queensland Geological Mapping (polygonised vector) Data: Regional & 1:100 00 Sheet areas (DVD)*. Department of Mines and Energy, Queensland.
	DoE (2009) *Species Profile and Threats Database (EPBC Act List of Threatened Ecological Communities)*. Department of the Environment, Canberra, Water, Heritage and the Arts, Canberra. Accessed 15/02/2014. http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl
	DoE (2009a).*Species Profile and Threats Database (EPBC Act List of Threatened Flora)*. Department of the Environment, Canberra, Water, Heritage and the Arts, Canberra. Accessed 15/02/2014. Accessed 15/02/2014. http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora
	DoE (2009b) *Species Profile and Threats Database (threatened fauna)*. Department of the Environment, Canberra, Water, Heritage and the Arts, Canberra. Accessed 15/02/2014. http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=fauna
	DoE (2013a) *Protected Matters Search Tool*. Department of the Environment, Sustainability, Environment, Water, Population and Communities. Canberra. Accessed 15/02/2014. http://www.environment.gov.au/epbc/pmst/index.html
	DoE (2013b) *Environmental Protection and Biodiversity Conservation Act 1999*, Department of Sustainability, Environment, Water, Population and Communities. http://www.environment.gov.au/epbc/about/index.html
	EHP (2012b). *Regional Ecosystem Land Zone definitions*, Department of Environment and Heritage Protection, Brisbane. Accessed 15/02/2014. http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/land_zone_definitions.html
	EHP (2014c) *Wildlife Online*. Department of Environment and Heritage Protection, Brisbane. Accessed 15/02/2014. http://www.ehp.qld.gov.au/wildlife/wildlife-online/
	EHP (2014d) *Regional Ecosystem and Remnant Map—version 6.1 for the purpose of the Vegetation Management Act 1999*. The Department of Environment and Heritage Protection, Brisbane. Accessed 15/02/2014. http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/data/index.php
	EHP (2014f) *Essential Habitat Map for the purpose of the Vegetation Management Act 1999*. The Department of Environment and Resource Management, Brisbane. Accessed 15/02/2014. http://www.ehp.qld.gov.au/licences-permits/maps_of_environmentally_sensitive_areas.php
	EHP (2014g) *Map of Referable Wetlands*. Department of Environment and Resource Management, Brisbane. Accessed 15/02/2014. http://www.ehp.qld.gov.au/ecosystems/wetlands/referable-wetlands-maps.html

Document Number	Title
	EHP (2014h) *Wetland Maps- Version 2.0*. Department of Environment and Resource Management, Qld Government. Accessed 15/02/2014. http://wetlandinfo.ehp.qld.gov.au/wetlands/
	EHP (2014i) *Regional Ecosystem Description Database (REDD)*. http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/index.php
	Hando, R. and Hando, V. (1997) *Going Bush With Chinchilla Nats*. Second Edition. Chinchilla Field Naturalists' Club, Chinchilla.
	Neldner, V.J., Wilson, B. A., Thompson, E.J. and Dillewaard, H.A. (2005). *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland. Version 3.1.*Updated September 2005. Queensland Herbarium, Environmental Protection Agency, Brisbane.128 pp.
	NSW (2011) *Weeds of National Significance*, National Weeds Strategy. Australian Government. http://www.weeds.org.au/ or http://www.daff.qld.gov.au/4790_7046.htm
	Queensland Parliamentary Counsel (2002) *Land Protection (Pest and Stock Route Management) Act*, Queensland Government, Brisbane. Accessed 15/02/2014. http://www.legislation.qld.gov.au/legisltn/current/l/landprpsrma02.pdf
	Queensland Parliamentary Counsel, (2000) *Water Act, Queensland Government, Brisbane. Accessed* 15/02/2014. http://www.legislation.qld.gov.au/legisltn/current/w/watera00.pdf
	Queensland Parliamentary Counsel, (2006) *Nature Conservation (Wildlife) Regulation*, Queensland Government, Brisbane. Accessed 15/02/2014. http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConWiR06.pdf
GISWR_17042_IFICD_RevB	Disturbance Tracker Map Suite for DT 810.
Q-LNG01-15-MP-0109	*Australian Pacific LNG (2011) Environmental Constraints Planning and Field Development Protocol.*

2. Site Context

Table 5: Site Context

Bioregion	The Site is located in the Barakula Province (Sub-bioregion) within the Brigalow Belt Bioregion (11). The Barakula Province comprises dissected low Jurassic sandstone and laterised sandstone hills, plateau remnants and scarps, interspersed with and surrounded by undulating plains. Within the low hilly country, the predominant vegetation is an open forest/woodland of narrow-leaved ironbark (*Eucalyptus crebra*), spotted gum (*Corymbia citriodora*), white cypress pine (*Callitris glaucophylla*), and bulloak (*Allocasuarina luehmannii*) with broad-leaved iron bark (*E. fibrosa* subsp. *nubila*) narrow-leaved white mahogany (*E. tenuipes*), budgeroo (*Lysicarpus angustifolius*) and thready-barked she-oak (*Casuarina inophloia*) characteristic of crests and scarps. Several communities are associated with different landforms on the undulating plains; brigalow (*Acacia harpophylla*) – belah (*Casuarina cristata*) open-forest was most extensive on grey cracking clay soils with poplar box (*Eucalyptus populnea*) and river red gum (*Eucalyptus camaldulensis*) woodland on alluvial plains, narrow-leaved ironbark (*E. crebra*), smooth-barked apple (*Angophora leiocarpa*), bulloak (*Allocasuarina luehmannii*), yellow jacket (*E. bloxsomei*), on sandy textured solodic soils and gum-topped box (*E. microcarpa*) or *E. populnea* or *Eucalyptus crebra*, *A. luehmannii* on heavier solodics (Sattler and Williams 1999).
Current land use	The Site was not under any specific current land use at the time of survey, both historical grazing and selective logging were evident throughout the entire Site, particularly in areas of high ironbark and cypress pine abundance. The northern portion of the property contains evidence of higher intensity selective logging evident by the predominantly presence of younger ironbarks (<50 years old) and lower canopy cover. In the southern extent of the property a large cleared area for the purpose of a borrow pit and dam were observed. The house has a large associated cleared area. Numerous access tracks dissect the property including those to access the houses and borrow pit/dam. A high voltage Powerlink easement which dissects both lot on plans is also present.
Soils and geology	Queensland Geological Mapping (Chinchilla map sheet_SG56-09) identifies the Site as being comprised of Cainozoic aggregates of Tertiary, Chinchilla sand, well to poorly sorted sandstone and some pebbly siltstone, and Quaternary, mainly Pleistocene sand with some sandy soils. The underlying geology can be associated with alluvium (Landzone 3) and lateralisation of erosion surfaces (Landzone 7).Department of Natural Resources and Mines (DNRM) Regulated vegetation Mapping identifies Regional Ecosystems associated with alluvium (Landzone 3) and lateritic rises (Landzone 7) to be present on the Site. The field survey confirmed the geology mapping, with sandy alluvial terraces surrounding drainage features and watercourses and lateritic rises and duricrusts observed throughout the Site. The topography was identified to be gently undulating rises with numerous drainage features and towards the western extent of the Site, complex drainage topography comprised of Dogwood Creek to the west and associated oxbows, anabranches, current and historic drainage features and alluvial flats
Climate	The nearest weather station at Miles Post Office (Bureau of Meteorology (BoM) station ID 042023) located approximately 4km south of the Site has an annual rainfall of 652 mm, with most rain falling between December and February, with August being the driest month. The week preceding the field survey there was no rainfall and the average temperature during the day was 32°C. The average annual maximum temperature at Miles is 27.1°C, with January being the hottest month (average maximum temperature of 33.2°C) and July being the coldest month (average maximum temperature of 19.3°C) (BoM, 2014).

3. Methodology

The methodology employed in compilation of this Ecological 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 -26.58993092 Long 150.21312979	10/02/2014	Appendix C: Results of EPBC Protected Matters Search Tool: Results of EPBC Protected Matters Search Tool
Nature Conservation Act 1992 (*NC Act)* Protected Species Lists Wildlife Online Database	Lat -26.58993092 Long 150.21312979	10/02/2014	Appendix D: Wildlife Online Database Search Results: Results of Wildlife Online Database Search
Department of Natural Resources and Mines (NRM) Regulated Vegetation Map	2RP60063 81BWR164	10/02/2014	Appendix E: NRM Regulated Vegetation Mapping: DNRM Mapped Regulated Vegetation
EHP Map of Environmentally Sensitive Areas – Chapter 5A activities (*EP Act*)	Lat -26.58993092 Long 150.21312979	10/02/2014	Appendix F: EHP Mapping of ESAs and Other Environmental Values on Site EHP mapping of ESAs and other Environmental values on Site
EHP Map of Referable Wetlands and Wetland Protection Areas	2RP60063 81BWR164	10/02/2014	Appendix G: EHP Map of Referable Wetlands: EHP Map of Referable Wetland Protection Areas
Queensland Geological Mapping, Chinchilla Map SHEET SG56-09 and 1:250,000 Geological series (1971).			N/A
GISWR_11368_IFI-CD_RevD Disturbance Tracker Map Suite for *DT 1497*			N/A

Data searches were conducted using a 10 km buffer around the coordinate -26.58993092, 150.21312979 which corresponds to the approximate centre point of the property/properties.

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. 2005*)
- 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 from 9 to 14 March 2014.

3.2.1. Vegetation Community Survey

Baseline botanical surveys were undertaken to describe dominant flora and vegetation community structure throughout the Site. Botanical surveys were consistent with the quaternary level of data collection as described in *Neldner et al. (2005)*.

The vegetation community surveys were undertaken within each unique ecosystem encountered within the Site. Vegetation community data was entered into the data fields provided by the Trimble data capture system. A total of eight number formal vegetation community surveys were undertaken within the Site. Ground-truthing of the EHP RE designation (EHP 2014d) at and surrounding the Site was undertaken via quaternary level and random meanders transect assessments, as defined by *Neldner et al. (2005)*.

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 Protocols (Q-LNG01-15-MP-0109 Australia Pacific LNG (2012))*, as presented by the vegetation structure point data sheet of the Trimble unit. Representative photos were taken of the subject vegetation community via the Trimble unit. Photo aspect data was recorded.

Vegetation community polygons were confirmed, mapped and identified in accordance with Queensland regional ecosystem (biodiversity status) (EHP 2014i) and EPBC threatened ecological community (TEC) criteria (DE 2009).

3.2.2. Habitat Surveys

Habitat surveys were undertaken in conjunction with vegetation community survey (Appendix A: Site Location and Survey Points).

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

3.2.3. Threatened Flora and Fauna Survey

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

Targeted threatened flora searches were undertaken for species highlighted by the desktop and literature review. Searches were undertaken 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.

Targeted threatened flora searches were also conducted in additional locations based on incidental field observations of high quality habitat or identification of distinct ecological features through the preliminary database and literature review for the property.

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.

Results of the Herbarium assessments can be seen in **Appendix B**: Herbarium Report of Species Collected on Site.

3.2.4. Exotic Flora and Fauna Survey

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

3.2.5. Disturbance Survey

Evidence of disturbance at each vegetation community/habitat feature 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. 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
- Restricted spatial area of the habitats within the Site

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 autumn during a very dry period. Additional survey effort after a significant rainfall event 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 sections and is referenced below.

4.1. Desktop and Literature Review

Results of the desktop and literature review can be found in Appendices C-G, 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 G: EHP Map of Referable Wetlands.

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	Status	Condition	Comments
TECs	N	N/A	N/A	N/A	N/A	N/A
EPBC threat – listed flora	N	N/A	N/A	N/A	N/A	N/A
EPBC threat-listed fauna	Potential	Within RE 11.7.7 and 11.3.14	South-eastern long eared bat (*Nyctopholis corbeni*)	Vulnerable	N/A	Found under decorticating bark of white Cypress pine (*Callitris glaucophylla*). Unable to confirm species identity as individual immediately moved underneath bark higher up the tree. The species' SPRAT profile (DoE 2014) outlines that the species is likely to roost solitarily under decorticating bark. Given the location and the habitat in which the individual was found, and an assessment of alternative species it is deemed likely that this species occurs in the area. It is also likely that the individual could have been the not listed Gould's long-eared bat (*Nyctophilus gouldi*).
Migratory species	N	N/A	N/A	N/A	N/A	N/A
Marine species	N	N/A	N/A	N/A	N/A	N/A

*Status taken from DoE 2014

4.2.2. Queensland Environmental Matters

4.2.2.1. Field Survey Results

Field survey results for State environmental matters (EVNT etc) are outlined in **Table 8**.

Table 8: State Environmental Matters – Field Survey Results

State environmental matters	Present (Y/N)	Location	Description*	Status*	Comments
Endangered regional ecosystems	N	N/A	N/A	N/A	N/A
Of concern regional ecosystems	N	N/A	N/A	N/A	N/A
NC Act listed flora (EVNT)	N	N/A	N/A	N/A	A potential Endangered species, Gurulmundi heath myrtle (*Micromyrtus carinata*), potentially occurred within remnant 11.7.7. Preliminary identification as *M. Albecans*, due to lack of reproductive material and potential occurrence of *M. Carinata*. Refer to results from QLD herbarium.
NC Act listed fauna (EVNT)	Potential	Within RE 11.7.7 and 11.3.14	south-eastern long-eared bat (*Nyctophilus corbeni*) listed under the NC Act as *N. timoriensis*	Vulnerable	See Table 7 for details
Type A restricted plants	Y	Scattered throughout the Site	*Xanthorrhoea johnsonii*	Type A restricted plant	Numerous individuals recorded throughout the Site.
Type A restricted plants	Y	Scattered throughout the Site	black orchid (*Cymbidium canaliculatum*)	Type A restricted plant	Several individuals recorded throughout the Site

*Status and description taken from EHP 2014

4.2.2.2. Ground Truthed Regional Ecosystems

DNRM mapping identified two large heterogeneous patches of remnant vegetation to be present on the Site containing REs 11.3.2/11.3.4/11.3.25 and 11.7.2/11.7.4/11.7.5/11.7.7 respectively. During the field survey and results are presented in **Table 9**.

Table 9: Ground Truthed Regional Ecosystems

RE ID	Status (biodiversity)*	Short description	Condition
11.7.7	No concern at present	*Eucalyptus fibrosa subsp. Nubila* +/- *Corymbia spp.*+/- *Eucalyptus spp.* Woodland on Cainozoic lateritic duricrust.	Previous disturbance including selective logging of *Eucalyptus fibrosa subsp. nubila*, *E. crebra*, *Corymbia citriodora* and *Callitris glaucophylla*.
11.3.14	No concern at present	*Eucalyptus* spp., *Angophora* spp., *Callitris* spp. woodland on alluvial plains.	Dissected by access tracks and showed evidence of thinning particularly in the northern ground-truthed polygon.
11.3.18	No concern at present	*Eucalyptus populnea*, *Callitris glaucophylla*, *Allocasuarina*	Previous logging disturbance evident, vegetation in good condition and connected to large swathe of remnant vegetation bounding Dogwood Creek.

*Status taken from EHP 2014

All ground truthed regional ecosystems are represented schematically in **Appendix I**: Ground Truthed Regional Ecosystems.

Due to infrastructure design changes post ecology assessment, the ecology assessment buffers were amended to reflect the latest design. Consequently, there are areas within the most current ecology survey buffer that were not assessed and have been represented in **Appendix I**: Ground Truthed Regional Ecosystems as 'Area Not Surveyed'.

4.2.2.2.1. High Value Regrowth

EHP mapping did not identify any HVR to be present on the Site, however the supplied Geobia layer did identify a patch of vegetation as regrowth. The field survey validated the Geobia layer, identifying an area of vegetation that did not meet remnant status but was regrowth vegetation consistent in species composition with RE 11.3.14. Results are outlined in **Table 10**.

Table 10: Ground Truthed High Value Regrowth

HVR	Description*	Condition
HVR that is consistent with a No Concern at Present RE.	*Eucalyptus* spp., *Angophora* spp., *Callitris* spp. woodland on alluvial plains.	Several mature canopy species present but due to thinning consequence of logging, the canopy cover was very low with no continuous canopy. No consistent stratification of vegetation evident and the majority of the canopy, excluding occasional large mature canopy trees was of inadequate height to classify as remnant.

*Description taken from EHP 2013

All areas of ground truthed HVR are represented thematically in **Appendix I**: Ground Truthed Regional Ecosystems and High Value Regrowth.

4.2.2.3. Other Significant Species

Numerous grass trees (*Xanthorrhoea johnsonii*) and a number of black orchids (*Cymbidium canaliculatum*) Type A restricted plants were recorded throughout the Site. The locations are delineated in **Appendix K**: Ground Truthed NC Act Threat Listed Species and Other Significant Species Present on Site.

4.2.2.4. Other Environmental Values

Other values presented in this section provide further environmental context only for the Site.

The Site had evidence of historical disturbance but in general contained significant swathes of reasonably intact remnant vegetation with relatively low weed abundance and numerous habitat features present. The Site contained a mosaic of relatively intact vegetation, comprising low alluvial remnant woodland to the south and west of the Site raising up to lateritic ironbark woodland in the north-eastern area of the Site. Within the ironbark woodland several small scalded areas were located, within which vegetation typical of dry heath was present.

Several drainage features and a single watercourse were also ground-truthed, providing semi-aquatic and aquatic habitat features and adding to the diversity of vegetation. Of particular importance regarding habitat features was the high density of white Cypress pine (*Callitris glaucophylla*) with decorticating bark. The woodlands containing these microhabitat features are potential habitat for the Near Threatened (NC Act) golden-tailed gecko (*Strophurus taenicauda*). Known records of *S. taenicauda* are within the broader landscape of the Site, the species being returned as potentially occurring in the Wildlife Online database search.

The decorticating bark of *C. glaucophylla* combined with the presence of large hollow bearing ironbarks (albeit scattered) and the relative high connectivity of the vegetation patches on the Site to adjacent vegetation, identifies the Site as potential habitat for the Vulnerable (EPBC Act and NC Act) eastern long-eared bat (*Nyctophilus corbeni* (listed under NC Act as *N. timoriensis*). The species is known to occur in the area, being returned in the PMST database search for the lot on plans, an individual micro bat was located under bark of a *C. glaucophylla*, unfortunately no positive identification was possible. The scalds with heath vegetation also contribute to the floristic diversity and habitat types available. The scalded heath patches are potential habitat for the Endangered (NC Act) Gurulmundi heath myrtle (*Micromyrtus carinata*) and the Vulnerable (EPBC Act and NC Act) *Calytrix gurulmundensis*. A specimen of potential *Micromyrtus* sp. located within the heath vegetation has been sent to the QLD herbarium for positive identification.

4.2.2.5. Weeds and Pests

Distribution of Weeds of National Significance (WoNS), Class 1, 2 and 3 species declared under the *LP Act* and pest fauna on the Site has been mapped based on field survey results. **Appendix L**: Ground Truthed Weeds and Pest Fauna Present on Site is a schematic of the field surveyed weeds and pests.

Pest flora and fauna encountered during the field survey are listed in **Table 11**.

Table 11: Pest Flora Recorded During the Ecological Field Survey on Site

Scientific Name	Common Name	Status*	Area of Occurrence
Opuntia stricta	prickly pear	WoNS and LP Act declared Class 2 pest	Scattered sparsely throughout the entire Site
Opuntia tomentosa	velvety tree pear	WoNS and LP Act declared Class 2 pest	Scattered sparsely throughout the entire Site

*Status taken from EHP 2014/DoE 2012

4.2.3. Disturbance

Previous disturbance comprised of evidence of historical selective logging of species such as *Eucalyptus fibrosa* subsp. *nubila*, *E. Crebra*, *Callitris glaucophylla*, and *Allocasuarina inophloia* associated with regional ecosystem 11.7.7. Several areas within the Site have significant clearing disturbance including a large borrow pit in the southern extent and residential buildings in the centre of lot 2 RP60063. A Powerlink high voltage easement dissecting the Site and numerous access tracks and spoon drains also contribute to the mechanical disturbance of the Site. The Site is also inhabited by several dogs (domestic) which would contribute to the disturbance, particularly for any fauna species utilising the area.

5. Conclusions

The Site contained remnant vegetation ground-truthed during the field survey as consistent with three No Concern at Present REs namely: 11.7.7, 11.3.14 and 11.3.18. Some areas mapped as remnant by DNRM were ground-truthed as not meeting the criteria for remnant vegetation based on the canopy cover and strata height parameters.

Several stream orders were mapped as occurring throughout the Site, the majority were ground-truthed as drainage features, having no defined bed and banks and no riparian vegetation. A mapped Stream Order 2 was ground-truthed as a watercourse based on presence of a defined bed and banks, riparian vegetation and evidence suggesting that it carried concentrated flow for extended periods of time. The watercourse occurs greater than 100m away from the closest proposed lease and thus will not be impacted upon by the construction of the lease.

A micro bat was located within the ironbark woodland on the northern extent of the Site. It is possible that it was the Vulnerable (*EPBC Act* and *NC Act*) South-eastern long-eared bat (*Nyctophilus corbeni*). Ecologists were unable to confirm the species, however it should be noted that this species has the potential to occur within the Site.

A *Micromyrtus* species was found in a dense patch on the Site. Preliminary identification indicated that it was the Least Concern *Micromyrtus albicans*. A specimen has been sent to the QLD herbarium for positive identification as the similar Endangered Gurulmundi heath myrtle (*Micromyrtus carinata*) has been recorded in the broader area.

Numerous Type A restricted plant species were located throughout the Site. Both Johnson's grass tree (*Xanthorrhoea johnsonii*) and black orchid (*Cymbidium canaliculatum*) occurred on the Site.

Several areas throughout the Site contained a high density of habitat features (hollow bearing stags and logs, woody debris, fallen timber, trees (especially *Callitris glaucophylla*) with decorticating bark and terrestrial and arboreal termitaria). The Site affords habitat to numerous species including the Near Threatened (*NC Act*) golden-tailed gecko (*Strophurus taenicauda*).

Several WoNS/Class 2 pests were identified within the Site. These were very sparsely distributed throughout the Site and the majority were found to be juveniles.

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 Point
- Vegetation

Queensland Waterways Zoning

Risk of Impact
- 1 - Low
- 2 - Moderate
- 3 - High
- 4 - Major

Boundary
- Survey Area
- Site Location
- Surveyed Cadastral
- Permit

Source Information:
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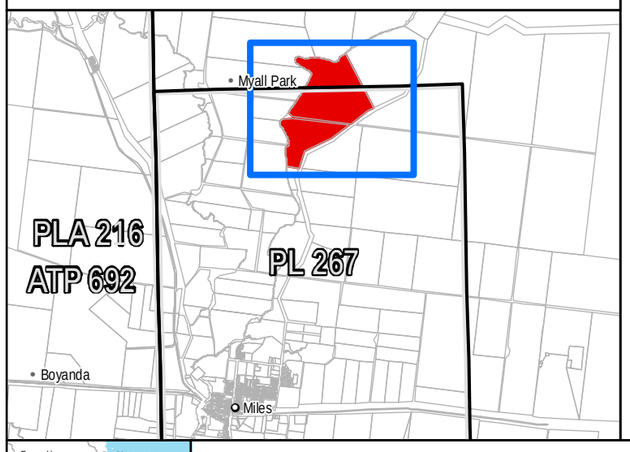

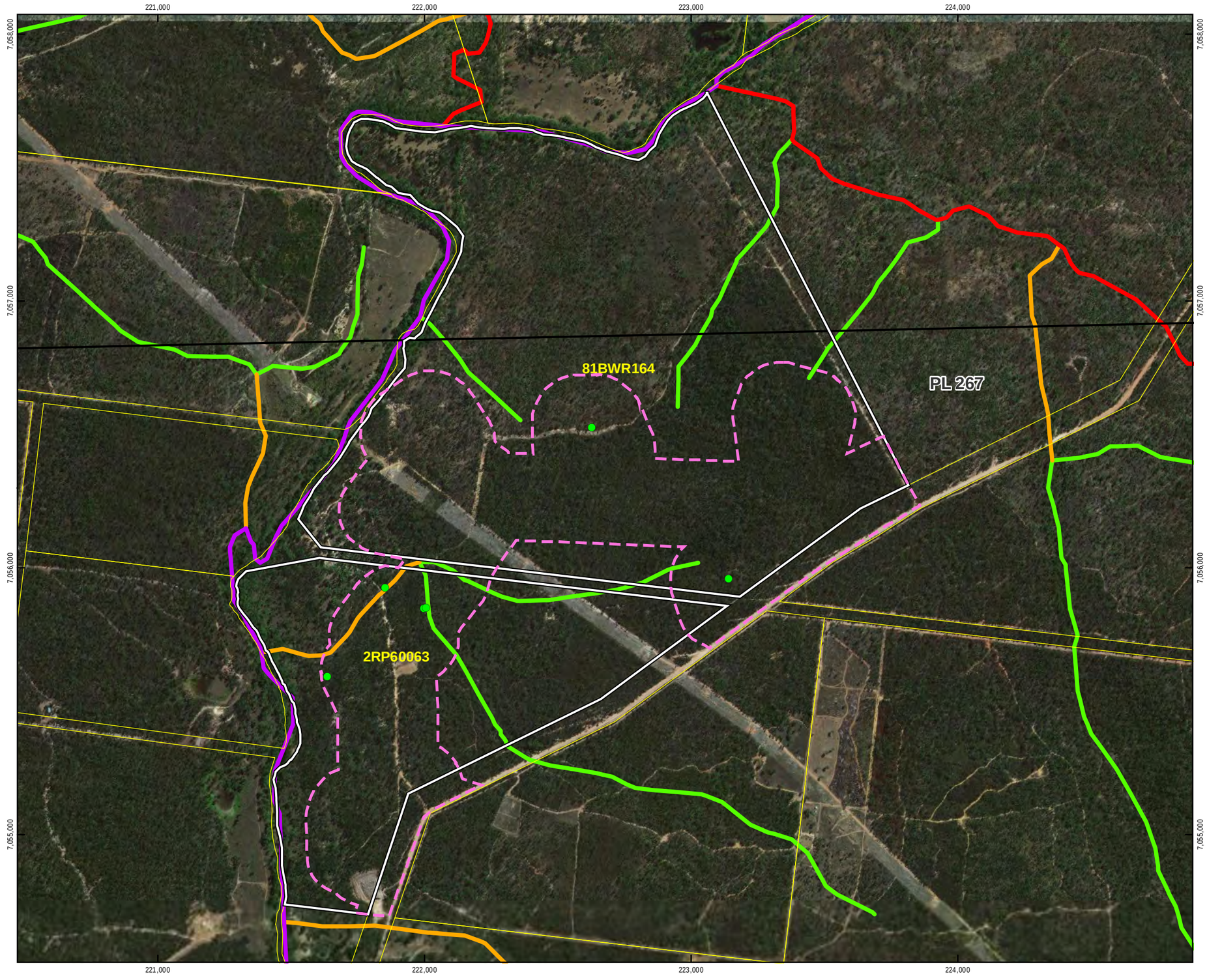

N

Scale 1:15,000 (at A3)

0 250 500 1,000

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
1	Issued For Use	ALM	ST	SAH	CD	01/05/2014
0	Issued For Use	ALM	ST	SAH	CD	15/04/2014
B	Issued For Review	ALM	ST	SAH		31/03/2014
A	Issued For Review	ALM	ST	SAH		18/03/2014

Appendix A:
Site Location and Survey Points
Date: 1 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4500-15-RP-1227	1
	Map ID GISWR_19292_A_Rev1	

S:\Data\Work_Requests\GISWR_19001 to 19500\GISWR_19292\Rev1\GISWR_19292_A_Rev1.mxd

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Appendix B: Herbarium Report of Species Collected on Site

Queensland Herbarium
Brisbane Botanic Gardens Mt Coot-tha • Toowong 4066 Queensland • Australia
Telephone +61 7 3896 9326 • Facsimile +61 7 3896 9624
e-mail Queensland.Herbarium@science.dsitia.qld.gov.au
www.qld.gov.au/environment/plants-animals/plants/herbarium/

Queensland Government

Department of
Science, Information Technology, Innovation and the Arts

Enquiries Chris Pennay
Telephone 07 3896 9318
Your reference
Our reference CP:mh 213/14

10 April 2014

Sarah Tune
Origin Energy Resources Ltd
105 Murilla Street
MILES Qld 4415

Dear Sarah

The botanical specimens received by the Queensland Herbarium on 21 March 2014 have been identified as:

A *Kunzea opposita*
B Probably *Westringia cheelii*, fertile material required for confirmation.

There is a charge of $106.80 (minimum charge 1hr) for these identifications and a tax invoice and receipt are enclosed.

Yours sincerely

M. Trounce for C. Pennay

G.P.Guymer
Director

Download a full version of Census of the Queensland Flora 2013
https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2013

Appendix C: Results of EPBC Protected Matters Search Tool

The search of the EBPC protected matters database was carried out on 15 February 2014 .

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: 10/02/14 16:59:34

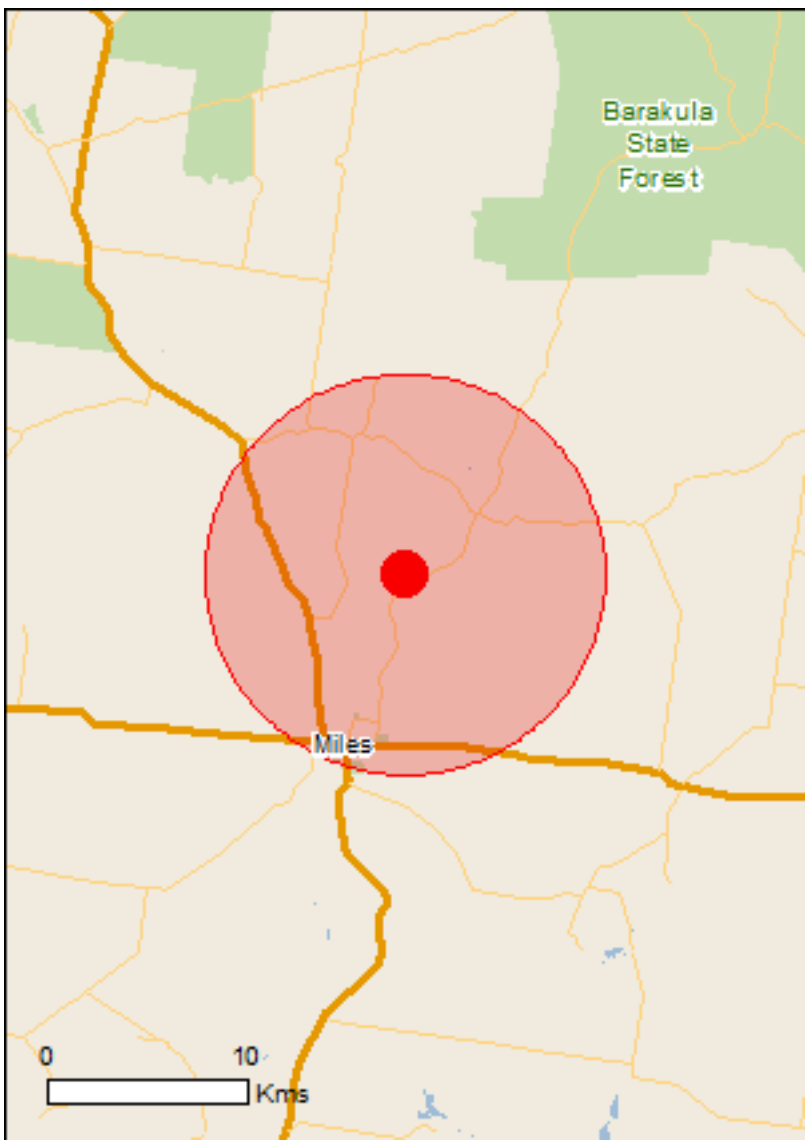
Summary

Details

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

Caveat

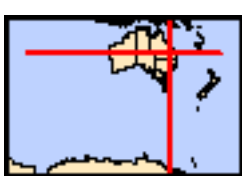
Acknowledgements



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

Coordinates

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	19
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 and the heritage values of a place on the Register of the National Estate.

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.

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:	12
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.

Place on the RNE:	None
State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	23
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (RAMSAR) [Resource Information]

Name	Proximity
Narran lake nature reserve	Upstream from Ramsar

Listed Threatened Ecological Communities [Resource Information]

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

Name	Status	Type of Presence
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 may 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
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Fish		
Maccullochella peelii		
Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Nyctophilus corbeni		
South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may 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 may occur within area
Plants		
Cadellia pentastylis		
Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
Calytrix gurulmundensis		
[24241]	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
Homoranthus decumbens		
a shrub [55186]	Endangered	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
Denisonia maculata		
Ornamental Snake [1193]	Vulnerable	Species or species habitat may occur within area
Egernia rugosa		
Yakka Skink [1420]	Vulnerable	Species or species habitat likely to occur within area
Furina dunmalli		
Dunmall's Snake [59254]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species

Name	Threatened	Type of Presence
		habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		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]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	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]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to 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

Name	Threatened	Type of Presence
		habitat may occur within area
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
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		
Bufo marinus Cane Toad [1772]		Species or species habitat likely to occur within area
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
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		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
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

Coordinates

-26.58993 150.21313

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 Heritage and Register of National Estate properties, Wetlands of International 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.

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:

-Department of Environment, Climate Change and Water, New South Wales
-Department of Sustainability and Environment, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment and Natural Resources, South Australia
-Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts
-Environmental and Resource Management, Queensland
-Department of Environment and Conservation, Western Australia
-Department of the Environment, Climate Change, Energy and Water
-Birds Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-SA 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
-State Forests of 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 D: Wildlife Online Database Search Results

The search of the Wildlife Online database was carried out on 15 February 2014.

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: All
Records: All
Date: All
Latitude: 26.5899
Longitude: 150.2131
Distance: 10
Email: tiegan.howell@originenergy.com.au
Date submitted: Monday 10 Feb 2014 15:22:28
Date extracted: Monday 10 Feb 2014 15:30:12

The number of records retrieved = 283

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	Bufonidae	*Rhinella marina*	cane toad	Y			2
animals	amphibians	Hylidae	*Litoria peronii*	emerald spotted treefrog		C		1
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		5
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		1
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		1
animals	birds	Acanthizidae	*Chthonicola sagittata*	speckled warbler		C		3
animals	birds	Acanthizidae	*Gerygone albogularis*	white-throated gerygone		C		5
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza apicalis*	inland thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza pusilla*	brown thornbill		C		3
animals	birds	Acanthizidae	*Gerygone fusca*	western gerygone		C		2
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		3
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		10
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		2
animals	birds	Accipitridae	*Milvus migrans*	black kite		C		2
animals	birds	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk		C		1
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		2
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		2
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		C		1
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		6
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		2
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		4
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		4
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		C		1
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		2
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		4
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		1
animals	birds	Ardeidae	*Ardea modesta*	eastern great egret		C		3
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		6
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		15
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		8
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		2
animals	birds	Artamidae	*Cracticus tibicen*	Australian magpie		C		14
animals	birds	Cacatuidae	*Calyptorhynchus funereus*	yellow-tailed black-cockatoo		C		1
animals	birds	Cacatuidae	*Calyptorhynchus lathami*	glossy black-cockatoo		V		1
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		17
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		3
animals	birds	Cacatuidae	*Nymphicus hollandicus*	cockatiel		C		4
animals	birds	Cacatuidae	*Eolophus roseicapillus*	galah		C		17
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		5
animals	birds	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike		C		1/1
animals	birds	Campephagidae	*Coracina tenuirostris*	cicadabird		C		2
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		4
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		2

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animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		1
animals	birds	Columbidae	*Geopelia cuneata*	diamond dove		C		1
animals	birds	Columbidae	*Geopelia striata*	peaceful dove		C		6
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		9
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		1
animals	birds	Columbidae	*Columba livia*	rock dove	Y			5
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		1
animals	birds	Corcoracidae	*Corcorax melanorhamphos*	white-winged chough		C		10
animals	birds	Corcoracidae	*Struthidea cinerea*	apostlebird		C		11
animals	birds	Corvidae	*Corvus coronoides*	Australian raven		C		3
animals	birds	Corvidae	*Corvus bennetti*	little crow		C		2
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		21
animals	birds	Corvidae	*Corvus sp.*					1
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		1
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		1
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		1
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		2
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		1
animals	birds	Estrildidae	*Lonchura punctulata*	nutmeg mannikin	Y			1
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		3
animals	birds	Estrildidae	*Taeniopygia guttata*	zebra finch		C		1
animals	birds	Estrildidae	*Neochmia modesta*	plum-headed finch		C		1
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		2
animals	birds	Halcyonidae	*Todiramphus sanctus*	sacred kingfisher		C		5
animals	birds	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra		C		12
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		1
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		3
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		8
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		8/1
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		2
animals	birds	Megaluridae	*Cincloramphus mathewsi*	rufous songlark		C		1
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		2
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		13
animals	birds	Meliphagidae	*Manorina flavigula*	yellow-throated miner		C		3
animals	birds	Meliphagidae	*Gavicalis virescens*	singing honeyeater		C		1
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		5
animals	birds	Meliphagidae	*Nesoptilotis leucotis*	white-eared honeyeater		C		9/1
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		7
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		22
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		3
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		7
animals	birds	Meliphagidae	*Ptilotula penicillatus*	white-plumed honeyeater		C		3
animals	birds	Meliphagidae	*Acanthagenys rufogularis*	spiny-cheeked honeyeater		C		5
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		4
animals	birds	Meliphagidae	*Melithreptus brevirostris*	brown-headed honeyeater		C		1/1
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		4

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animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		23
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		1
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		1
animals	birds	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird		C		3
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		2
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		2
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		1
animals	birds	Otididae	*Ardeotis australis*	Australian bustard		C		2
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		10
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		7
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		19/1
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		1
animals	birds	Passeridae	*Passer domesticus*	house sparrow	Y			3
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		1
animals	birds	Petroicidae	*Petroica goodenovii*	red-capped robin		C		1
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		3
animals	birds	Petroicidae	*Microeca fascinans*	jacky winter		C		1
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		2
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		1
animals	birds	Phasianidae	*Coturnix pectoralis*	stubble quail		C		1
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		1
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		6
animals	birds	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		7
animals	birds	Psittacidae	*Aprosmictus erythropterus*	red-winged parrot		C		8
animals	birds	Psittacidae	*Melopsittacus undulatus*	budgerigar		C		1
animals	birds	Psittacidae	*Platycercus adscitus*	pale-headed rosella		C		7
animals	birds	Psittacidae	*Alisterus scapularis*	Australian king-parrot		C		1
animals	birds	Psittacidae	*Psephotus varius*	mulga parrot		C		2
animals	birds	Psittacidae	*Trichoglossus haematodus moluccanus*	rainbow lorikeet		C		7
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		2
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		16
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		8
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		3
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		1
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		2
animals	birds	Turnicidae	*Turnix velox*	little button-quail		C		1
animals	mammals	Canidae	*Canis lupus dingo*	dingo				1
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Macropodidae	*Macropus rufogriseus*	red-necked wallaby		C		1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		C	V	2
animals	mammals	Potoroidae	*Aepyprymnus rufescens*	rufous bettong		C		1
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		C		4
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		2
animals	reptiles	Diplodactylidae	*Strophurus taenicauda*	golden-tailed gecko		NT		2/2
animals	reptiles	Diplodactylidae	*Lucasium steindachneri*	Steindachner's gecko		C		1
animals	reptiles	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko		C		2

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animals	reptiles	Gekkonidae	*Gehyra dubia*			C		1
animals	reptiles	Scincidae	*Carlia pectoralis sensu lato*			C		1
animals	reptiles	Scincidae	*Lygisaurus foliorum*			C		1
animals	reptiles	Scincidae	*Ctenotus robustus*			C		1
animals	reptiles	Scincidae	*Lerista fragilis*			C		1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		1
animals	reptiles	Varanidae	*Varanus varius*	lace monitor		C		2
fungi	sac fungi	Parmeliaceae	*Punctelia subflava*			C		1/1
fungi	sac fungi	Parmeliaceae	*Parmotrema parahypotropum*			C		1/1
fungi	sac fungi	Physciaceae	*Pyxine subcinerea*			C		2/2
fungi	sac fungi	Physciaceae	*Phaeophyscia orbicularis*			C		1/1
fungi	sac fungi	Physciaceae	*Pyxine rugulosa*			C		1/1
fungi	sac fungi	Physciaceae	*Physcia nubila*			C		1/1
fungi	sac fungi	Physciaceae	*Heterodermia speciosa*			C		1/1
fungi	sac fungi	Teloschistaceae	*Caloplaca*			C		1/1
plants	ferns	Ophioglossaceae	*Ophioglossum reticulatum*			C		1/1
plants	higher dicots	Anacardiaceae	*Schinus molle var. areira*	pepper tree	Y			1/1
plants	higher dicots	Apiaceae	*Actinotus gibbonsii*	dwarf flannel flower		C		1/1
plants	higher dicots	Araliaceae	*Trachymene ochracea*	white parsnip		C		1/1
plants	higher dicots	Asteraceae	*Leptorhynchos baileyi*			C		1/1
plants	higher dicots	Asteraceae	*Flaveria trinervia*		Y			1/1
plants	higher dicots	Asteraceae	*Sonchus oleraceus*	common sowthistle	Y			1/1
plants	higher dicots	Asteraceae	*Sigesbeckia fugax*			C		1/1
plants	higher dicots	Asteraceae	*Olearia ramulosa*			C		1/1
plants	higher dicots	Asteraceae	*Cassinia laevis*			C		1/1
plants	higher dicots	Asteraceae	*Senecio pinnatifolius var. pinnatifolius*			C		1/1
plants	higher dicots	Asteraceae	*Leiocarpa semicalva subsp. tenuifolia*			C		1/1
plants	higher dicots	Asteraceae	*Brachyscome multifida var. dilatata*			C		1/1
plants	higher dicots	Asteraceae	*Coronidium oxylepis subsp. lanatum*			C		1/1
plants	higher dicots	Asteraceae	*Ozothamnus diotophyllus*			C		3/3
plants	higher dicots	Asteraceae	*Solenogyne bellioides*			C		1/1
plants	higher dicots	Asteraceae	*Rutidosis murchisonii*			C		4/4
plants	higher dicots	Byttneriaceae	*Commersonia pedleyi*			C		2/2
plants	higher dicots	Caesalpiniaceae	*Petalostylis labicheoides*			C		1/1
plants	higher dicots	Capparaceae	*Capparis lasiantha*	nipan		C		1/1
plants	higher dicots	Casuarinaceae	*Allocasuarina luehmannii*	bull oak		C		1/1
plants	higher dicots	Chenopodiaceae	*Dysphania rhadinostachya subsp. inflata*			C		2/2
plants	higher dicots	Chenopodiaceae	*Dysphania valida*			C		1/1
plants	higher dicots	Chenopodiaceae	*Sclerolaena muricata*			C		1/1
plants	higher dicots	Crassulaceae	*Bryophyllum delagoense*		Y			1/1
plants	higher dicots	Ericaceae	*Leucopogon biflorus*			C		1/1
plants	higher dicots	Ericaceae	*Leucopogon mitchellii*			C		1/1
plants	higher dicots	Euphorbiaceae	*Monotaxis macrophylla*			C		2/2
plants	higher dicots	Euphorbiaceae	*Euphorbia hirta*		Y			1/1
plants	higher dicots	Fabaceae	*Zornia*			C		1/1
plants	higher dicots	Fabaceae	*Cullen patens*	bullamon lucerne		C		1/1

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plants	higher dicots	Fabaceae	*Hardenbergia violacea*			C		1/1
plants	higher dicots	Fabaceae	*Chorizema parviflorum*	eastern flame pea		C		1/1
plants	higher dicots	Geraniaceae	*Geranium solanderi var. solanderi*	native geranium		C		1/1
plants	higher dicots	Goodeniaceae	*Brunonia australis*	blue pincushion		C		1/1
plants	higher dicots	Goodeniaceae	*Goodenia delicata*			C		1/1
plants	higher dicots	Haloragaceae	*Gonocarpus urceolatus*			C		2/2
plants	higher dicots	Lamiaceae	*Spartothamnella puberula*			C		1/1
plants	higher dicots	Lamiaceae	*Prostanthera sp. (Baking Board V.Hando 135)*			C		3/3
plants	higher dicots	Lamiaceae	*Prostanthera cryptandroides subsp. euphrasioides*			C		1/1
plants	higher dicots	Lamiaceae	*Westringia cheelii*			C		3/3
plants	higher dicots	Lamiaceae	*Prostanthera ringens*			C		1/1
plants	higher dicots	Loranthaceae	*Lysiana exocarpi subsp. tenuis*			C		1/1
plants	higher dicots	Malvaceae	*Hibiscus sturtii*			C		1/1
plants	higher dicots	Malvaceae	*Sida sp. (Musselbrook M.B.Thomas+ MRS437)*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia aprepta*	Miles mulga		C		4/4
plants	higher dicots	Mimosaceae	*Acacia falcata*	sickle wattle		C		1/1
plants	higher dicots	Mimosaceae	*Acacia leiocalyx subsp. leiocalyx*			C		2/2
plants	higher dicots	Mimosaceae	*Acacia deanei subsp. deanei*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia crassa subsp. crassa*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia conferta*			C		2/2
plants	higher dicots	Mimosaceae	*Acacia sparsiflora*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia spectabilis*	pilliga wattle		C		2/2
plants	higher dicots	Mimosaceae	*Acacia semilunata*	crescent-leaved wattle		C		4/4
plants	higher dicots	Mimosaceae	*Acacia neriifolia*	pechey wattle		C		1/1
plants	higher dicots	Mimosaceae	*Acacia macradenia*	zig-zag wattle		C		1/1
plants	higher dicots	Mimosaceae	*Acacia juncifolia*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia ixiophylla*			C		7/7
plants	higher dicots	Mimosaceae	*Acacia triptera*			C		2/2
plants	higher dicots	Mimosaceae	*Acacia shirleyi*	lancewood		C		1/1
plants	higher dicots	Myrsinaceae	*Lysimachia arvensis*		Y			1/1
plants	higher dicots	Myrtaceae	*Eucalyptus fibrosa subsp. nubila*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus fibrosa subsp. fibrosa*			C		1/1
plants	higher dicots	Myrtaceae	*Corymbia trachyphloia subsp. trachyphloia*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus tereticornis subsp. tereticornis*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus panda*			C		2/2
plants	higher dicots	Myrtaceae	*Kardomia jucunda*			C		1/1
plants	higher dicots	Myrtaceae	*Melaleuca nodosa*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark		C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus elegans*			C		4/4
plants	higher dicots	Myrtaceae	*Eucalyptus exserta*	Queensland peppermint		C		2/2
plants	higher dicots	Myrtaceae	*Angophora leiocarpa*	rusty gum		C		1/1
plants	higher dicots	Myrtaceae	*Angophora floribunda*	rough-barked apple		C		1/1
plants	higher dicots	Myrtaceae	*Melaleuca pallescens*			C		1/1
plants	higher dicots	Myrtaceae	*Micromyrtus carinata*	Gurulmundi heath-myrtle		E		1/1
plants	higher dicots	Myrtaceae	*Micromyrtus sessilis*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus chloroclada*	Baradine red gum		C		2/2

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plants	higher dicots	Myrtaceae	*Melaleuca densispicata*			C		1/1
plants	higher dicots	Myrtaceae	*Melaleuca squamophloia*			C		1/1
plants	higher dicots	Myrtaceae	*Lysicarpus angustifolius*	budgeroo		C		1/1
plants	higher dicots	Myrtaceae	*Leptospermum polygalifolium*	tantoon		C		1/1
plants	higher dicots	Onagraceae	*Oenothera lindheimeri*		Y			1/1
plants	higher dicots	Oxalidaceae	*Oxalis radicosa*			C		1/1
plants	higher dicots	Phyllanthaceae	*Phyllanthus virgatus*			C		1/1
plants	higher dicots	Polygalaceae	*Polygala linariifolia*			C		1/1
plants	higher dicots	Portulacaceae	*Portulaca*			C		1/1
plants	higher dicots	Portulacaceae	*Calandrinia*			C		1/1
plants	higher dicots	Portulacaceae	*Grahamia australiana*			C		1/1
plants	higher dicots	Portulacaceae	*Portulaca bicolor*			C		1/1
plants	higher dicots	Proteaceae	*Hakea purpurea*			C		1/1
plants	higher dicots	Rhamnaceae	*Cryptandra propinqua*			C		1/1
plants	higher dicots	Rhamnaceae	*Cryptandra armata*			C		1/1
plants	higher dicots	Rutaceae	*Phebalium nottii*	pink phebalium		C		2/2
plants	higher dicots	Rutaceae	*Boronia bipinnata*	rock boronia		C		1/1
plants	higher dicots	Rutaceae	*Boronia occidentalis*			C		3/3
plants	higher dicots	Rutaceae	*Philotheca difformis subsp. difformis*			C		1/1
plants	higher dicots	Rutaceae	*Zieria aspalathoides subsp. aspalathoides*			C		1/1
plants	higher dicots	Sapindaceae	*Dodonaea macrossanii*			C		3/3
plants	higher dicots	Sapindaceae	*Dodonaea vestita*			C		1/1
plants	higher dicots	Sapindaceae	*Dodonaea biloba*			C		7/7
plants	higher dicots	Sapindaceae	*Dodonaea peduncularis*			C		2/2
plants	higher dicots	Scrophulariaceae	*Misopates orontium*	lesser snapdragon	Y			1/1
plants	higher dicots	Scrophulariaceae	*Glossostigma diandrum*			C		1/1
plants	higher dicots	Scrophulariaceae	*Linaria maroccana*		Y			1/1
plants	higher dicots	Solanaceae	*Solanum nemophilum*			C		2/2
plants	higher dicots	Solanaceae	*Solanum ferocissimum*			C		2/2
plants	higher dicots	Solanaceae	*Solanum parvifolium subsp. parvifolium*			C		1/1
plants	higher dicots	Verbenaceae	*Glandularia aristigera*		Y			1/1
plants	higher dicots	Viscaceae	*Viscum whitei subsp. whitei*			C		1/1
plants	monocots	Juncaceae	*Juncus psammophilus*			C		2/2
plants	monocots	Juncaceae	*Juncus usitatus*			C		1/1
plants	monocots	Poaceae	*Setaria parviflora*	slender pigeon grass	Y			1/1
plants	monocots	Poaceae	*Aristida caput-medusae*			C		2/2
plants	monocots	Poaceae	*Cleistochloa subjuncea*			C		1/1
plants	monocots	Poaceae	*Eragrostis trichophora*		Y			1/1
plants	monocots	Poaceae	*Thyridolepis xerophila*			C		1/1
plants	monocots	Poaceae	*Urochloa mosambicensis*	sabi grass	Y			1/1
plants	monocots	Poaceae	*Digitaria eriantha cv. Pangola*		Y			1/1
plants	monocots	Poaceae	*Aristida calycina var. praealta*			C		1/1
plants	monocots	Poaceae	*Bothriochloa bladhii subsp. bladhii*			C		1/1
plants	monocots	Poaceae	*Calyptochloa gracillima subsp. gracillima*			C		1/1
plants	monocots	Poaceae	*Eragrostis brownii*	Brown's lovegrass		C		1/1
plants	monocots	Poaceae	*Chrysopogon fallax*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	monocots	Poaceae	*Sporobolus creber*			C		3/3
plants	monocots	Poaceae	*Paspalum urvillei*	vasey grass	Y			1/1
plants	monocots	Poaceae	*Cenchrus spinifex*		Y			1/1
plants	monocots	Poaceae	*Cenchrus ciliaris*		Y			1/1
plants	monocots	Poaceae	*Melinis repens*	red natal grass	Y			1/1
plants	monocots	Poaceae	*Aristida echinata*			C		1/1
plants	monocots	Potamogetonaceae	*Potamogeton tricarinatus*	floating pondweed		C		2/2

CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct 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 E: NRM Regulated Vegetation Mapping

This Appendix provides an overview of NRM regulated vegetation, including mapped regional ecosystems.

Legend

DNRM Stream Order

Vegetation Management Act RE v6.1 (2011) DNRM

Remnant Vegetation (Biodiversity Status)

- Of Concern Dominant
- No Concern at Present

Vegetation Management Act HVR v2.1 (2011) DNRM

High Value Regrowth

- Containing Of Concern Regional Ecosystems
- Is a Least Concern Regional Ecosystem

Boundary

- Survey Area
- Area Not Surveyed
- Site Location
- Surveyed Cadastral
- Permit

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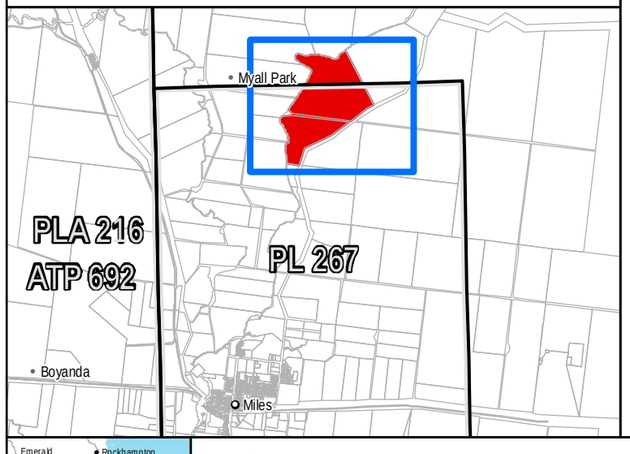

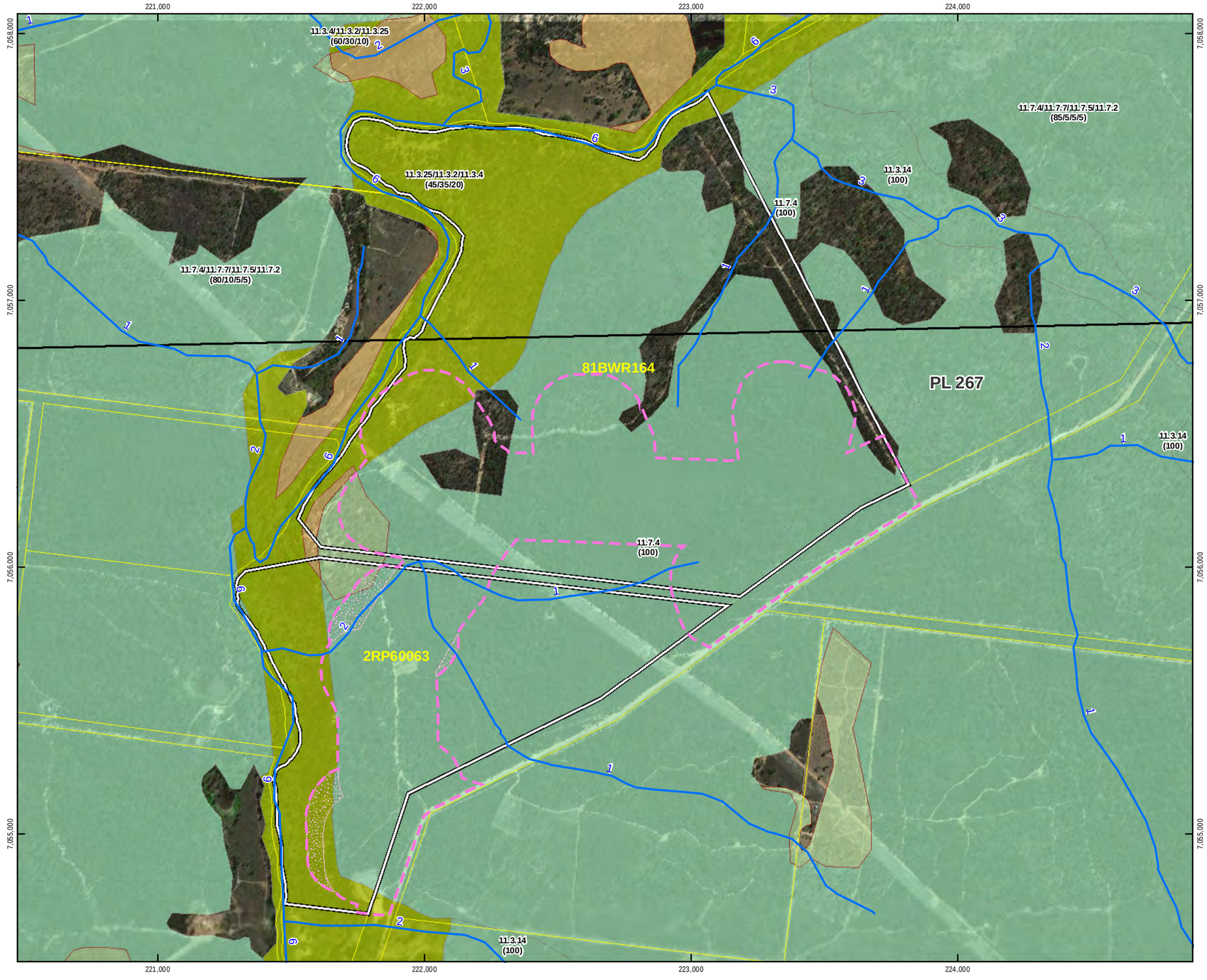

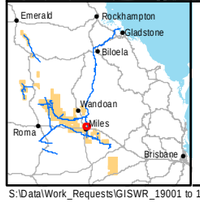

N

Scale 1:15,000 (at A3)

0 250 500 1,000

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
1	Issued For Use	ALM	ST	SAH	CD	01/05/2014
0	Issued For Use	ALM	ST	SAH	CD	15/04/2014
B	Issued For Review	ALM	ST	SAH		31/03/2014
A	Issued For Review	ALM	ST	SAH		18/03/2014

Appendix E:
DNRM Mapped Regional Ecosystems
Date: 1 May 2014

Map Number 1 of 1

Doc No Q-4500-15-RP-1227

Rev 1

Map ID GISWR_19292_E_Rev1

S:\Data\Work_Requests\GISWR_19001 to 19500\GISWR_19292\Rev1\GISWR_19292_E_Rev1.mxd

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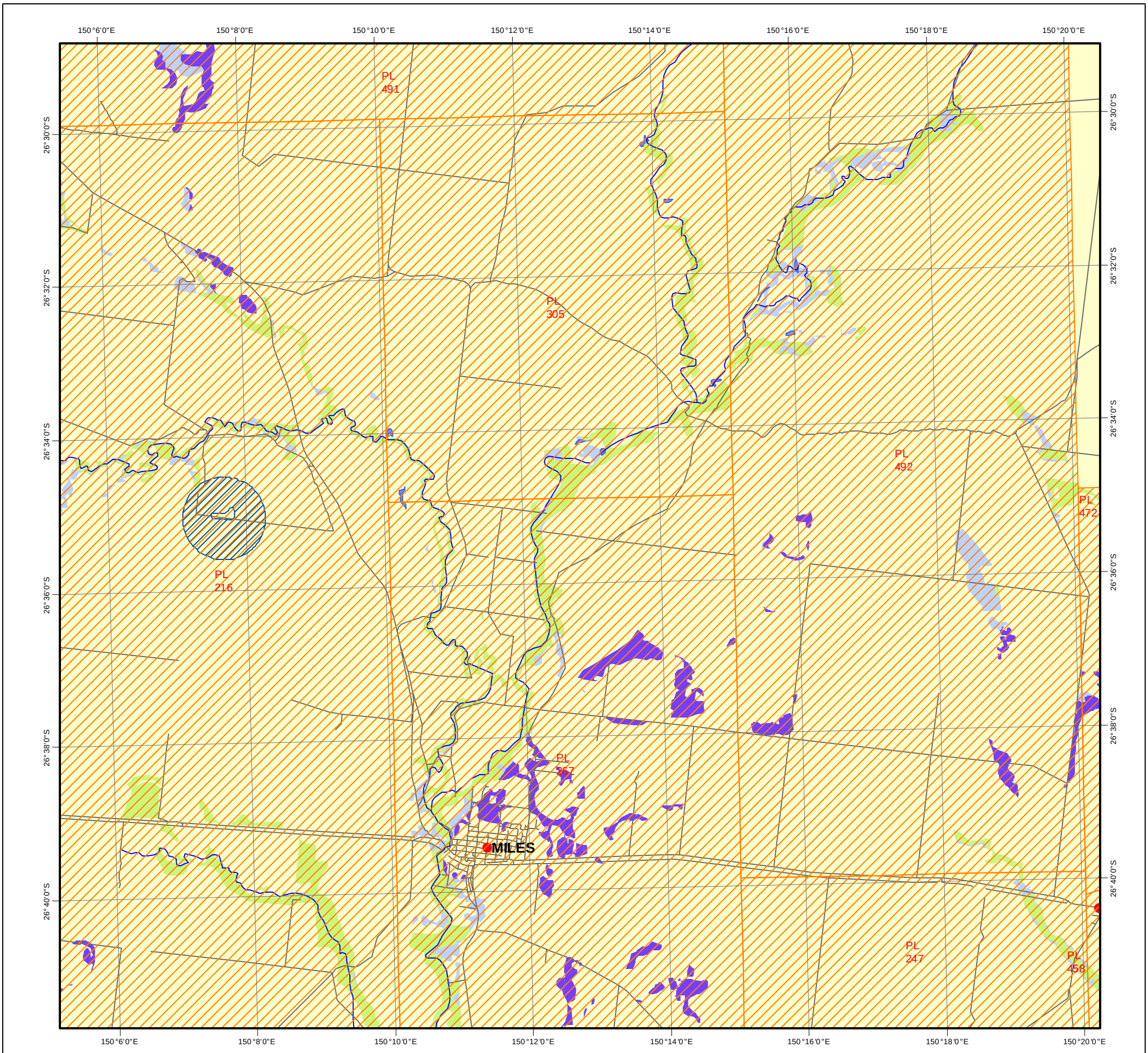
Appendix F: EHP Mapping of ESAs and Other Environmental Values on Site



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

Requested By: TIEGAN.HOWELL@ORIGINENERGY.COM.AU

Date: 10 Feb 14 Time: 15.24.53

Centred on point position:
Latitude: -26.5899 Longitude: 150.2139
(decimal degrees)

- Petroleum Leases

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

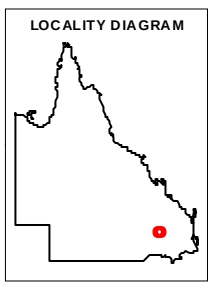
CATEGORY B
- World Heritage Areas
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Fish Habitat Areas
- Koala Plan
- Coordinated Conservation Areas
- Endangered Regional Ecosystems (remnant and mature regrowth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

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

OTHERS
- Towns
- Roads
- © Pitney Bowes Software Pty Ltd 2014
- 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

This product is projected into GDA 1994 MGA Zone 56

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

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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Appendix G: EHP Map of Referable Wetlands

Map of Referable Wetlands
Wetland Protection Areas

Requested By: TIEGAN.HOWELL@ORIGINENERGY.COM.AU
Date: 10 Feb 14 Time: 16.00.15

Centred on Lot on Plan:
2 RP60063

Selected Land Parcel

Cadastral Boundary

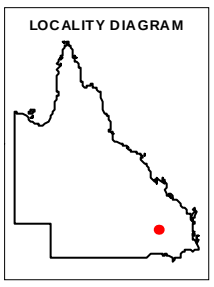
Wetland Protection Areas

HES Wetland

Trigger Area

Queensland Government

LOCALITY DIAGRAM



N

0 160 320 480 640 800 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 Environment and Heritage Protection has been made a concurrence agency under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas.

The policy outcome and assessment criteria for assessing these applications are described in the State Planning Policy 4/11: Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments.

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.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Heritage Protection at www.ehp.qld.gov.au or email planning.support@ehp.qld.gov.au.

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Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: TIEGAN.HOWELL@ORIGINENERGY.COM.AU
Date: 10 Feb 14 Time: 16.00.17

Centred on Lot on Plan:
2 RP60063

Selected Land Parcel

Cadastral Boundary

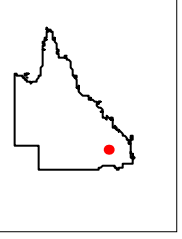
HES Wetland GBR Catchments

HES Wetland

GES Wetland

Queensland Government

LOCALITY DIAGRAM



N

0 160 320 480 640 800 m

This product is projected into GDA 1994 MGA Zone 56

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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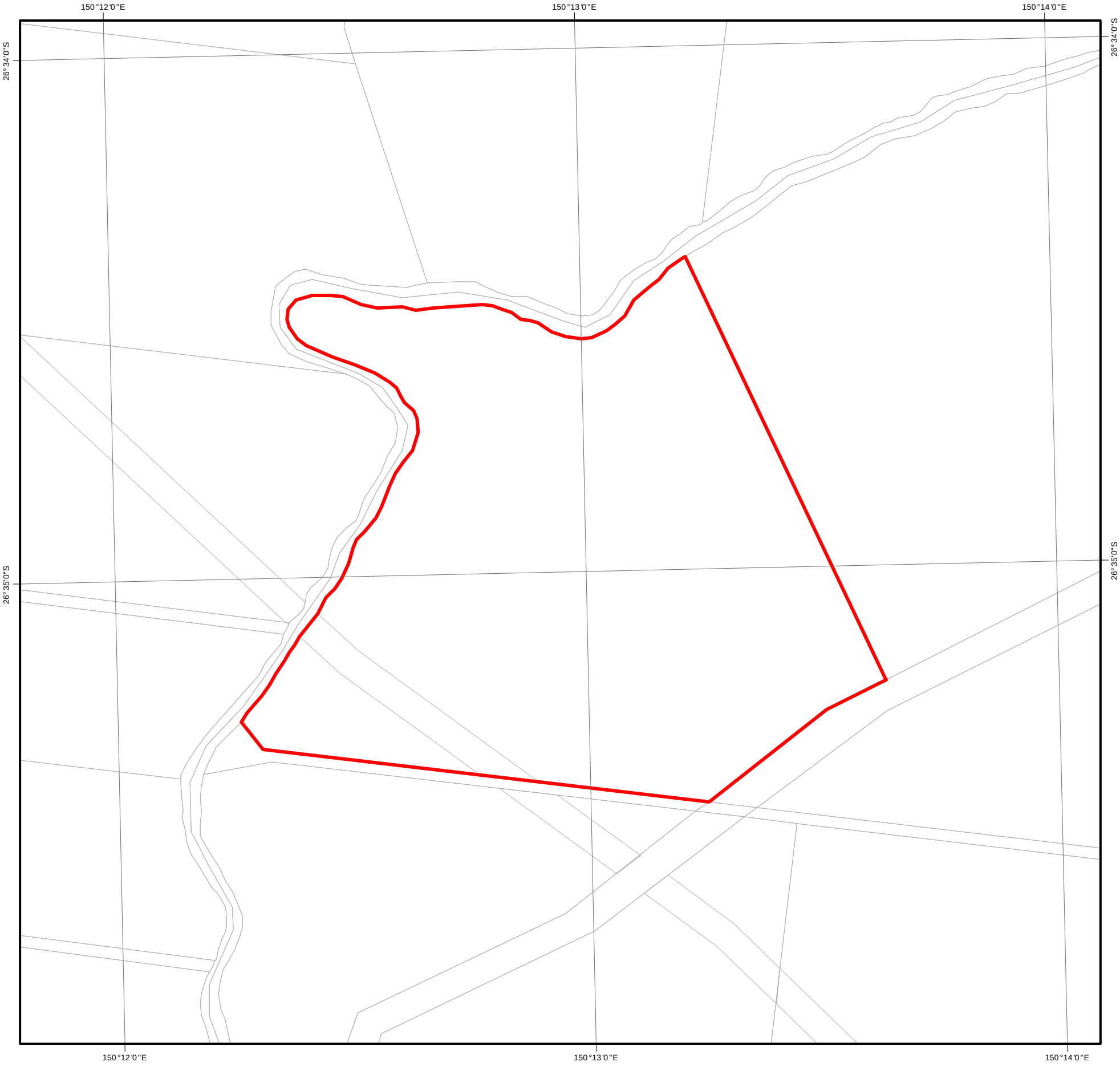


Map of Referable Wetlands
Wetland Protection Areas

Requested By: TIEGAN.HOWELL@ORIGINENERGY.COM.AU
Date: 10 Feb 14 Time: 16.00.33

Centred on Lot on Plan:
81 BWR164

Selected Land Parcel

Cadastral Boundary

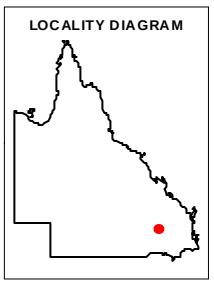
Wetland Protection Areas

HES Wetland

Trigger Area

Queensland Government

LOCALITY DIAGRAM



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0 200 400 600 800 1000 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 Environment and Heritage Protection has been made a concurrence agency under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas.

The policy outcome and assessment criteria for assessing these applications are described in the State Planning Policy 4/11: Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments.

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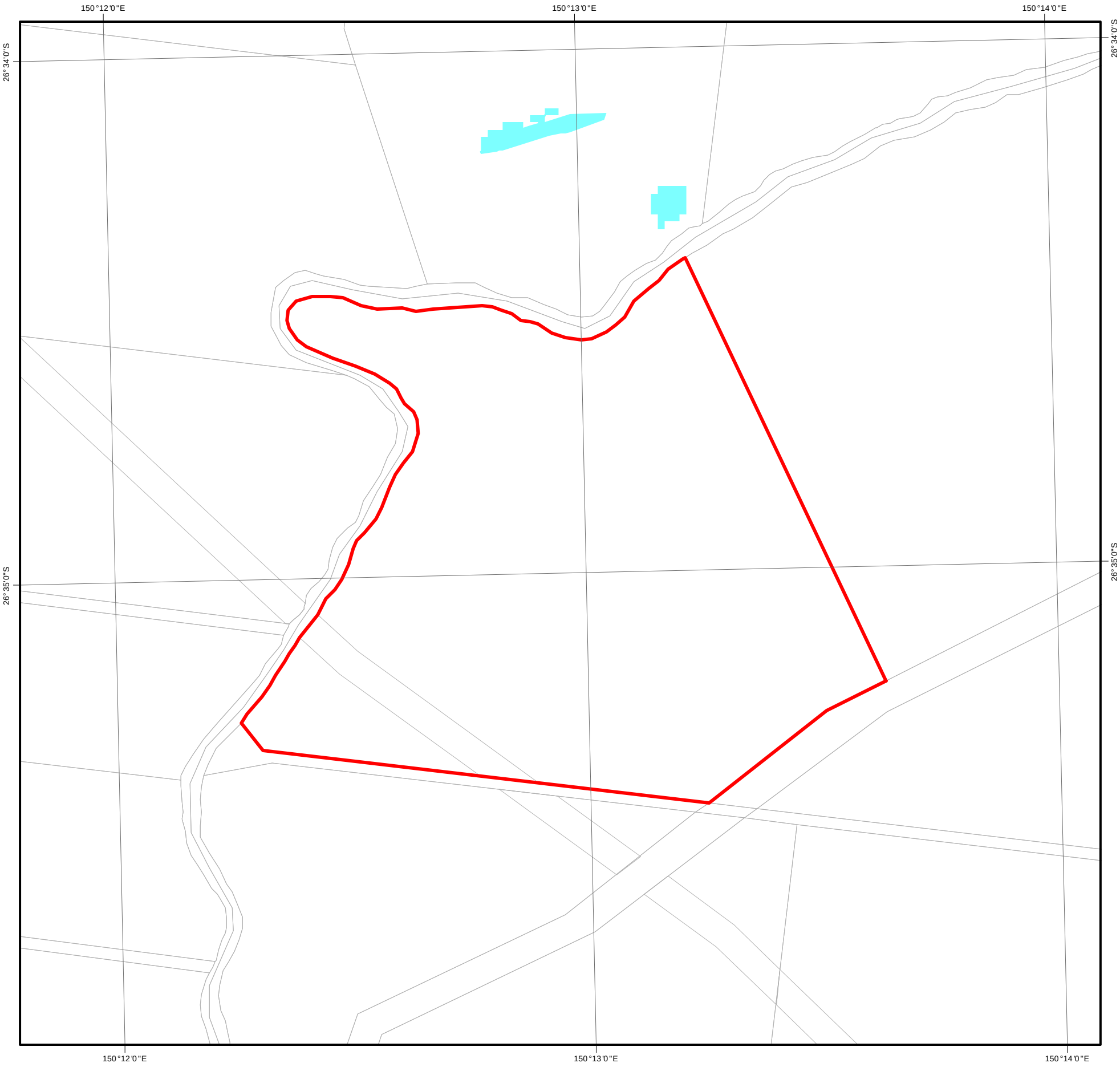


Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: TIEGAN.HOWELL@ORIGINENERGY.COM.AU
Date: 10 Feb 14 Time: 16.00.34

Centred on Lot on Plan:
81 BWR164

Selected Land Parcel

Cadastral Boundary

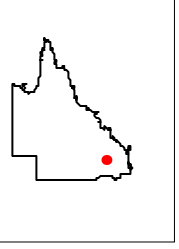
HES Wetland GBR Catchments

HES Wetland

GES Wetland

Queensland Government

LOCALITY DIAGRAM



N

0 200 400 600 800 1000 m

This product is projected into GDA 1994 MGA Zone 56

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.

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

This Appendix provides a full list of all flora and fauna species recorded during the field surveys.

Class	Scientific name	Common name	Legislative status (*NC Act, LP Act*)*	Legislative status (*EPBC Act*)*
Animals	*Acanthiza chrysorrhoa*	yellow-rumped thornbill	LC	
Animals	*Aprosmictus erythopterus*	red-winged parrot	LC	-
Animals	*Cacatua galerita*	sulphur-crested cockatoo	LC	-
Animals	*Chalcites basalis*	Horsfield's bronze-cuckoo	LC	-
Animals	*Coracina novaehollandiae*	black-faced cuckoo-shrike	LC	-
Animals	*Corvus orru*	Torresian crow	LC	-
Animals	*Cracticus torquatus*	grey butcherbird	LC	-
Animals	*Dacelo novaeguinea*	laughing kookaburra	LC	-
Animals	*Eolophus roseicapilla*	galah	LC	-
Animals	*Eopsaltria australis*	eastern yellow robin	LC	-
Animals	*Eurostopodus mystacalis*	white-throated nightjar	LC	-
Animals	*Falco peregrinus*	peregrine falcon	LC	-
Animals	*Gerygone mouki*	brown Gerygone	LC	-
Animals	*Geopelia striata*	peaceful dove	LC	-
Animals	*Glossopsitta pusilla*	little lorikeet	LC	-
Animals	*Heteronotia binoei*	Bynoe's gecko	LC	-
Animals	*Lichenostomus leucotis*	white-eared honeyeater	LC	-
Animals	*Macropus rufogriseus*	red-necked wallaby	LC	-
Animals	*Manorina melanocephala*	noisy miner	LC	-
Animals	*Rhipidura leucophrys*	willie wagtail	LC	-
Animals	*Smicrornis brevirostris*	weebill	LC	-
Animals	*Pachycephala rufiventris*	rufous whistler	LC	-
Animals	*Pomatostomus temporalis*	grey-crowned babbler	LC	-
Animals	*Rhipidura albiscapa*	grey fantail	LC	-
Animals	-	micro bat sp.		
Plants	*Acacia buxifolia*	box-leaf wattle	LC	-
Plants	*Acacia conferta*	crowded leaf wattle	LC	-
Plants	*Acacia leiocalyx*	black wattle	LC	-
Plants	*Acacia spectabilis*	Pilliga wattle	LC	-
Plants	*Acacia triptera*	spur-wing wattle	LC	-
Plants	*Allocasuarina inophloia*	hairy oak	LC	-
Plants	*Allocasuarina luehmannii*	bull oak	LC	-
Plants	*Angophora leiocarpa*	rusty gum	LC	-
Plants	*Aristida calycina*	dark wiregrass	LC	-
Plants	*Aristida caput-medusae*	many headed wiregrass	LC	-
Plants	*Aristida jerichoensis*	Jericho wiregrass	LC	-

Class	Scientific name	Common name	Legislative status (*NC Act, LP Act*)*	Legislative status (*EPBC Act*)*
Plants	*Aristida leptopoda*	white spear grass	LC	-
Plants	*Aristida ramosa*	purple wiregrass	LC	-
Plants	*Callitris endlicheri*	black Cypress pine	LC	-
Plants	*Callitris glaucophylla*	white Cypress pine	LC	-
Plants	*Cassinia laevis*	wild rosemary	LC	-
Plants	*Cheilanthes sieberi*	mulga fern	LC	-
Plants	*Chrysocephalum apiculatum*	billy buttons	LC	-
Plants	*Chrysopogon fallax*	golden beard grass	LC	-
Plants	*Corymbia tessellaris*	Moreton Bay ash	LC	-
Plants	*Cymbidium canaliculatum*	black orchid	LC	-
Plants	*Daviesia ulicifolia*	gorse bitter pea	LC	-
Plants	*Dianella brevipes*	fruited flax lily	LC	-
Plants	*Dianella* sp	-	LC	-
Plants	*Dodonaea biloba*	inland hopbush	LC	-
Plants	*Dodonaea macrossanii*	hopbush	LC	-
Plants	*Eragrostis brownii*	Brown's lovegrass	Introduced	-
Plants	*Eragrostis sororia*	woodland lovegrass	LC	-
Plants	*Eriachne mucronata*	mountain wanderrie	LC	-
Plants	*Eriachne obtusa*	northern wanderrie	LC	-
Plants	*Eucalyptus chloclada*	Baradine red gum	LC	-
Plants	*Eucalyptus crebra*	narrow-leaved red ironbark	LC	-
Plants	*Eucalyptus exserta*	Queensland peppermint	LC	-
Plants	*Eucalyptus fibrosa* subsp. *nubila*	broad-leaved ironbark	LC	-
Plants	*Eucalyptus populnea*	poplar box	LC	-
Plants	*Eulalia aurea*	silky browntop	LC	-
Plants	*Grevillea striata*	beefwood	LC	-
Plants	*Hakea purpurea*	-	LC	-
Plants	*Jacksonia scoparia*	dogwood	LC	-
Plants	*Kunzea opposita*	-	LC	-
Plants	*Leptospermum polygalifolium*	wild may	LC	-
Plants	*Lomandra leucocephala*	woolly-headed mat rush	LC	-
Plants	*Lomandra longifolia*	wattle mat rush	LC	-
Plants	*Maytenus cunninghamiana*	yellow berry bush	LC	-
Plants	*Megathyrsus maximus* var. *pubiglumis*	green panic	LC	-
Plants	*Melaleuca decora*	paper barked melaleuca	LC	-
Plants	*Melichrus urceolatus*	cream urn heath	LC	-

Class	Scientific name	Common name	Legislative status (*NC Act*, *LP Act*)*	Legislative status (*EPBC Act*)*
Plants	*Melinis repens*	red natal grass	Introduced	-
Plants	*Opuntia stricta*	pest pear	Class 2	WoNS
Plants	*Opuntia tomentosa*	velvety tree pear	Class 2	WoNS
Plants	*Ozothamnus diotophyllus*	heath everlasting	LC	-
Plants	*Panicum decompositum*	native millet	LC	-
Plants	*Paspalidium caespitosum*	brigalow grass	LC	-
Plants	*Psydrax oleifolia*	myrtle tree	LC	-
Plants	*Psydrax oleifolius*	myrtle tree	LC	-
Plants	*Westringia cheelii*	westringia	LC	-
Plants	*Xanthorrhoea johnsonii*	grasstree	LC	-
Plants	*Xylomelum cunninghamianum*	woody pear	LC	-

*Status taken from EHP (2014) and DE 2014

Uncontrolled when printed unless issued and stamped Controlled Copy.

Appendix I: Ground Truthed Regional Ecosystems and High Value Regrowth

This Appendix provides mapping of all field validated GTRE and HVR surveyed on site.

Legend

Ground Truthed Regional Ecosystems

- Remnant - Of Concern
- Remnant - No Concern at Present

Boundary

- Survey Area
- Area Not Surveyed
- Site Location
- Surveyed Cadastral
- Permit

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© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
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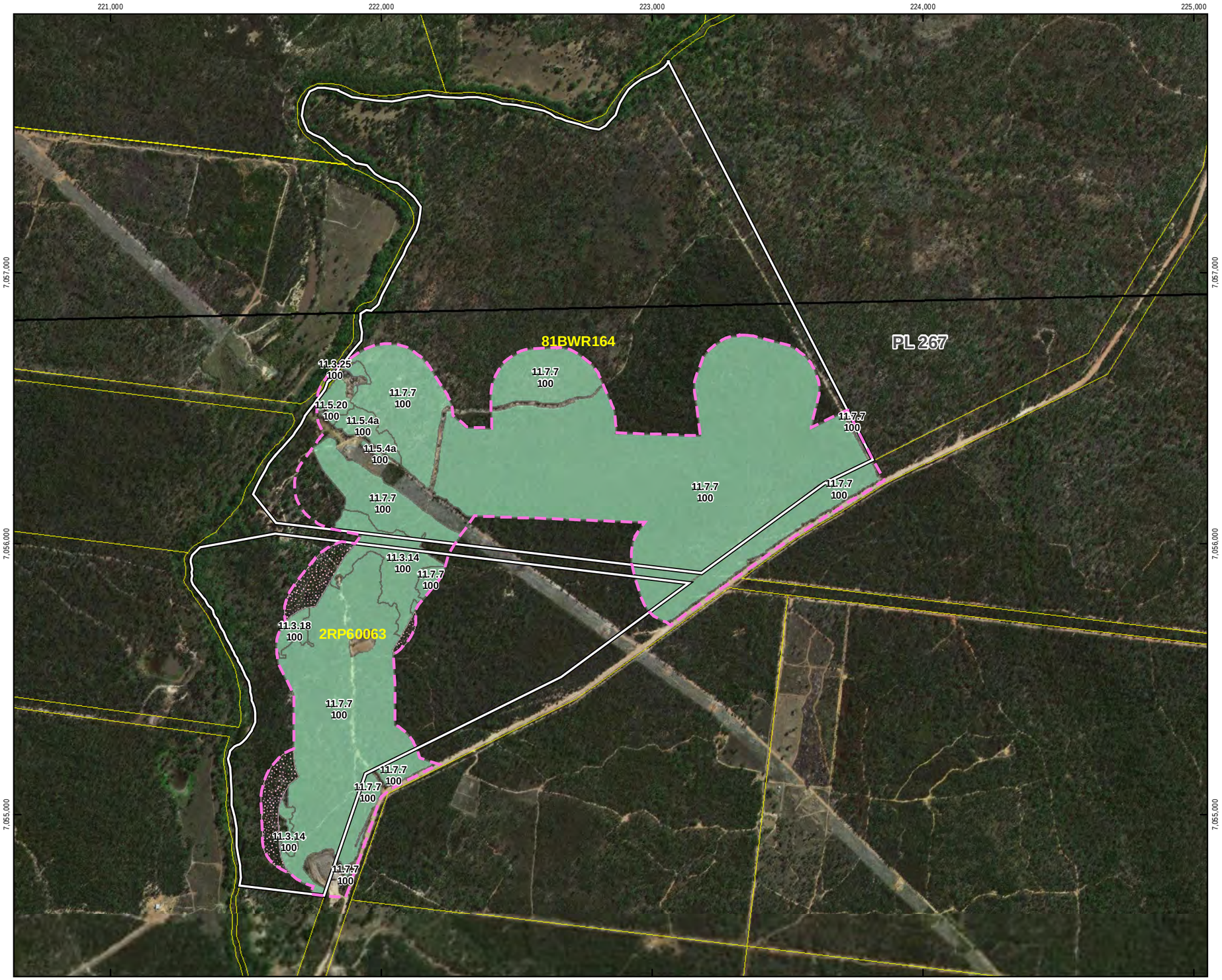

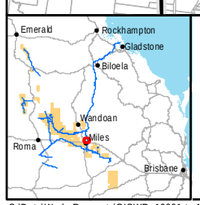

N

Scale 1:15,000 (at A3)

0 250 500 1,000

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
1	Issued For Use	ALM	ST	SAH	CD	01/05/2014
0	Issued For Use	ALM	ST	SAH	CD	15/04/2014
B	Issued For Information Only	ALM	ST	SAH		09/04/2014
A	Issued For Review	ALM	ST	SAH		18/03/2014

Appendix I:

Ground Truthed Regional Ecosystems and High Value Regrowth

Date: 1 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4500-15-RP-1227	1
	Map ID GISWR_19292_I_Rev1	

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Appendix J: Ground Truthed EPBC Threat Listed Species Present on Site

This Appendix provides mapping of all EPBC threat listed species recorded on site during the field survey.

Appendix K: Ground Truthed NC Act Threat Listed Species and Other Significant Species Present on Site

This Appendix provides mapping of all field validated *NC Act* threat listed species recorded on site.

Legend

Type A Flora

- *Cymbidium canaliculatum*
- *Xanthorrhoea johnsonii*

Boundary

- Survey Area
- Area Not Surveyed
- Site Location
- Surveyed Cadastral
- Permit

Source Information:
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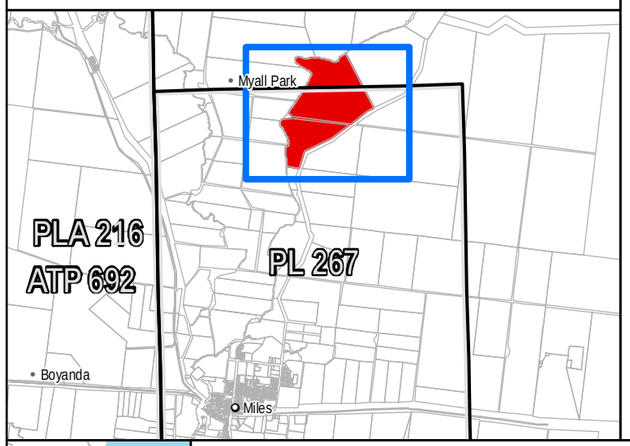

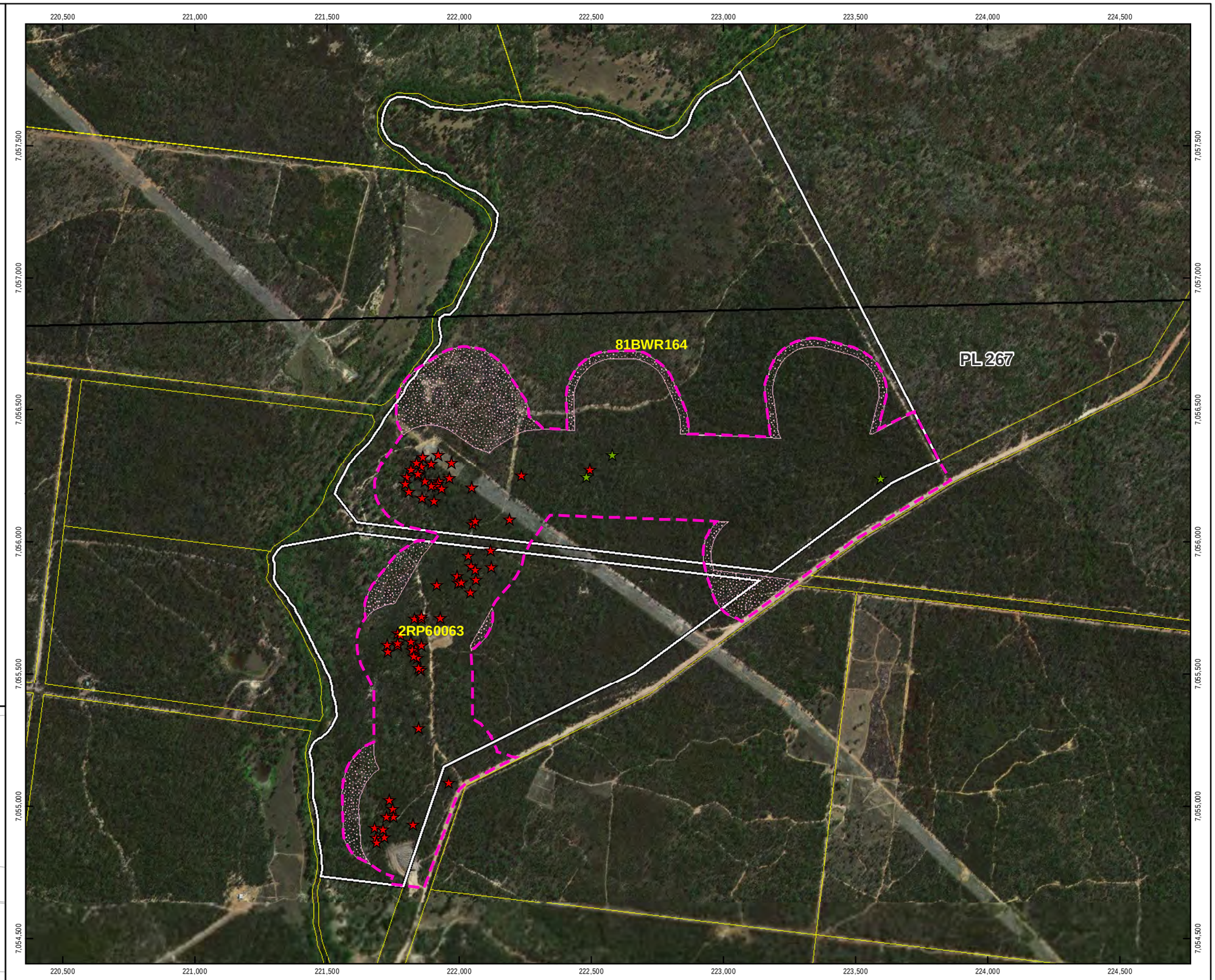

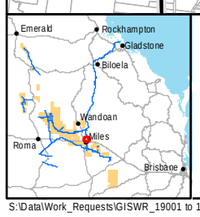

N

Scale 1:15,000 (at A3)

0 250 500 1,000

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
1	Issued For Use	ALM	ST	SAH	CD	01/05/2014
0	Issued For Use	ALM	ST	SAH	CD	15/04/2014
B	Issued For Review	ALM	ST	SAH		31/03/2014
A	Issued For Review	ALM	ST	SAH		18/03/2014

Appendix K:

Ground Truthed NC Act Threat Listed and Other Significant Species Present on Site

Date: 1 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4500-15-RP-1227	1
	Map ID GISWR_19292_K_Rev1	

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Appendix L: Ground Truthed Weeds and Pest Fauna Present on Site

This Appendix provides mapping of all ground truthed weeds and pest fauna surveyed on site.

Legend

Class 2 Weeds

- *Opuntia stricta*
- *Opuntia tomentosa*

Boundary

- Survey Area
- Area Not Surveyed
- Site Location
- Surveyed Cadastral
- Permit

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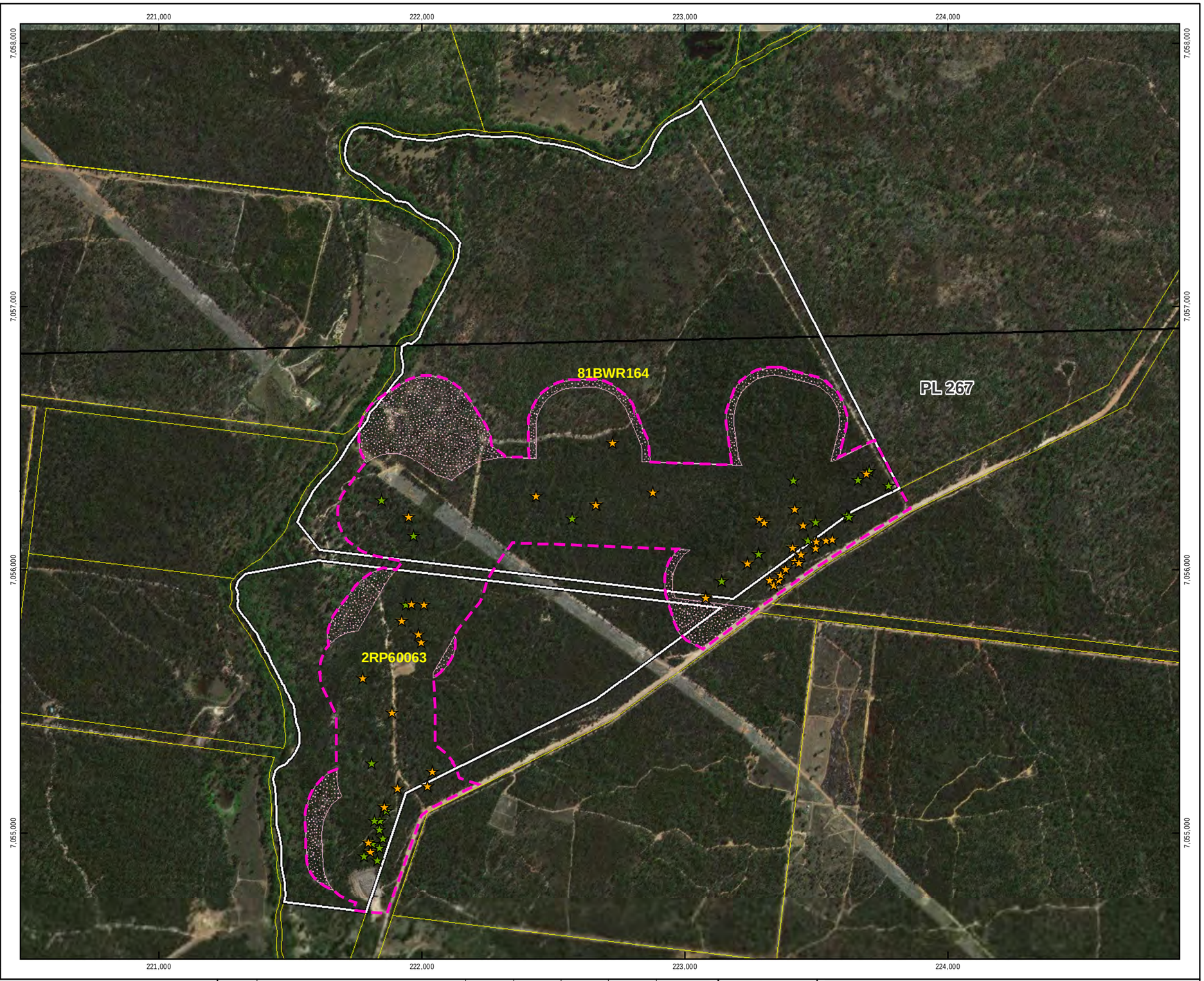

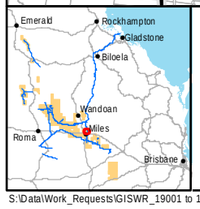

N

Scale 1:15,000 (at A3)

0 250 500 1,000

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
1	Issued For Use	ALM	ST	SAH	CD	01/05/2014
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B	Issued For Review	ALM	ST	SAH		31/03/2014
A	Issued For Review	ALM	ST	SAH		18/03/2014

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Appendix L:
Ground Truthed Weeds Present on Site
Date: 1 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4500-15-RP-1227	1
	Map ID GISWR_19292_L_Rev1	

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