



## Memorandum

From	Trevor Meers	Date	3 December 2013
To	Renae Barnes; Stuart Fletcher		
Copy	Tim Collins		
Subject	Confirmation of Regrowth: Condabri Central - 2SP245919		

### Scope

For an area within Condabri Central (Attachment 1 - Figure 1) we have been asked to confirm the following:

- Status and composition of the vegetation (mapped as endangered regrowth in a survey in 2011 (refer to Q-4500-15-RP-0002 ) validate whether this is still the case or if it should be upgraded or downgraded in status
- whether the area is a Threatened Ecological Community
- confirm presence of any EPBC or EVNT species (flora and fauna) within the area

### Background

Existing data for this area is inconsistent in regard to the age of regrowth. Regional Ecosystem (RE) mapping data provided suggests that this is regrowth of Endangered RE 11.4.3, 6-10 years old which is a TEC. Our search of data in GBM Portable found vegetation structure data indicating that the "polygon contains patches of advanced regrowth belah/brigalow likely to be >15 years old (equals brigalow threatened ecological community under EPBC Act)" and RE polygon data that suggests that the area contains regrowth 1-5 years old of Endangered RE 11.4.3. The following description of the polygon is also provided "foraging habitat for glossy black-cockatoo and small gilgais present for grey snake and rough collared frog; some large logs present suitable for yakka skink; contains many large mature emu apple *Owenia acidula* trees-unusual occurrence of large trees in small area". The area is not mapped as High Value Regrowth by the State of Queensland.

Condition criteria for the Brigalow (*Acacia harpophylla* dominant and co-dominant) Threatened Ecological Community (TEC) (DoE, 2013), indicates that Brigalow regrowth that retains the species composition and structural elements typical of that found in the undisturbed listed regional ecosystems is considered to be part of the Brigalow TEC. Such regrowth will usually be 15 years or more old. Regrowth vegetation will not meet TEC condition criteria if it is:

- vegetation that has been comprehensively cleared (not just thinned) within the last 15 years,
- vegetation in which exotic perennial plants have more than 50% cover, assessed in a minimum area of 0.5 ha (100 m by 50 m), and
- individual patches of Brigalow that are smaller than 0.5 ha.

### Survey Method

To determine if the area contained TEC we assessed the area against the TEC listing criteria as well as confirming RE mapping. This was undertaken by completing a tertiary survey along a 100m transect, following the Methodology for Survey and Mapping of Regional Ecosystems and Vegetation

Communities in Queensland (Neldner et al. 2012) in patches of advanced regrowth. A general walk through the area was also undertaken to determine overall regrowth age and to search for EPBC or EVNT listed fauna and flora species. The above survey was undertaken on 1 December 2013 by Tim Collins and Trevor Meers of AMEC (DSWEPaC approved ecologist).

## Results

Overall the site was found to contain young regrowth (likely to be 6-10 years old) dominated by belah (*Casuarina cristata*) with a sub-canopy of false sandalwood (*Eremophila mitchellii*), wilga (*Geijera parviflora*) and limebush (*Citrus glauca*). As noted in the previous survey, the area contained scattered large trees of emu apple (*Owenia acidula*) and abundant woody debris on the ground that would provide suitable habitat for yakka skink (*Egernia rugosa*). The area was a clay plain with some areas of shallow gilgai micro-relief. Soils were black clays with loamy surface soils. As previously mapped, this regrowth was generally consistent with RE 11.4.3, although vegetation was highly disturbed. Weeds were abundant including Class 2 Declared weeds common prickly pear (*Opuntia stricta*), velvety tree pear (*Opuntia tomentosa*) and tiger pear (*Opuntia aurantiaca*).

The area contained a small patch of brigalow (*Acacia harpophylla*) dominated regrowth (6-10 years old), and two small patches dominated by belah (*Casuarina cristata*). It is unlikely that the trees in either patch have been cleared, as some trees were up to 23m tall. Both areas were mapped at <0.1 ha and therefore do not meet minimum area requirements for either TEC or remnant vegetation. The brigalow regrowth does not meet the requirements for remnant vegetation, or TEC as the regrowth was too young. Patch size for this regrowth was estimated at 0.7ha. A tertiary survey was undertaken in the brigalow dominated regrowth and the two patches dominated by belah, with findings summarised in Table 1, Table 2 and Table 3 below with photographs of each secondary survey site provided in Attachment 2.

The two patches of belah were observed to have habitat values including providing forage for the Vulnerable (NC Act status) glossy black cockatoo (*Calyptorhynchus lathami*) and loose barked trees that provide potential habitat for the Near Threatened (NC Act) golden-tailed gecko (*Strophurus taenicauda*). Individuals of the Least Concern gecko species dubious gecko (*Gehyra dubia*) were observed under the bark of trees while undertaking a search for EPBC or EVNT fauna species.

A map showing the location of the two small patches of belah is provided as Attachment 1 - Figure 2.

Table 1 Vegetation Structure and floristics, secondary survey transect 1B

Transect location	Easting GDA94 Zone 56		Northing GDA 94 Zone 56	
Start (0m)	220165		7032334	
End (100m)	220258		7032316	
Stratum	Height (m)	Height interval (m)	Cover	Species
T1	6.3	5-8	23.5%	<i>Acacia harpophylla</i>
T2	4.0	3-4.5	sparse	<i>Acacia harpophylla</i>
S1	1.0	0.5-1-5	very sparse	<i>Atalaya hemiglaucula</i> , <i>Citrus glauca</i> , <i>Carissa ovata</i> , <i>Enchylaena tomentosa</i>
S2	-	-	-	-
G	0.6	0.4-0.8	Very sparse	<i>Chloris divaricata</i> , <i>Cheilanthes sieberi</i>
Structural summary;		Open shrubland		<i>Acacia harpophylla</i> dominant
Transect length:	100m	Patch size:		< 0.1ha

Table 2 Vegetation Structure and floristics, secondary survey transect 1A

Transect location	Easting GDA94 Zone 56		Northing GDA 94 Zone 56	
Start (0m)	220320		7032191	
End (100m)	220244		7032246	
Stratum	height	Height interval	Cover	Species
T1	15.9	14-18	41.2%	<i>Casuarina cristata</i>
T2	8.5	7-10	sparse	<i>Owenia acidula</i> , <i>Casuarina cristata</i> ,
S1	3	2-4	sparse	<i>Citrus glauca</i> , <i>Geijera parviflora</i> , <i>Eremophila mitchellii</i>
S2	1	0.5-1.5	Mid-sparse	<i>Carissa ovata</i> , <i>Capparis lasiantha</i>
G	0.4	0.2-0.8	Dense	<i>Aristida calycina</i> , <i>Chloris divaricata</i> , <i>Tetragonia tetragonioides</i>
Structural summary:		Open forest		<i>Casuarina cristata</i> dominant
Transect length:	100m	Patch size:		approx. 0.7ha

Table 3 Vegetation Structure and floristics, secondary survey transect 1B

Transect location	Easting GDA94 Zone 56		Northing GDA 94 Zone 56	
Start (0m)	220074		7032208	
End (100m)	220135		7032287	
Stratum	height	Height interval	Cover	Species
T1	18.5	18-23	31.4%	<i>Casuarina cristata</i>
T2	10	8-12	sparse	<i>Owenia acidula</i> , <i>Acacia harpophylla</i>
S1	1.5	0.8-2	sparse	<i>Owenia acidula</i> , <i>Atalaya hemiglauca</i> , <i>Solanum stelligerum</i>
S2	-	-	-	-
G	0.5	0.4-0.6		<i>Aristida calycina</i> , <i>Chloris divaricata</i> , <i>Cenchrus ciliaris</i>
Structural summary:		Open forest		<i>Casuarina cristata</i> dominant
Transect length:	100m	Patch size:		< 0.1ha

#### Summary and Recommendations

Previous survey results (Eddie 2011) are somewhat confusing in that it states that the area contains regrowth of Endangered RE 11.4.3, 6-10 years old, that contains patches of advanced regrowth belah/brigalow likely to be >15 years old (equals brigalow threatened ecological community under EPBC Act). Our survey confirmed that the area contains regrowth of Endangered RE 11.4.3 likely to be 6-10 years old, as well as small mature patches dominated by belah, which given tree heights up to 23m are likely to be >15 years old. However, due to small patch size <0.1ha, these do not equal the brigalow TEC, and are not mappable as remnant vegetation.

No EPBC Act or NC Act listed threatened flora and fauna species were observed within the area.

As the vegetation in this area does not equal TEC or remnant vegetation, there are no constraints for development of the area. However, individual patches of mature belah should be avoided if

possible, as they provide potential habitat for glossy black cockatoo (*Calyptorhynchus lathamii*) and golden-tailed gecko (*Strophurus taenicauda*). Further, proposed infrastructure footprints should be surveyed to identify logs and woody debris that could provide habitat for yakka skink (*Egernia rugosa*) and grey snake (*Hemiaspis damelii*), and a spotter catcher engaged during clearing.

## References

Eddie C. (2011), Ecology Assessment Report, Condabri Central: Lot 1 and 2 SP245919 (formerly lot 2 BWR573). Q-4500-15-RP-0002. Australia Pacific LNG, Brisbane.

Department of the Environment (2013), Brigalow (*Acacia harpophylla* dominant and co-dominant) in Community and Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed 01/12/2013.

Neldner, V.J., Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. (2012), Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland. Version 3.2. Updated August 2012. Queensland Herbarium, Queensland Department of Science, Information Technology, Innovation and the Arts, Brisbane.

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## Attachment 1 – Mapping





Scale 1:15,000 (at A3)  
0 250 500 1,000  
Metres  
Coordinate System: GDA 1994 MGA Zone 56

0	Issued For Information Only	ALM	TM	SAH	TC	03/12/2013
B	Issued For Review	ALM		SAH		02/12/2013
A	Issued For Review	ALM		SAH		02/12/2013
Rev	Description	Drawn	Check	QA	Approved	Date

**Figure 1**  
**Survey Area within LotPlan 2SP245919**  
**Date: 3 December 2013**

Map Number	Doc No	Rev
1 of 2	N/A	0
Map ID GISWR_17823_1_Rev0		

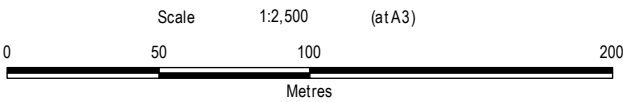




**Legend**

- Casuarina cristata dominated stands
- Survey Area Boundary

Source Information:  
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Coordinate System: GDA 1994 MGA Zone 56

0	Issued For Information Only	ALM	TM	SAH	TC	03/12/2013
B	Issued For Review	ALM		SAH		02/12/2013
A	Issued For Review	ALM		SAH		02/12/2013
Rev	Description	Drawn	Check	QA	Approved	Date



**Figure 2**  
**Location of mature Casuarina cristata dominated stands**  
**Date: 3 December 2013**

Map Number	Doc No	Rev
<b>2 of 2</b>	<b>N/A</b>	<b>0</b>
Map ID GISWR_17823_2_Rev0		



## Attachment 2 - Site Photographs



Photo 1 Typical young *Casuarina cristata* regrowth with scattered large *Owenia acidula*





Photo 2 *Acacia harpophylla* regrowth 6-10 years old at site 1B looking west



Photo 3 *Acacia harpophylla* regrowth 6-10 years old at site 1B looking east



Photo 3 Isolated patch of mature *Casuarina cristata* (0.1ha) surrounded by young regrowth, at site 1A looking east





Photo 4 Mature *Casuarina cristata* at site 1A looking west



Photo 5 Mature *Casuarina cristata* to 23m tall at site 1C looking north