

Appendix G Environmental Offsets

Appendix G1
Appendix G2

QEOP Financial Settlement Offset Calculator
EPBC Environmental Offset Guide Calculator

ENVIRONMENTAL OFFSETS CALCULATOR RESULTS - FINANCIAL SETTLEMENT OFFSET CALCULATOR

Payment Details:

Non-Protected Area Cost

On ground cost	\$234,400.00
Landholder incentive payment	\$39,262.00
Administrative cost	\$58,600.00
Total non-protected area cost	\$332,262.00

Protected Area Cost

Total protected area cost	\$0.00
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Total Cost

Grand total	\$332,262.00
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Total offset area: 58.6 ha

Section 1

LGA: Central Highlands Regional Council
 Bioregion: Brigalow Belt
 Subregion: Isaac - Comet Downs
 Impact area: 14.65 ha
 Notional offset area: 58.6 ha
 Distinct matter area 1.1: Impact area: 14.65 ha
 Notional offset area: 58.6 ha
 Matter groups: 1.1.1: Regional ecosystem - 11.4.8 (Eucalyptus cambageana woodland to open forest with Acacia harpophylla or A. argyrodendron on Cainozoic clay plains)

Sections, areas and matter groups used in calculations

Section	Bioregion	Subregion	LGA	Distinct Matter Area (DMA)	DMA Impact Area (ha)	DMA Notional Offset Area (ha)	Matter Group
1	Brigalow Belt	Isaac - Comet Downs	Central Highlands Regional Council	1.1	14.65	58.6	1.1.1 Regional ecosystem - 11.4.8 (<i>E. cambageana</i> woodland to open forest with <i>A. harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains)

MNES Habitat Quality Assessment

The Brigalow TEC present on the Project contained a dominant tree layer of *Eucalyptus cambageana*, *Acacia harpophylla*, and *Ventilago viminalis* with a canopy height of approximately 20 m. This is comparable to the BioCondition Benchmark (BB) for RE 11.4.8, however canopy cover was a little over half of the BB, native species richness of shrubs and grasses fell considerably short of BB values, and weed and non-native species presence was high in the community.

This community is subject to weed invasion and low to moderate intensity cattle grazing. Buffel Grass (*Cenchrus ciliaris*) and Sabi Grass (*Urochloa mosambicensis*) invasion has modified the ground layer, and exotic cacti are scattered throughout the ground and shrub layers.

Habitat features such as Gilgai, exfoliating bark, logs, fallen branches and leaf litter are present throughout this community. Emergent Dawson Gum and stags provide a small amount of habitat for arboreal mammals and nocturnal birds

The two patches of Brigalow TEC present on the Project are small (totalling 14.65 ha combined), completely isolated and experiencing edge effects. The community has been subject to fragmentation for an extended period of time, and with no active management will continue to degrade. Surrounding areas have been cleared for cattle grazing and the community is completely accessible by stock.

The community provides some marginal habitat for listed threatened species, however no species of conservation significance were identified within the community (or on the Project) during the field study. The small size of the community and targeted field survey results in an unlikely scenario that the community is supporting an undetected presence of conservation significant species. The complete isolation of the community significantly reduces the likelihood of future transition to the community from other small patches of remnant vegetation in the surrounding area, with the exception of highly mobile species.

The community present on the Project represents 0.02% of the 2017 remnant extent of RE 11.4.8. There are 12 REs in the QLD Brigalow Belt that are associated as Brigalow TEC, totalling a 2017 remnant extent of 565,300 ha. The compromised 14.65 ha of RE 11.4.8 on the site, represents 0.0026% of the 2017 remnant extent of Brigalow TEC in the QLD Brigalow Belt Bioregion.

Brigalow TEC Habitat Quality Score

Site Characteristic	Score
Site Condition (out of 4)	2
Site Context (out of 4)	1
Species Stocking Rate (out of 2)	1
Total (out of 10)	4

Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Brigalow TEC
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	Brigalow RE 11.4.8	Area	14.65	Hectares	Site Assessment through Field Survey
			Quality	4	Scale 0-10	
			Total quantum of impact	5.86	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species</i>						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source	
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
<i>Ecological Communities</i>																				
Area of community	Yes	5.86	Adjusted hectares	Secured offsets	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	18.57	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%	8.36	95%	7.94	6.25	100.02%	Yes		
						Future area without offset (adjusted hectares)	9.3	Future area with offset (adjusted hectares)	17.6											
						Time until ecological benefit	10	Start quality (scale of 0-10)	3	Future quality without offset (scale of 0-10)	5	Future quality with offset (scale of 0-10)								
<i>Threatened species habitat</i>																				
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0											
						Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)								
<i>Threatened species</i>																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source				
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g. Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	5.86	5.86	100.02%	Yes	\$0.00	N/A	\$0.00
					\$0.00	\$0.00	\$0.00