28ºS ENVIRONMENTAL

Double Jump Road Residential Estate Development

Preliminary Documentation Report

EPBC Referral 2024-09825

Volume 3.10

Appendix 15

29 July 2026

DUE DILIGENCE ADVICE | DEVELOPMENT STRATEGY & PLANNING | ECOLOGICAL SURVEY & ASSESSMENT
EPBC ACT ASSESSMENT & APPROVALS | STATE & LOCAL GOVERNMENT APPROVALS & PERMITS
VEGETATION, HABITAT, FAUNA & REHABILITATION MANAGEMENT PLANS | BIODIVERSITY OFFSETS | EXPERT WITNESS

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OFFSET - KOALA Baseline

linked cell

koala scat

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2													AU 2 - Remnant RE12.8.17									AU 3 - Remnant RE12.8.24									Totals	
		HQP 1a			HQP3a			HQP 2a							OA AU2 T1			OA AU2 T2						OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3					Benchmark	Transect 1			Transect 2			Average %	Average	Benchmark	Transect 1			Transect 2			Average %	Average	Average %	
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	12.8.24	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	benchmark	Average Score
Site Condition																																	
Recruitment of woody perennial species in EDL	100	100	100%	5.0	33	33%	3.0	100	100%	5.0	78%	4.33	100	66	66%	3.0	50	50%	3.0	58%	3.00	100	33	33%	3.0	0	0%	0.0	17%	1.50	51%	2.94
Native plant species richness - trees	6	8	133%	5.0	5	83%	2.5	8	133%	5.0	117%	4.17	7	9	129%	5.0	8	114%	5.0	121%	5.00	7	9	129%	5.0	4	57%	2.5	93%	3.75	110%	4.31
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	3	60%	2.5	4	80%	2.5	70%	2.50	7	6	86%	2.5	1	14%	0.0	50%	1.25	96%	2.92
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	7	58%	2.5	3	25%	2.5	42%	2.50	13	1	8%	0.0	2	15%	0.0	12%	0.00	69%	2.50
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	10	77%	2.5	121%	4.17	27	11	41%	2.5	5	19%	0.0	30%	1.25	28	7	25%	2.5	6	21%	0.0	23%	1.25	58%	2.22
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	10.0	69%	3.0	97%	4.00	19	16.5	87%	5.0	11.5	61%	3.0	74%	4.00	93%	4.33
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	0.1	2%	0.0	0	0%	0.0	1%	0.00	7	0	0%	0.0	0	0%	0.0	0%	0.00	49%	1.67
Native grass cover	21	5.2	25%	1.0	11	52%	3.0	27.6	131%	5.0	70%	3.00	32	13.8	43%	1.0	0.2	1%	0.0	22%	0.50	8	0	0%	0.0	0	0%	0.0	0%	0.00	30%	1.17
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	4	19%	3.0	64%	4.00	32	0	0%	0.0	0	0%	0.0	0%	0.00	59%	3.00
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67	24	18	75%	10.0	6	25%	5.0	50%	7.50	25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89
Coarse woody debris	506	1020	202%	2.0	1190	235%	2.0	370	73%	5.0	170%	3.00	234	10	4%	0.0	100	43%	2.0	24%	1.00	764	100	13%	2.0	30	4%	0.0	9%	1.00	67%	1.67
Non-native plant cover	0	24.1	24%	5.0	23.7	24%	5.0	10.3	10%	5.0		5.0	0	80	80%	0.0	100	100%	0.0	90%	0.00	0	100	100%	0.0	100	100%	0.0	100%	0.00	95%	1.67
Quality and availability of food and foraging habitat	N/A	10		10.0	10		10.0	10		10.0		10.0	N/A	5		5.0	5		5.0		5.0	10	5		5.0	5		5.0		5.0		6.67
Quality and availability of shelter	N/A	10		10.0	5		5.0	5		6.7			N/A	5		5.0	1		1.0		3.0	10	5		5.0	5		5.0		5.0		4.89
Site Condition Score				83			80.5			82.5		82.0				52			37		44.3				45			26		35.3		53.8
MAX Site Condition Score				*100*			*100*			*100*		*100*				*100*			*100*		*100*				*100*			*100*		*100*		*100*
Site Condition Score - out of 3				**2.49**			**2.42**			**2.48**		**2.46**				***1.55***			***1.11***		**1.33**				***1.35***			***0.77***		**1.06**		**1.62**
Site Context																																	
Size of patch	10	>6200ha (Figure 50)		10			10			10		10.0	10	>6200ha (Figure 50)		10			10		10	10	>6200ha (Figure 50)		10			10		10		10.00
Connectedness	5	89.8% (Figure 51)		5			5			5		5.0	5	89.8% (Figure 51)		5			5		5	5	89.8% (Figure 51)		5			5		5		5.00
Context	5	72.83% (Figure 52)		4			4			4		4.0	5	72.83% (Figure 52)		4			4		4	5	72.83% (Figure 52)		4			4		4		4.00
Ecological Corridors	6	in state corridor		6			6			6		6.0	6	in state corridor		6			6		6	6	in state corridor		6			6		6		6.00
Role of site location to species overall population in the state	5	Critical Habitat		5			5			5		5.0	5	Critical Habitat		5			5		5	5	Critical Habitat		5			5		5		5.00
Threats to the species	15	Moderate level threats		7			7			1		5.0	15	Moderate level threats		7			7		7	15	Moderate level threats		7			7		7		6.33
Species mobility capacity	10			10.00			10.00			10		10.0	10			4.00			4		4	10			4			4		4		6.00
Site Context Score				47			47			41		45.0				41			41		41				41			41		41		42.33
MAX Site Context Score				56			56			56		56				56			56		56				56			56		56		56
Site Context Score - out of 3				**2.52**			**2.52**			**2.20**		**2.41**				**2.20**			**2.20**		**2.20**				**2.20**			**2.20**		**2.20**		**2.27**
Habitat Quality			Raw Data	Score		Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score
Quality and availability of food and foraging habitat																																	
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		0.68	20.00		1.00	20.00		0.99	20.00		20.00			0.46	15.00		0.47	15.00		15.00			0.83	20.00		0.86	20.00		20.00		18.33
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		3.00	5.00		2.00	5.00		3.00	5.00		5.00			3.00	5.00		4.00	10.00		7.50			2.00	5.00		3.00	5.00		5.00		5.83
Tree density (per hectare stem count) of LIKT species	*20*		1.50	20.00		1.36	20.00		0.64	15.00		18.33			0.12	5.00		0.11	5.00		5.00			0.13	5.00		0.11	5.00		5.00		9.44
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00			0.00	0.00		0.00	0.00		0.00			0.00	0.00		15.00	10.00		5.00		5.00
MAX Score	**60**			55.00			55.00			50.00		53.33				25.00			30.00		27.50				30.00			40.00		35.00		38.61
% of total score				91.67			91.67			83.33		88.89				41.67			50.00		45.83				50.00			66.67		58.33		64.35
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Quality and availability of shelter																																	
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		1.00	1.00		0.00	0.00		1.00	1.00		0.67			5.00	5.00		1.00	1.00		3.00			0.00	0.00		0.00	0.00		0.00		1.22
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		1.65	20.00		1.36	20.00		0.85	15.00		18.33			0.66	15.00		0.30	5.00		10.00			1.00	20.00		0.54	15.00		17.50		15.28
Recruitment of all Forage/Shelter tree species (% of total tree species diversity within plot)	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00			1.00	10.00		0.00	0.00		5.00			0.00	0.00		15.00	10.00		5.00		6.67
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		1.57	20.00		1.36	20.00		0.85	20.00		20.00			0.13	5.00		0.14	5.00		5.00			0.14	5.00		0.11	5.00		5.00		10.00
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	5.00		5.00			5.00	5.00		5.00	5.00		5.00			1.00	1.00		1.00	1.00		1.00		3.67
MAX Score	**70**			56.00			55.00			51.00		54.00				40.00			16.00		28.00				26.00			31.00		28.50		36.83
% of total score				80.00			78.57			72.86		77.14				57.14			22.86		40.00				37.14			44.29		40.71		52.62
scaled score				**10.00**			**5.00**			**5.00**		**5.00**				**5.00**			**1.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Species mobility																																	
Physical barriers – structures / fences / powerlines / services / dams / watercourses	*10*		Low	10.00		Low	10.00		Low	10.00		10.00			Low	10.00		Low	10.00		10.00			Low	10.00		Low	10.00		10.00		10.00
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		0.00	20.00		20.00			0.80	1.00		1.00	1.00		1.00			1.00	1.00		1.00	1.00		1.00		7.33
MAX Score	**30**			30.00			30.00			30.00		30.00				11.00			11.00		11.00				11.00			11.00		11.00		17.33
% of total score				100.00			100.00			100.00		100.00				36.67			36.67		36.67				36.67			36.67		36.67		57.78
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**4.00**			**4.00**		**4.00**				**4.00**			**4.00**		**4.00**		**7.00**

Species Stocking Rate (SSR)						AU1	AU2	AU3
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10	5	5
		No	Yes - adjacent	Yes - on site				
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15	5	5
		Not habitat	Dispersal	Foraging	Breeding			
Approximate density (per ha)	Score	0	10	20	30	10	0	0
		0%	low	medium	high			
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5	5	5
		0	5 - 15	20 - 35	40 - 45			
Total SRR score (out of 70)						40	15	15
SRR Score (out of 4)						**2.3**	**0.9**	**0.9**

*SSR Supplementary Table				AU1	AU2	AU3
*Key source population for breeding	Score	0	10	0	0	0
		No	Yes/ Possibly			
*Key source population for dispersal	Score	0	5	5	5	5
		No	Yes/ Possibly			
*Necessary for maintaining genetic diversity	Score	0	15	0	0	0
		No	Yes/ Possibly			
*Near the limit of the species range	Score	0	15	0	0	0
		No	Yes			
	Total for SSR Supplementary Table			**5**	**5**	**5**

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final
Site Condition score (out of 3)	2.46	1.33	1.06	1.62
Site Context Score (out of 3)	*2.41*	*2.20*	*2.20*	2.27
Species Stocking Rate Score (out of 4)	*2.29*	*0.86*	*0.86*	1.33
Habitat Quality score (out of 10)	*7.16*	*4.38*	*4.11*	*5.22*
Habitat Quality score (Rounded)	*7.00*	*6.00*	*5.00*	*6.00*
Assessment Unit area (ha)	61.35	20.63	6.65	88.63
Total offset area (ha) for this MNES	88.63	88.92	88.92	88.82
Size Weighting	0.69	0.23	0.07	1.00
Weighted Habitat Quality Score	***4.95***	***1.02***	***0.31***	***6.28***

Supplementary table for threats scoring			Score			Result		
Listed threatening pro	**Scoring indicator**	**Score weighting**	**1**	**7**	**15**	**Score**	**Average / Weighted score**	**Final result**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	1	0.3	
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	7		
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	1	0.6	
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	15		
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	2.25	
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	
Threats score out of 15								9.15
Scaled score (1-5=1; 6-10=7; 11-15=15)								7

Offset - Landscape Scoring

AU	Patch size		Connectedness		Context		Ecological corridors	
	area	score	area	score	area	score	result	score
1	>200 ha	10	0.89	5	0.72	4	Within (whole or part)	6
2	>200 ha	10	0.89	5	0.72	4	Within (whole or part)	6
3	>200 ha	10	0.89	5	0.72	4	Within (whole or part)	6

Drop down - don't touch

Not within

Sharing a common boundary

Within (whole or part)

Baseline

Offset - Koala - stem counts for Habitat Quality scoring

REDD Technical-Description stem count	**RE**	12.9-10.2	12.8.17	12.8.24
	T1	110	160	213
	T2	130	420	127
	Sum of average stem counts for combined T1/T2 layer	**240**	**580**	**340**
	10-15% of TD average	**24**	**87**	**51**

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300			100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	40	56						14		
	Eucalyyptus crebra	100	12	10		40	10		12				2		1
	Eucalyptus tereticornis					10			4						
	Eucalyptus melanophloia										6				
								60		60		35		35	
	total stems per ha	360		328		156		76		66		51		36	
	% of TD total	**150.00**		**136.67**		**65.00**		**13.10**		**11.38**		**15.00**		**10.59**	

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	40	56						14		
	Eucalyyptus crebra	100	12	10		40	10		12				2		1
	Eucalyptus tereticornis					10			4						
	Eucalyptus melanophloia										6				
	Blakella tessellaris					50			2						
	Corymbia intermedia	20													
								60		60		35		35	
	total stems per ha	380		328		206		78		66		51		36	
	% of TD average	**158.33**		**136.67**		**85.83**		**13.45**		**11.38**		**15.00**		**10.59**	

Accurate stem counts were not possible in AU2 and AU3 due to dense thickets of Lantana. As surrogate for this, and to avoid falsely underrepresetning stem density, a 10% loading has been applied to each transect site. The ~10% loading is ~10% of the cumulative average stem density (T1+T2) associated with the relevant mapped RE.

Yr 5

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300			100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	40	56						14		
	Eucalyptus crebra	100	12	10		40	10		12				2		1
	Eucalyptus tereticornis					10			4						
	Eucalyptus melanophloia										6				
								60		60		35		35	
	total stems per ha	360		328		156		76		66		51		36	
	% of TD total	**150.00**		**136.67**		**65.00**		**13.10**		**11.38**		**15.00**		**10.59**	

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	40	56						14		
	Eucalyyptus crebra	100	12	10		40	10		12				2		1
	Eucalyptus tereticornis					10			4						
	Eucalyptus melanophloia										6				
	Blakella tessellaris					50			2						
	Corymbia intermedia	20													
								60		60		35		35	
	total stems per ha	380		328		206		78		66		51		36	
	% of TD average	**158.33**		**136.67**		**85.83**		**13.45**		**11.38**		**15.00**		**10.59**	

year 5 assumptions -

- no stem count change is reflected in year 5 scores due to the intensive weed management practices which are to be carried out.

Yr 10

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300			100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	56					15	14	15	
	Eucalyyptus crebra	100	12	10		46	10	45	12	45		15	2	15	1
	Eucalyptus tereticornis					12		25	4	25		4		4	
	Eucalyptus melanophloia							12		12	6				
								60		60		35		35	
	total stems per ha	360		328		170		158		148		85		70	
	% of TD total	**150.00**		**136.67**		**70.83**		**27.24**		**25.52**		**25.00**		**20.59**	

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem														
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	56					15	14	15	
	Eucalyyptus crebra	100	12	10		46	10	45	12	45		15	2	15	1
	Eucalyptus tereticornis					12		25	4	25		4		4	
	Eucalyptus melanophloia							12		12	6				
	Blakella tessellaris			1		60		5	2	5					
	Corymbia intermedia	20													
								60		60		35		35	
	total stems per ha	380		329		230		165		153		85		70	
	% of TD average	**158.33**		**137.08**		**95.83**		**28.45**		**26.38**		**25.00**		**20.59**	

year 10 assumptions -

AU1-T3 - 10% (of TD average) stem count increase devided between species.
AU2 and AU 3 - 15% growth

Yr 15

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300			100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	66					30	14	30	
	Eucalyyptus crebra	100	12	10		46	20	90	12	90		30	2	30	1
	Eucalyptus tereticornis					12	2	50	4	50		4		4	
	Eucalyptus melanophloia							24		24	6				
								60		60		35		35	
	total stems per ha	360		328		192		240		230		115		100	
	% of TD total	**150.00**		**136.67**		**80.00**		**41.38**		**39.66**		**33.82**		**29.41**	

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem							12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	66					30	14	30	
	Eucalyyptus crebra	100	12	10		46	20	90	12	90		30	2	30	1
	Eucalyptus tereticornis					12	2	50	4	50		4		4	
	Eucalyptus melanophloia							24		24	6				
	Blakella tessellaris			1		55	5	10	2	10		4		4	
	Corymbia intermedia	20													
								60		60		35		35	
	total stems per ha	380		329		252		252		240		119		104	
	% of TD average	**158.33**		**137.08**		**105.00**		**43.45**		**41.38**		**35.00**		**30.59**	

year 15 assumptions -

AU1-T3 - further 10% (of TD average) stem count increase devided between species. (24 stems)
AU2 and AU 3 - 15% growth

Yr 20

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300			100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	66					30	29	30	15
	Eucalyyptus crebra	100	12	10		46	20	100	47	100	35	30	17	30	16
	Eucalyptus tereticornis					12	2	50	29	50	25	4		4	
	Eucalyptus melanophloia							30	6	30	12				
								60		60		35		35	
	total stems per ha	360		328		192		322		312		145		130	
	% of TD total	**150.00**		**136.67**		**80.00**		**55.52**		**53.79**		**42.65**		**38.24**	

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem							12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	66					30	29	30	15
	Eucalyyptus crebra	100	12	10		46	20	100	47	100	35	30	17	30	16
	Eucalyptus tereticornis					12	2	50	29	50	25	4		4	
	Eucalyptus melanophloia							30	6	30	12				
	Blakella tessellaris			1	1	55	5	10	7	10	5	8		8	
	Corymbia intermedia	15	5												
								60		60		35		35	
	total stems per ha	380		330		252		339		327		153		138	
	% of TD average	**158.33**		**137.50**		**105.00**		**58.45**		**56.38**		**45.00**		**40.59**	

year 20 assumptions -

AU1-T3 - total stems exeeds benchmark. no further predictions

AU2 and AU3 - another 15% stem accumulation and stems grow into 300 mm category

year 5 Large tree predictions								
	Assessment Units (AU)	AU1			AU2		AU3	
	BioCondition Transect	T1	T2	T3	T4	T5	T6	T7
	Equivalent Regional Ecosystem	12.9-10.2	12.9-10.2	12.9-10.2	12.8.17	12.8.17	12.8.24	12.8.24
	Eucalyptus large tree DBH		**380**					
	Corymbia citriodora subsp variegata	365, **380**, 335, **440**, 305, 345, 375, **380**, **400**, 375, 335, 305, 305, **410**, **400**, **390**, **420**, 335, **460**, 305, **600**, 345, **460**, **580**, 315, 185, **470**, **810**, 365	**390**, **530**, **440**, **400**, **460**, 335, **490**, **490**, **390**, **460**, **400**, 365, 355, **510**, **470**, 325, **600**, **400**, **380**, **460**, **520**, **520**, 355, **500**, 375, **490**, **520**, **420**, **440**, 365, 365, **450**, **450**, **390**	**520**, 355, 315, 325, 315, **430**, **460**, **410**, **500**, 375, 345, **520**, **890**, 375, **440**, **400**, 365, **490**, 375, 365, 305, **400**, 375, **480**, 335, **430**, **380**, 225				
	Eucalyptus crebra	337, 307, 307, 377, **380**, 377		**600**, **400**, 307, 337, **400**				
	Large tree predictions based on observation due to impenetrable lantana thickets				9	3	8	1
	New large trees		0	0	0	0	0	0
	Total large trees		15	26	17	9	3	8	1
	Total large trees per hectare (*2)		**30**	**52**	**34**	**18**	**6**	**16**	**2**

year 10 Large tree predictions								
	Assessment Units (AU)	AU1			AU2		AU3	
	BioCondition Transect	T1	T2	T3	T4	T5	T6	T7
	Equivalent Regional Ecosystem	12.9-10.2	12.9-10.2	12.9-10.2	12.8.17	12.8.17	12.8.24	12.8.24
	Eucalyptus large tree DBH		**380**					
	Corymbia citriodora subsp variegata	367, **380**, 337, **440**, 307, 347, 377, **380**, **400**, 377, 337, 307, 307, **410**, **400**, **390**, **420**, 337, **460**, 307, **600**, 347, **460**, **580**, 317, 187, **470**, **810**, 367	**390**, **530**, **440**, **400**, **460**, 337, **490**, **490**, 390, **460**, **400**, 367, 357, **510**, **470**, 327, **600**, **400**, **380**, **460**, **520**, **520**, 357, **500**, 377, **490**, **520**, **420**, **440**, 367, 367, **450**, **450**, **390**	**520**, 357, 317, 327, 317, **430**, **460**, **410**, **500**, 377, 347, **520**, **890**, 377, **440**, **400**, 367, **490**, 377, 367, 307, **400**, 377, **480**, 337, **430**, **380**, 227				
	Eucalyptus crebra	339, 309, 309, 379, **380**, 379		**600**, **400**, 309, 339, **400**				
	Large tree predictions based on observation due to impenetrable lantana thickets				9	3	8	1
	New large trees		0	0	0	0	0	0
	Total large trees		15	26	17	9	3	8	1
	Total large trees per hectare (*2)		**30**	**52**	**34**	**18**	**6**	**16**	**2**

year 15 Large tree predictions								
	Assessment Units (AU)	AU1			AU2		AU3	
	BioCondition Transect	T1	T2	T3	T4	T5	T6	T7
	Equivalent Regional Ecosystem	12.9-10.2	12.9-10.2	12.9-10.2	12.8.17	12.8.17	12.8.24	12.8.24
	Eucalyptus large tree DBH		**380**					
	Corymbia citriodora subsp variegata	369, **380**, 339, **440**, 309, 349, 379, **380**, **400**, 379, 339, 309, 309, **410**, **400**, **390**, **420**, 339, **460**, 309, **600**, 349, **460**, **580**, 319, 189, **470**, **810**, 369	**390**, **530**, **440**, **400**, **460**, 339, **490**, **490**, **390**, **460**, **400**, 369, 359, **510**, **470**, 329, **600**, **400**, 380, **460**, **520**, **520**, 359, **500**, 379, **490**, **520**, **420**, **440**, 369, 369, **450**, **450**, **390**	**520**, 359, 319, 329, 319, **430**, **460**, **410**, **500**, 379, 349, **520**, **890**, 379, **440**, **400**, 369, **490**, 379, 369, 309, **400**, 379, **480**, 339, **430**, **380**, 229				
	Eucalyptus crebra	341, 311, 311, **381**, **380**, **381**		**600**, **400**, 311, 341, **400**				
	Large tree predictions based on observation due to impenetrable lantana thickets				9	3	8	1
	New large trees		2	0	0	0	0	0	0
	Total large trees		17	26	17	9	3	8	1
	Total large trees per hectare (*2)		**34**	**52**	**34**	**18**	**6**	**16**	**2**

yr 20 Large tree predictions								
	Assessment Units (AU)	AU1			AU2		AU3	
	BioCondition Transect	T1	T2	T3	T4	T5	T6	T7
	Equivalent Regional Ecosystem	12.9-10.2	12.9-10.2	12.9-10.2	12.8.17	12.8.17	12.8.24	12.8.24
	Eucalyptus large tree DBH		**380**					
	Corymbia citriodora subsp variegata	371, **380**, 341, **440**, 311, 351, **381**, **380**, **400**, **381**, 341, 311, 311, **410**, **400**, **390**, **420**, 341, **460**, 311, **600**, 351, **460**, **580**, 321, 191, **470**, **810**, 371	**390**, **530**, **440**, **400**, **460**, 341, **490**, **490**, **390**, **460**, **400**, 371, 361, **510**, **470**, 331, **600**, **400**, **380**, **460**, **520**, **520**, 361, **500**, **381**, **490**, **520**, **420**, **440**, 371, 371, **450**, **450**, **390**	**520**, 361, 321, 331, 321, **430**, **460**, **410**, **500**, **381**, 351, **520**, **890**, **381**, **440**, **400**, 371, **490**, **381**, 371, 311, **400**, **381**, **480**, 341, **430**, **380**, 231				
	Eucalyptus crebra	343, 313, 313, **381**, **380**, **381**		**600**, **400**, 313, 343, **400**				
	Large tree predictions based on observation due to impenetrable lantana thickets				9	3	8	1
	New large trees		2	1	4	2	2	2	2
	Total large trees		17	27	21	11	5	10	3
	Total large trees per hectare (*2)		**34**	**54**	**42**	**22**	**10**	**20**	**6**

An estimated annual diameter growth rate of **0.2 cm/year** was adopted for *Eucalyptus species* as a conservative assumption for south-east Queensland conditions. This estimate is supported by the long-term growth analysis of Ngugi et al. (2015), who quantified diameter increments from over 86,000 trees monitored across subtropical Queensland over a 75-year period. The study found that 94% of annual diameter increments in native forests ranged between 0.01 and 0.50 cm/year, with growth varying according to species, rainfall and stem diameter class. *Eucalyptus tereticornis* was identified as one of the species exhibiting increased diameter growth with increasing mean annual rainfall across the study gradient (approximately 500–2,000 mm/year), consistent with the rainfall conditions typical of south-east Queensland. Although growth rates in favourable environments may exceed 0.2 cm/year, the adopted value lies toward the lower end of the observed range for the species and is therefore considered an appropriately conservative estimate for modelling long-term habitat development within native forest restoration contexts.

An annual growth rate of 0.2cm is applied. A total of 40 mm of growth will result over the 20 year offset period. Detailed tree data could not be collected at AUs 2 and 3 due to lack of accessibility constraints associated with Lantana camara infestations. It is estimated that up to two new large trees will accumulate in each BioCondition plot, which equtes to a prediction of an additional four large trees per ha.

OFFSET - KOALA Woolshed Year 5

linked cell

koala scat

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2													AU 2 - Remnant RE12.8.17										AU 3 - Remnant RE12.8.24									Totals		
		HQP 1a				HQP3a			HQP 2a						OA AU2 T1				OA AU2 T2						OA AU3 T1				OA AU3 T2						
Site Reference	Benchmark	Transect 1				Transect 2			Transect 3					Benchmark	Transect 1				Transect 2				Average	Benchmark	Transect 1				Transect 2				Average	Average %		
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score		12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Score		12.8.24	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Score	benchmark	Average Score	
Site Condition																																			
Recruitment of woody perennial species in EDL	100	100	100%	5.0	33	33%	3.0	100	100%	5.0	78%	4.33		100	66	66%	3.0	50	50%	3.0	58%	3.00		100	33	33%	3.0	15	15%	0.0	24%	1.50	53%	2.94	some recuirment appearing in AU3-T2
Native plant species richness - trees	6	8	133%	5.0	5	83%	2.5	8	133%	5.0	117%	4.17		7	9	129%	5.0	8	114%	5.0	121%	5.00		7	9	129%	5.0	4	57%	2.5	93%	3.75	110%	4.31	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00		5	3	60%	2.5	4	80%	2.5	70%	2.50		7	6	86%	2.5	1	14%	0.0	50%	1.25	96%	2.92	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00		12	7	58%	2.5	3	25%	2.5	42%	2.50		13	1	8%	0.0	2	15%	0.0	12%	0.00	69%	2.50	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	10	77%	2.5	121%	4.17		27	11	41%	2.5	5	19%	0.0	30%	1.25		28	7	25%	2.5	6	21%	0.0	23%	1.25	58%	2.22	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00		14.5	18.0	124%	5.0	10.5	72%	5.0	98%	5.00		19	16.5	87%	5.0	12.0	63%	3.0	75%	4.00	94%	4.67	Tree canopy height is expected to increase over time. Conservative estimate of 2cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00		34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00		38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00	Predictions not made due to high score already attained at each site.
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00		5	0.1	2%	0.0	0	0%	0.0	1%	0.00		7	0	0%	0.0	0	0%	0.0	0%	0.00	49%	1.67	no change predicted at yr 5
Native grass cover	21	5.2	25%	1.0	11	52%	3.0	27.6	131%	5.0	70%	3.00		32	13.8	43%	1.0	0.2	1%	0.0	22%	0.50		8	0	0%	0.0	0	0%	0.0	0%	0.00	30%	1.17	given the coverage and vegetation disturbance required for Lantana removal, native grass cover changes are not predicted for yr 5.
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00		21	23	110%	5.0	4	19%	3.0	64%	4.00		32	0	0%	0.0	0	0%	0.0	0%	0.00	59%	3.00	given the coverage and vegetation disturbance required for Lantana removal, litter cover changes are not predicted for yr 5.
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67		24	18	75%	10.0	6	25%	5.0	50%	7.50		25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89	no change predicted at yr 5
Coarse woody debris	506	1020	202%	2.0	1190	235%	2.0	370	73%	5.0	170%	3.00		234	10	4%	0.0	100	43%	2.0	24%	1.00		764	100	13%	2.0	30	4%	0.0	9%	1.00	67%	1.67	no change predicted at yr 5
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	10.3	10%	5.0		5.0		0	30	30%	3.0	30	30%	3.0	30%	3.00		0	30	30%	3.0	30	30%	3.0	30%	3.00	30%	3.67	AU1 - reduced to below 15%, AU2/3 reduced to 30% accounting for mass removal of LC, and potential high recuitment of other herbaceous pioneer species.
Quality and availability of food and foraging habitat	N/A	10		10.0	10		10.0	10		10.0		10.0		N/A	5		5.0	5		5.0		5.0		10	5		5.0	5		5.0		5.0		6.67	no predicted change
Quality and availability of shelter	N/A	10		10.0	5		5.0	5		5.0		6.7		N/A	5		5.0	1		1.0		3.0		10	5		5.0	5		5.0		5.0		4.89	no predicted change
Site Condition Score				83			80.5			82.5		82.0					*55*			*42*		48.3					*48*			*29*		38.3		56.2	
MAX Site Condition Score				*100*			*100*			*100*		*100*					*100*			*100*		*100*					*100*			*100*		*100*		*100*	
Site Condition Score - out of 3				**2.49**			**2.42**			**2.48**		**2.46**					***1.64***			***1.26***		**1.45**					***1.44***			***0.86***		**1.15**		**1.69**	
Site Context																																			
Size of patch	10	>6200ha (Figure 50)		10			10			10		10.0		10	>6200ha (Figure 50)		10			10		10		10	>6200ha (Figure 50)		10			10		10		10.00	will not change.
Connectedness	5	89.8% (Figure 51)		5			5			5		5.0		5	89.8% (Figure 51)		5			5		5		5	89.8% (Figure 51)		5			5		5		5.00	will not change.
Context	5	72.83% (Figure 52)		4			4			4		4.0		5	72.83% (Figure 52)		4			4		4		5	72.83% (Figure 52)		4			4		4		4.00	will not change.
Ecological Corridors	6	in state corridor		6			6			6		6.0		6	in state corridor		6			6		6		6	in state corridor		6			6		6		6.00	will not change.
Role of site location to species overall population in the state	5	Critical Habitat		5			5			5		5.0		5	Critical Habitat		5			5		5		5	Critical Habitat		5			5		5		5.00	
Threats to the species	15	Moderate level threats		7			7			1		5.0		15	Moderate level threats		7			7		7		15	Moderate level threat		7			7		7		6.33	Threats are reduced due to management of wild dog and high fuel loads caused by Lantana camara
Species mobility capacity	10			10.00			10.00			10		10.0		10			7.00			7		7		10			7			7		7		8.00	Mobility is improved due to the management of exotic vegetated barriers, which is Lantana camara at the Woolshed offset site.
Site Context Score				47			47			41		45.0					44			44		44					44			44		44		44.33	
MAX Site Context Score				56			56			56		56					56			56		56					56			56		56		56	
Site Context Score - out of 3				**2.52**			**2.52**			**2.20**		**2.41**					**2.36**			**2.36**		**2.36**					**2.36**			**2.36**		**2.36**		**2.38**	
Habitat Quality		Raw Data		Score	Raw Data		Score	Raw Data		Score	Average Score				Raw Data		Score	Raw Data		Score	Average Score				Raw Data		Score	Raw Data		Score	Average Score			Average Score	
Quality and availability of food and foraging habitat																																			
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		0.68	20.00		1.00	20.00		0.99	20.00		20.00				0.46	15.00		0.47	15.00		15.00				0.83	20.00		0.86	20.00		20.00		18.33	Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 10 mm DBH at year 100 - and thus available for foraging to koala. Scores therefore do not change at year 10.
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*	3.00	5.00		2.00	5.00		3.00	5.00		5.00				3.00	5.00		4.00	10.00		7.50			2.00	5.00		3.00	5.00		5.00		5.83	
Tree density (per hectare stem count) of LIKT species	*20*		1.50	20.00		1.36	20.00		0.64	15.00		18.33				0.12	5.00		0.11	5.00		5.00			0.13	5.00		0.11	5.00		5.00		9.44	
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00				0.00	0.00		0.00	0.00		0.00			0.00	0.00		1.00	10.00		5.00		5.00	
MAX Score	**60**			55.00			55.00			50.00		53.33					25.00			30.00		27.50					30.00			40.00		35.00		38.61	
% of total score				91.67			91.67			83.33		88.89					41.67			50.00		45.83					50.00			66.67		58.33		64.35	
scaled score				**10.00**			**10.00**			**10.00**		**10.00**					**5.00**			**5.00**		**5.00**					**5.00**			**5.00**		**5.00**		**5.00**	
Quality and availability of shelter																																			
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		1.00	1.00		0.00	0.00		1.00	1.00		0.67				5.00	5.00		1.00	1.00		3.00			0.00	0.00		0.00	0.00		0.00		1.22	
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		1.65	20.00		1.36	20.00		0.85	15.00		18.33				0.66	15.00		0.30	5.00		10.00			1.00	20.00		0.54	15.00		17.50		15.28	
Recruitment of all Forage/Shelter tree species (% of total tree species dive	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00				1.00	10.00		0.00	0.00		5.00			0.00	0.00		15.00	10.00		5.00		6.67	
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		1.57	20.00		1.36	20.00		0.85	20.00		20.00				0.13	5.00		0.14	5.00		5.00			0.14	5.00		0.11	5.00		5.00		10.00	
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	5.00		5.00				5.00	5.00		5.00	5.00		5.00			1.00	1.00		1.00	1.00		1.00		3.67	will not change.
MAX Score	**70**			56.00			55.00			51.00		54.00					40.00			16.00		28.00					26.00			31.00		28.50		36.83	
% of total score				80.00			78.57			72.86		77.14					57.14			22.86		40.00					37.14			44.29		40.71		52.62	
scaled score				**10.00**			**5.00**			**5.00**		**5.00**					**5.00**			**1.00**		**5.00**					**5.00**			**5.00**		**5.00**		**5.00**	
Species mobility																																			
Physical barriers – structures / fences / powerlines / services / dams / wate	*10*		Low	10.00		Low	10.00		Low	10.00		10.00				Low	10.00		Low	10.00		10.00				Low	10.00		Low	10.00		10.00		10.00	
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		0.00	20.00		20.00				0.51	7.00		0.51	7.00		7.00			0.51	7.00		0.51	7.00		7.00		11.33	throughout the site to between 80 and 50% by year 5.
MAX Score	**30**			30.00			30.00			30.00		30.00					17.00			17.00		17.00					17.00			17.00		17.00		21.33	
% of total score				100.00			100.00			100.00		100.00					56.67			56.67		56.67					56.67			56.67		56.67		71.11	
scaled score				**10.00**			**10.00**			**10.00**		**10.00**					**7.00**			**7.00**		**7.00**					**7.00**			**7.00**		**7.00**		**7.00**	

Species Stocking Rate (SSR)						**AU1**	**AU2**	**AU3**
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10	5	5
		No	Yes - adjacent	Yes - on site				
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15	5	5
		Not habitat	Dispersal	Foraging	Breeding			
Approximate density (per ha)	Score	0	10	20	30	10	0	0
		0%	low	medium	high			
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5	5	5
		0	5 - 15	20 - 35	40 - 45			
Total SRR score (out of 70)						40	15	15
SRR Score (out of 4)						**2.3**	**0.9**	**0.9**

Supplementary table for threats scoring			Score			Result			
Listed threatening proc	**Scoring indicator**	**Score weighting**	**1**	**7**	**15**	**Score**	**Average / Weighted score**	**Final result**	**Anticiapted change**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	7	2.1		Reduced fuel load due to management of Lantana camara infestations which inflate shrub layer biomass. Score change from high to moderate at year 5 due to the initial years on intensive weed management.
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	7			no change at year 5.
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	1	0.6		no change at year 5.
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	15			no change.
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								10.95	
Scaled score (1-5=1; 6-10=7; 11-15=15)								7	rounded score to moderate.

***SSR Supplementary Table**				**AU1**	**AU2**	**AU3**
*Key source population for breeding	Score	0	10	0	0	0
		No	Yes/ Possibly			
*Key source population for dispersal	Score	0	5	5	5	5
		No	Yes/ Possibly			
*Necessary for maintaining genetic diversity	Score	0	15	0	0	0
		No	Yes/ Possibly			
*Near the limit of the species range	Score	0	15	0	0	0
		No	Yes			
Total for SSR Supplementary Table				**5**	**5**	**5**

Final habitat quality score (weighted)	**AU1**	**AU2**	**AU3**	**Ave / Final**
Site Condition score (out of 3)	2.46	1.45	1.15	1.69
Site Context Score (out of 3)	2.41	2.36	2.36	2.38
Species Stocking Rate Score (out of 4)	*2.29*	*0.86*	*0.86*	*2.29*
Habitat Quality score (out of 10)	*7.16*	*4.66*	*4.36*	*6.35*
Habitat Quality score (Rounded)	*7.00*	*6.00*	*5.00*	*6.00*
Assessment Unit area (ha)	61.35	20.63	6.65	88.63
Total offset area (ha) for this MNES	88.63	88.92	88.92	88.82
Size Weightting	0.69	0.23	0.07	1.00
Weighted Habitat Quality Score	***4.95***	***1.08***	***0.33***	***6.36***

6

OFFSET - KOALA Woolshed Year 10

linked cell

koala scat

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2													AU 2 - Remnant RE12.8.17									AU 3 - Remnant RE12.8.24									Totals		
		HQP 1a			HQP3a			HQP 2a							OA AU2 T1			OA AU2 T2						OA AU3 T1			OA AU3 T2							
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3			Average %		Benchmark	Transect 1			Transect 2			Average %	Average	Benchmark	Transect 1			Transect 2			Average %	Average	Average %	Average Score	
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Average Score	12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	12.8.24	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	benchmark		
Site Condition																																		
Recruitment of woody perennial species in EDL	100	100	100%	5.0	90	90%	5.0	100	100%	5.0	97%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	92%	5.00	The assisted regeneration of trees will ensure recuitment in taking place. Natural recruitment is assumed following year 15.
Native plant species richness - trees	6	8	133%	5.0	5	83%	2.5	8	133%	5.0	117%	4.17	7	9	129%	5.0	8	114%	5.0	121%	5.00	7	9	129%	5.0	4	57%	2.5	93%	3.75	110%	4.31	although assisted planting has taken place, species richness will not be reflected until trees are contributing to the T1/T2 layer.
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	4	80%	2.5	5	100%	5.0	90%	3.75	7	6	86%	2.5	3	43%	2.5	64%	2.50	107%	3.75	native shrub layer is expected to be more dense with assisted regeneration species. Spp richness may increase by 1-2 species.
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	8	67%	2.5	4	33%	2.5	50%	2.50	13	5	38%	2.5	5	38%	2.5	38%	2.50	80%	3.33	assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. AU1 - no predicted change. AU2 - One new native grass species is expected to accumulate each vegetation survey year. AU3 - assisted reveg of native grasses will take place.
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	12	92%	5.0	126%	5.00	27	13	48%	2.5	7	26%	2.5	37%	2.50	28	9	32%	2.5	8	29%	2.5	30%	2.50	64%	3.33	Native forbs are expected to regenerate naturally over time to align with benchmark values, especially following good rain years. Estimated at 2 new species each vegetation survey year (for sites below benchmark).
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	11.0	76%	5.0	100%	5.00	19	16.5	87%	5.0	12.5	66%	3.0	76%	4.00	95%	4.67	Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00	canopy cover has attained high score.
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	2.5	50%	3.0	2.5	50%	3.0	50%	3.00	7	2.5	36%	3.0	2.5	36%	3.0	36%	3.00	77%	3.67	expected increase in native shrub cover at AU2 and AU3, following the removal of lantana and assisted regeneration of native species.
Native grass cover	21	10.2	49%	1.0	16	76%	3.0	27.6	131%	5.0	85%	3.00	32	18.9	59%	3.0	5.2	16%	1.0	38%	2.00	8	5	63%	3.0	5	63%	3.0	63%	3.00	62%	2.67	Native grasses are expected to observably recovering by year 10. An estimated 5% increase is reflected in scores.
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	7	33%	3.0	71%	4.00	32	2	6%	0.0	2	6%	0.0	6%	0.00	63%	3.00	organic litter regeneration is expected to be low in year 10. This is attributed to the early stages of assisted regeneration and a predicted more dense native shrub layer in year 10. A 2% cover increase is reflected at sites which are below benchmark.
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67	24	18	75%	10.0	6	25%	5.0	50%	7.50	25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89	no change predicted at yr 10
Coarse woody debris	506	1020	202%	2.0	1190	235%	2.0	370	73%	5.0	170%	3.00	234	10	4%	0.0	24%	1.00	764	100	13%	2.0	100	43%	2.0	30	4%	0.0	9%	1.00	67%	1.67	no change predicted at yr 10
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	10.3	10%	5.0		5.0	0	15	15%	5.0	30	30%	3.0	23%	4.00	0	15	15%	5.0	15	15%	5.0	15%	5.00	19%	4.67	all sites maintained below 15% weed cover.
Quality and availability of food and foraging habitat	N/A	10		10.0	10		10.0	10		10.0		10.0	N/A	5		5.0	5		5.0		5.0	10	5		5.0	5		5.0		5.0		6.67	no predicted change
Quality and availability of shelter	N/A	10		10.0	5		5.0	5		5.0		6.7	N/A	5		5.0	1		1.0		3.0	10	5		5.0	5		5.0		5.0		4.89	no predicted change
Site Condition Score				83			82.5			85		83.5				*64*			*53*		58.3				*61*			*49*		54.8		65.5	
MAX Site Condition Score				*100*			*100*			*100*		*100*				*100*			*100*		*100*				*100*			*100*		*100*		*100*	
Site Condition Score - out of 3				**2.49**			**2.48**			**2.55**		**2.51**				***1.91***			***1.59***		**1.75**				***1.82***			***1.47***		**1.64**		**1.97**	
Site Context																																		
Size of patch	10	>6200ha (Figure 50)		10			10			10		10.0	10	>6200ha (Figure 50)		10			10		10	10	>6200ha (Figure 50)		10			10		10		10.00	will not change.
Connectedness	5	89.8% (Figure 51)		5			5			5		5.0	5	89.8% (Figure 51)		5			5		5	5	89.8% (Figure 51)		5			5		5		5.00	will not change.
Context	5	72.83% (Figure 52)		4			4			4		4.0	5	72.83% (Figure 52)		4			4		4	5	72.83% (Figure 52)		4			4		4		4.00	will not change.
Role of site location to species overall population in the state	5	Critical Habitat		5			5			5		5.0	5	Critical Habitat		5			5		5	5	Critical Habitat		5			5		5		5.00	
Role of site location to species overall population in the state	5	Critical Habitat		5			5			5		5.0	5	Critical Habitat		5			5		5	5	Critical Habitat		5			5		5		5.00	
Threats to the species	15	Low level threats		15			15			1		10.3	15	Low level threats		15			15		15	15	Low level threats		15			15		15		13.44	Threats are reduced due to management of wild dog and high fuel loads caused by Lantana camara
Species mobility capacity	10			10.00			10.00			10		10.0	10			10.00			10		10	10			10			10		10		10.00	Mobility is improved due to the management of exotic vegetated barriers, which is Lantana camara at the Woolshed offset site.
Site Context Score				54			54			40		49.3				54			54		54				54			54		54		52.44	
MAX Site Context Score				56			56			56		56				56			56		56				56			56		56		56	
Site Context Score - out of 3				**2.89**			**2.89**			**2.14**		**2.64**				**2.89**			**2.89**		**2.89**				**2.89**			**2.89**		**2.89**		**2.81**	
Habitat Quality		Raw Data		Score	Raw Data		Score	Raw Data		Score		Average Score		Raw Data		Score	Raw Data		Score		Average Score		Raw Data		Score	Raw Data		Score		Average Score		Average Score	
Quality and availability of food and foraging habitat																																		
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*	0.68		20.00	1.00		20.00	0.99		20.00		20.00		0.46		15.00	0.47		15.00		15.00		0.83		20.00	0.86		20.00		20.00		18.33	Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 10 mm DBH at year 100 - and thus available for foraging to koala. Scores therefore do not change at year 10. Improvement in recruitment scores is evident at year 10, as well as stem counts.
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*	3.00		5.00	3.00		5.00	3.00		5.00		5.00		3.00		5.00	4.00		10.00		7.50		2.00		5.00	3.00		5.00		5.00		5.83	
Tree density (per hectare stem count) of LIKT species	*20*	1.50		20.00	1.36		20.00	0.70		15.00		18.33		0.21		5.00	0.20		5.00		5.00		0.24		5.00	0.21		5.00		5.00		9.44	
Recruitment of LIKT species only (% of total LIKT within plot)	*10*	1.00		10.00	1.00		10.00	1.00		10.00		10.00		1.00		10.00	1.00		10.00		10.00		1.00		10.00	1.00		10.00		10.00		10.00	
MAX Score	**60**			55.00			55.00			50.00		53.33				35.00			40.00		37.50				40.00			40.00		40.00		43.61	
% of total score				91.67			91.67			83.33		88.89				58.33			66.67		62.50				66.67			66.67		66.67		72.69	
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**	
Quality and availability of shelter																																		
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*	1.00		1.00	0.00		0.00	1.00		1.00		0.67		5.00		5.00	1.00		1.00		3.00		0.00		0.00	0.00		0.00		0.00		1.22	
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*	1.65		20.00	1.36		20.00	0.85		15.00		18.33		0.66		15.00	0.30		5.00		10.00		1.00		20.00	0.54		15.00		17.50		15.28	
Recruitment of all Forage/Shelter tree species (% of total tree species diversit	*10*	1.00		10.00	1.00		10.00	1.00		10.00		10.00		1.00		10.00	0.50		5.00		7.50		0.50		5.00	1.00		10.00		7.50		8.33	
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*	1.57		20.00	1.36		20.00	0.95		20.00		20.00		0.23		5.00	0.21		5.00		5.00		0.24		5.00	0.21		5.00		5.00		10.00	
Proximity to habitat refugia	*10*	5.00		5.00	5.00		5.00	5.00		5.00		5.00		5.00		5.00	5.00		5.00		5.00		1.00		1.00	1.00		1.00		1.00		3.67	will not change.
MAX Score	**70**			56.00			55.00			51.00		54.00				40.00			21.00		30.50				31.00			31.00		31.00		38.50	
% of total score				80.00			78.57			72.86		77.14				57.14			30.00		43.57				44.29			44.29		44.29		55.00	
scaled score				**10.00**			**5.00**			**5.00**		**5.00**				**5.00**			**1.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**	
Species mobility																																		
Physical barriers – structures / fences / powerlines / services / dams / waterco	*10*	Low		10.00	Low		10.00	Low		10.00		10.00		Low		10.00	Low		10.00		10.00		Low		10.00	Low		10.00		10.00		10.00	
Exotic vegetation barriers	*20*	0.00		20.00	0.00		20.00	0.00		20.00		20.00		0.25		15.00	0.25		15.00		15.00		0.25		15.00	0.25		15.00		15.00		16.67	Mobility improved upon mangement of dense lantana infestations throughout the site to below 25% cover by year 10.
MAX Score	**30**			30.00			30.00			30.00		30.00				25.00			25.00		25.00				25.00			25.00		25.00		26.67	
% of total score				100.00			100.00			100.00		100.00				83.33			83.33		83.33				83.33			83.33		83.33		88.89	
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**		**10.00**	

Species Stocking Rate (SSR)						AU1	AU2	AU3
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10	5	5
		No	Yes - adjacent	Yes - on site				
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15	15	15
		Not habitat	Dispersal	Foraging	Breeding			
Approximate density (per ha)	Score	0	10	20	30	10	0	0
		0%	low	medium	high			
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5	5	5
		0	5 - 15	20 - 35	40 - 45			
Total SRR score (out of 70)						40	25	25
SRR Score (out of 4)						**2.3**	**1.4**	**1.4**

Supplementary table for threats scoring			Score			Result			
Listed threatening pr	**Scoring indicator**	**Score weighting**	**1**	**7**	**15**	**Score**	**Average / Weighted score**	**Final result**	**Anticiapted change**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		further reduction in fuel load to score of low. Reflection of maintained intensive weed management.
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	7			no change at year 5.
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	1	0.6		no change at year 5.
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	15			no change.
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	7	1.65		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								12.75	
Scaled score (1-5=1; 6-10=7; 11-15=**15**)								15	rounded score to low.

*SSR Supplementary Table				AU1	AU2	AU3
*Key source population for breeding	Score	0	10	0	0	0
		No	Yes/ Possibly			
*Key source population for dispersal	Score	0	5	5	5	5
		No	Yes/ Possibly			
*Necessary for maintaining genetic diversity	Score	0	15	0	0	0
		No	Yes/ Possibly			
*Near the limit of the species range	Score	0	15	0	0	0
		No	Yes			
Total for SSR Supplementary Table				**5**	**5**	**5**

Final habitat quality score (weighted)	**AU1**	**AU2**	**AU3**	**Ave / Final**
Site Condition score (out of 3)	2.51	1.75	1.64	1.97
Site Context Score (out of 3)	2.64	2.89	2.89	2.81
Species Stocking Rate Score (out of 4)	*2.29*	*1.43*	*1.43*	2.29
Habitat Quality score (out of 10)	*7.43*	*6.07*	5.96	*7.06*
Habitat Quality score (Rounded)	*7.00*	*6.00*	*5.00*	*6.00*
Assessment Unit area (ha)	61.35	20.63	6.65	88.63
Total offset area (ha) for this MNES	88.63	88.92	88.92	88.82
Size Weighting	0.69	0.23	0.07	1.00
Weighted Habitat Quality Score	***5.15***	***1.41***	***0.45***	***7.00***

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OFFSET - KOALA Woolshed Year 15 | linked cell | 71.00 | 58.50 | 51.75

koala scat

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2												AU 2 - Remnant RE12.8.17									AU 3 - Remnant RE12.8.24								Totals		
		HQP 1a			HQP3a			HQP 2a						OA AU2 T1			OA AU2 T2						OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3					Benchmark	Transect 1			Transect 2			Average %	Average	Benchmark	Transect 1			Transect 2			Average %	Average	Average %	Average
	12.9-10.2	Raw Data	% Benchmar	Score	Raw Data	% Benchmar	Score	Raw Data	% Benchmar	Score	Average % benchmark	Average Score	12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmar	Score	12.8.24	Raw Data	% Benchmar	Score	Raw Data	% Benchmar	Score	benchmar	Score	benchmark	Average Score
Site Condition																																	
Recruitment of woody perennial species in EDL	100	100	100%	5.0	90	90%	5.0	100	100%	5.0	97%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	92%	5.00
Native plant species richness - trees	6	8	133%	5.0	6	100%	5.0	8	133%	5.0	122%	5.00	7	9	129%	5.0	8	114%	5.0	121%	5.00	7	9	129%	5.0	5	71%	2.5	100%	3.75	115%	4.58
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	5	100%	5.0	5	100%	5.0	100%	5.00	7	6	86%	2.5	4	57%	2.5	71%	2.50	113%	4.17
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	9	75%	2.5	5	42%	2.5	58%	2.50	13	6	46%	2.5	6	46%	2.5	46%	2.50	86%	3.33
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	12	92%	5.0	126%	5.00	27	15	56%	2.5	9	33%	2.5	44%	2.50	28	11	39%	2.5	10	36%	2.5	38%	2.50	69%	3.33
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	11.0	76%	5.0	100%	5.00	19	16.5	87%	5.0	13.0	68%	3.0	78%	4.00	96%	4.67
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	3	60%	5.0	3	60%	5.0	60%	5.00	7	3	43%	3.0	3	43%	3.0	43%	3.00	83%	4.33
Native grass cover	21	15.2	72%	3.0	21	100%	5.0	27.6	131%	5.0	101%	4.33	32	24	75%	3.0	10.2	32%	1.0	53%	2.00	8	7	88%	3.0	7	88%	3.0	88%	3.00	81%	3.11
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	12	57%	5.0	83%	5.00	32	7	22%	3.0	7	22%	3.0	22%	3.00	72%	4.33
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67	24	18	75%	10.0	6	25%	5.0	50%	7.50	25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89
Coarse woody debris	506	520	103%	5.0	690	136%	5.0	370	73%	5.0	104%	5.00	234	260	111%	5.0	250	107%	5.0	109%	5.00	764	475	62%	5.0	455	60%	5.0	61%	5.00	91%	5.00
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	10.3	10%	5.0		5.0	0	15	15%	5.0	30	30%	3.0	23%	4.00	0	15	15%	5.0	15	15%	5.0	15%	5.00	19%	4.67
Quality and availability of food and foraging habitat	N/A	10		10.0	10		10.0	10		10.0		10.0	N/A	10		10.0	10		10.0		10.0	10	5		5.0	5		5.0		5.0		8.33
Quality and availability of shelter	N/A	10		10.0	10		10.0	10		10.0		10.0	N/A	5		5.0	5		5.0		5.0	10	5		5.0	5		5.0		5.0		6.67
Site Condition Score				88			95			90		91.0				*78*			*69*		73.5				*67*			*57*		61.8		75.4
MAX Site Condition Score				*100*			*100*			*100*		*100*				*100*			*100*		*100*				*100*			*100*		*100*		*100*
Site Condition Score - out of 3				**2.64**			**2.85**			**2.70**		**2.73**				***2.34***			***2.07***		**2.21**				***2.00***			***1.71***		**1.85**		**2.26**
Site Context																																	
Size of patch	10	>6200ha (Figure 50)		10			10			10		10.0	10	>6200ha (Figure 50)		10			10		10	10	>6200ha (Figure 50)		10			10		10		10.00
Connectedness	5	89.8% (Figure 51)		5			5			5		5.0	5	89.8% (Figure 51)		5			5		5	5	89.8% (Figure 51)		5			5		5		5.00
Context	5	72.83% (Figure 52)		4			4			4		4.0	5	72.83% (Figure 52)		4			4		4	5	72.83% (Figure 52)		4			4		4		4.00
Ecological Corridors	6	in state corridor		6			6			6		6.0	6	in state corridor		6			6		6	6	in state corridor		6			6		6		6.00
Role of site location to species overall population in the state	5	Critical Habitat		5			5			5		5.0	5	Critical Habitat		5			5		5	5	Critical Habitat		5			5		5		5.00
Threats to the species	15	Low level threats		15			15			1		10.3	15	Low level threats		15			15		15	15	Low level threats		15			15		15		13.44
Species mobility capacity	10			10.00			10.00			10		10.0	10			10.00			10		10	10			10			10		10		10.00
Site Context Score				55			55			41		50.3				55			55		55				55			55		55		53.44
MAX Site Context Score				56			56			56		56				56			56		56				56			56		56		56
Site Context Score - out of 3				**2.95**			**2.95**			**2.20**		**2.70**				**2.95**			**2.95**		**2.95**				**2.95**			**2.95**		**2.95**		**2.86**
Habitat Quality			Raw Data	Score		Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score
Quality and availability of food and foraging habitat																																	
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		0.68	20.00		1.00	20.00		0.99	20.00		20.00			0.75	20.00		0.75	20.00		20.00			0.83	20.00		0.86	20.00		20.00		20.00
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		3.00	5.00		3.00	5.00		3.00	5.00		5.00			4.00	10.00		4.00	10.00		10.00			3.00	5.00		3.00	5.00		5.00		6.67
Tree density (per hectare stem count) of LIKT species	*20*		1.50	20.00		1.36	20.00		0.79	20.00		20.00			0.31	10.00		0.29	10.00		10.00			0.33	10.00		0.30	10.00		10.00		13.33
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00			1.00	10.00		1.00	10.00		10.00			1.00	10.00		1.00	10.00		10.00		10.00
MAX Score	**60**			55.00			55.00			55.00		55.00				50.00			50.00		50.00				45.00			45.00		45.00		50.00
% of total score				91.67			91.67			91.67		91.67				83.33			83.33		83.33				75.00			75.00		75.00		83.33
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**				**5.00**			**5.00**		**5.00**		**10.00**
Quality and availability of shelter																																	
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		1.00	1.00		1.00	1.00		1.00	1.00		1.00			5.00	5.00		1.00	1.00		3.00			1.00	1.00		1.00	1.00		1.00		1.67
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		1.65	20.00		1.36	20.00		0.90	20.00		20.00			0.90	20.00		0.90	20.00		20.00			1.00	20.00		0.90	20.00		20.00		20.00
Recruitment of all Forage/Shelter tree species (% of total tree species dive	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00			1.00	10.00		0.50	5.00		7.50			0.50	5.00		15.00	10.00		7.50		8.33
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		1.57	20.00		1.36	20.00		1.40	20.00		20.00			0.33	10.00		0.31	10.00		10.00			0.34	10.00		0.31	10.00		10.00		13.33
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	5.00		5.00			5.00	5.00		5.00	5.00		5.00			1.00	1.00		1.00	1.00		1.00		3.67
MAX Score	**70**			56.00			56.00			56.00		56.00				50.00			41.00		45.50				37.00			42.00		39.50		47.00
% of total score				80.00			80.00			80.00		80.00				71.43			58.57		65.00				52.86			60.00		56.43		67.14
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Species mobility																																	
Physical barriers – structures / fences / powerlines / services / dams / wat	*10*		Low	10.00		Low	10.00		Low	10.00		10.00			Low	10.00		Low	10.00		10.00			Low	10.00		Low	10.00		10.00		10.00
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		0.00	20.00		20.00			0.10	20.00		0.10	20.00		20.00			0.10	20.00		0.10	20.00		20.00		20.00
MAX Score	**30**			30.00			30.00			30.00		30.00				30.00			30.00		30.00				30.00			30.00		30.00		30.00
% of total score				100.00			100.00			100.00		100.00				100.00			100.00		100.00				100.00			100.00		100.00		100.00
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**		**10.00**

The assisted regeneration of trees will ensure recuitment in taking place. Natural recruitment is assumed following year 15.
By year 15, assisted regeneration trees are expected to exceed 100 mm DBH, and therefore contribute to the T1/T2 layer.
Spp richness may increase by 1-2 species.

assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. AU1 - no predicted change. AU2 - One new native grass species is expected to accumulate each vegetation survey year. AU3 - assisted reveg of native grasses will take place.
Native forbs are expected to regenerate naturally over time to align with benchmark values, especially following good rain years. Estimated at 2 new species each vegetation survey year (for sites below benchmark).
Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
canopy cover has attained high score.
expected increase in native shrub cover at AU2 and AU3, following the removal of lantana and assisted regeneration of native species.
Native grasses are expected to continue to recover by year 15. An estimated 2-5% increase is reflected in scores.
organic litter regeneration is expected to accelerate more at year 15. A 2-5% cover increase is reflected at sites which are below benchmark.
no change predicted at yr 10

the over crowding of CWD at AU1 will be redistributed between AU2 and AU3.
all sites maintained below 15% weed cover.

will not change.
will not change.
will not change.
will not change.
by Lantana camara
is Lantana camara at the Woolshed offset site.

At year 15, it is assumed trees are exceeding 100 mm DBH and thus are considered available to koala for habitat. Scoring has been modified to reflect assisted regeneration.

will not change.

Mobility improved upon mangement of dense lantana infestations throughout the site to below 10% cover.

Species Stocking Rate (SSR)						AU1	AU2	AU3
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10	10	10
		No	Yes - adjacent	Yes - on site				
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15	15	15
		Not habitat	Dispersal	Foraging	Breeding			
Approximate density (per ha)	Score	0	10	20	30	10	10	10
		0%	low	medium	high			
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5	5	5
		0	5 - 15	20 - 35	40 - 45			
Total SRR score (out of 70)						40	40	40
SRR Score (out of 4)						**2.3**	**2.3**	**2.3**

*SSR Supplementary Table				AU1	AU2	AU3
*Key source population for breeding	Score	0	10	0	0	0
		No	Yes/ Possibly			
*Key source population for dispersal	Score	0	5	5	5	5
		No	Yes/ Possibly			
*Necessary for maintaining genetic diversity	Score	0	15	0	0	0
		No	Yes/ Possibly			
*Near the limit of the species range	Score	0	15	0	0	0
		No	Yes			
	Total for SSR Supplementary Table			**5**	**5**	**5**

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final
Site Condition score (out of 3)	2.73	2.21	1.85	2.26
Site Context Score (out of 3)	2.70	2.95	2.95	2.86
Species Stocking Rate Score (out of 4)	*2.29*	*2.29*	*2.29*	*2.29*
Habitat Quality score (out of 10)	*7.71*	*7.44*	*7.08*	*7.41*
Habitat Quality score (Rounded)	*7.00*	*6.00*	*5.00*	*6.00*
Assessment Unit area (ha)	61.35	20.63	6.65	88.63
Total offset area (ha) for this MNES	88.63	88.92	88.92	88.82
Size Weighting	0.69	0.23	0.07	1.00
Weighted Habitat Quality Score	***5.34***	***1.73***	***0.53***	***7.59***

8

Supplementary table for threats scoring			Score			Result			
Listed threatening process	Scoring indicator	Score weighting	1	7	15	Score	Average / Weighted score	Final result	Anticiapted change
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		Maintain score of low.
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15			Maintained score of low activity rate due to pest management
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	1	1.2		Likely traces are detected through survey effort, despite low population numbers. '
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	15			no change.
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								13.95	
Scaled score (1-5=1; 6-10=7; 11-15=15)								15	rounded score to low.

OFFSET - KOALA Woolshed Year 20 linked cell

koala scat

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2												AU 2 - Remnant RE12.8.17									AU 3 - Remnant RE12.8.24									Totals	
	HQP 1a				HQP3a				HQP 2a					OA AU2 T1			OA AU2 T2						OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3					Benchmark	Transect 1			Transect 2			Average %	Average	Benchmark	Transect 1			Transect 2			Average %	Average	Average %	
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	12.8.24	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	benchmark	Average Score	
Site Condition																																	
Recruitment of woody perennial species in EDL	100	100	100%	5.0	90	90%	5.0	100	100%	5.0	97%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	92%	5.00
Native plant species richness - trees	6	8	133%	5.0	6	100%	5.0	8	133%	5.0	122%	5.00	7	9	129%	5.0	8	114%	5.0	121%	5.00	7	9	129%	5.0	5	71%	2.5	100%	3.75	115%	4.58
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	5	100%	5.0	5	100%	5.0	100%	5.00	7	6	86%	2.5	4	57%	2.5	71%	2.50	113%	4.17
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	10	83%	2.5	6	50%	2.5	67%	2.50	13	7	54%	2.5	7	54%	2.5	54%	2.50	91%	3.33
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	12	92%	5.0	126%	5.00	27	17	63%	2.5	11	41%	2.5	52%	2.50	28	13	46%	2.5	12	43%	2.5	45%	2.50	74%	3.33
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	11.0	76%	5.0	100%	5.00	19	16.5	87%	5.0	13.5	71%	5.0	79%	5.00	96%	5.00
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	3	60%	5.0	3	60%	5.0	60%	5.00	7	4	57%	5.0	4	57%	5.0	57%	5.00	88%	5.00
Native grass cover	21	20	95%	5.0	21	100%	5.0	27.6	131%	5.0	109%	5.00	32	29	91%	5.0	17	53%	3.0	72%	4.00	8	10	125%	5.0	10	125%	5.0	125%	5.00	102%	4.67
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	17	81%	5.0	95%	5.00	32	12	38%	3.0	12	38%	3.0	38%	3.00	82%	4.33
Large trees (euc plus non-euc)	38	34	89%	10.0	54	142%	15.0	42	111%	15.0	114%	13.33	24	22	92%	10.0	10	42%	5.0	67%	7.50	25	20	80%	10.0	6	24%	5.0	52%	7.50	78%	9.44
Coarse woody debris	506	520	103%	5.0	690	136%	5.0	370	73%	5.0	104%	5.00	234	260	111%	5.0	250	107%	5.0	109%	5.00	764	475	62%	5.0	455	60%	5.0	61%	5.00	91%	5.00
Non-native plant cover	0	10	10%	5.0	10	10%	5.0	10.3	10%	5.0		5.0	0	10	10%	5.0	10	10%	5.0	10%	5.00	0	10	10%	5.0	10	10%	5.0	10%	5.00	10%	5.00
Quality and availability of food and foraging habitat	N/A	10.00		10.0	10		10.0	10		10.0		10.0	N/A	10		10.0	10		10.0		10.0	10	5		5.0	5		5.0		5.0		8.33
Quality and availability of shelter	N/A	10.00		10.0	10		10.0	10		10.0		10.0	N/A	5		5.0	5		5.0		5.0	10	5		5.0	5		5.0		5.0		6.67
Site Condition Score				90			95			95		93.3				80			73		76.5				71			63		66.8		78.9
MAX Site Condition Score				*100*			*100*			*100*		*100*				*100*			*100*		*100*				*100*			*100*		*100*		*100*
Site Condition Score - out of 3				**2.70**			**2.85**			**2.85**		**2.80**				***2.40***			***2.19***		**2.30**				***2.12***			***1.89***		**2.00**		**2.37**
Site Context																																	
Size of patch	10	>6200ha (Figure 50)		10			10			10		10.0	10	>6200ha (Figure 50)		10			10		10	10	>6200ha (Figure 50)		10			10		10		10.00
Connectedness	5	89.8% (Figure 51)		5			5			5		5.0	5	89.8% (Figure 51)		5			5		5	5	89.8% (Figure 51)		5			5		5		5.00
Context	5	72.83% (Figure 52)		4			4			4		4.0	5	72.83% (Figure 52)		4			4		4	5	72.83% (Figure 52)		4			4		4		4.00
Ecological Corridors	6	in state corridor		6			6			6		6.0	6	in state corridor		6			6		6	6	in state corridor		6			6		6		6.00
Role of site location to species overall population in the state	5	Critical Habitat		5			5			5		5.0	5	Critical Habitat		5			5		5	5	Critical Habitat		5			5		5		5.00
Threats to the species	15	Low level threats		15			15			15		15.0	15	Low level threats		15			15		15	15	Low level threats		15			15		15		15.00
Species mobility capacity	10			10			10			10		10.0	10			10			10		10	10			10			10		10		10.00
Site Context Score				55			55			55		55.0				55			55		55				55			55		55		55.00
MAX Site Context Score				56			56			56		56				56			56		56				56			56		56		56
Site Context Score - out of 3				**2.95**			**2.95**			**2.95**		**2.95**				**2.95**			**2.95**		**2.95**				**2.95**			**2.95**		**2.95**		**2.95**
Habitat Quality			Raw Data	Score		Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score
Quality and availability of food and foraging habitat																																	
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		0.68	20.00		1.00	20.00		0.99	20.00		20.00			0.75	20.00		0.75	20.00		20.00			0.83	20.00		0.86	20.00		20.00		20.00
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		3.00	5.00		3.00	5.00		3.00	5.00		5.00			4.00	10.00		4.00	10.00		10.00			3.00	5.00		3.00	5.00		5.00		6.67
Tree density (per hectare stem count) of LIKT species	*20*		1.50	20.00		1.36	20.00		0.79	20.00		20.00			0.40	10.00		0.41	10.00		10.00			0.42	10.00		0.38	10.00		10.00		13.33
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00			1.00	10.00		1.00	10.00		10.00			1.00	10.00		1.00	10.00		10.00		10.00
MAX Score	**60**			55.00			55.00			55.00		55.00				50.00			50.00		50.00				45.00			45.00		45.00		50.00
% of total score				91.67			91.67			91.67		91.67				83.33			83.33		83.33				75.00			75.00		75.00		83.33
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**				**5.00**			**5.00**		**5.00**		**10.00**
Quality and availability of shelter																																	
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		5.00	5.00		1.00	1.00		1.00	1.00		2.33			5.00	5.00		5.00	5.00		5.00			5.00	5.00		5.00	5.00		5.00		4.11
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		1.65	20.00		1.36	20.00		0.90	20.00		20.00			0.90	20.00		0.90	20.00		20.00			1.00	20.00		0.90	20.00		20.00		20.00
Recruitment of all Forage/Shelter tree species (% of total tree species diversit	*10*		1.00	10.00		1.00	10.00		1.00	10.00		10.00			1.00	10.00		0.75	10.00		10.00			0.75	10.00		15.00	10.00		10.00		10.00
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		1.57	20.00		1.36	20.00		1.40	20.00		20.00			0.43	10.00		0.44	10.00		10.00			0.44	10.00		0.41	10.00		10.00		13.33
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	5.00		5.00			5.00	5.00		5.00	5.00		5.00			1.00	1.00		1.00	1.00		1.00		3.67
MAX Score	**70**			60.00			56.00			56.00		57.33				50.00			50.00		50.00				46.00			46.00		46.00		51.11
% of total score				85.71			80.00			80.00		81.90				71.43			71.43		71.43				65.71			65.71		65.71		73.02
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Species mobility																																	
Physical barriers – structures / fences / powerlines / services / dams / waterco	*10*		Low	10.00		Low	10.00		Low	10.00		10.00			Low	10.00		Low	10.00		10.00			Low	10.00		Low	10.00		10.00		10.00
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		0.00	20.00		20.00			0.10	20.00		0.10	20.00		20.00			0.10	20.00		0.10	20.00		20.00		20.00
MAX Score	**30**			30.00			30.00			30.00		30.00				30.00			30.00		30.00				30.00			30.00		30.00		30.00
% of total score				100.00			100.00			100.00		100.00				100.00			100.00		100.00				100.00			100.00		100.00		100.00
scaled score				**10.00**			**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**		**10.00**

The assisted regeneration of tr+AH8:AH61ees will ensure recuitment in taking place. Natural recruitment is assumed following year 15. By year 15, assisted regeneration trees are expected to exceed 100 mm DBH, and therefore contribute to the T1/T2 layer. Spp richness may increase by 1-2 species.

assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. AU1 - no predicted change. AU2 - One new native grass species is expected to accumulate each vegetation survey year. AU3 - assisted reveg of native grasses will take place. Native forbs are expected to regenerate naturally over time to align with benchmark values, especially following good rain years. Estimated at 2 new species each vegetation survey year (for sites below benchmark). Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained. canopy cover has attained high score. continued native shrub growth of up to 1 m cover between yr 15 and 20. Native grasses are expected to continue to recover by year 20. An estimated 2-5% increase is reflected in scores. organic litter regeneration is expected to accelerate more at year 15-20. A 2-5% cover increase is reflected at sites which are below benchmark. some large tree accummulation. See large tree predictions tab.

the over crowding of CWD at AU1 will be redistributed between AU2 and AU3. all sites maintained below 15% weed cover.

will not change. will not change. will not change. will not change. will not change. Threats are reduced due to management of wild dog and high fuel loads caused by Lantana camara Mobility is improved due to the management of exotic vegetated barriers, which is Lantana camara at the Woolshed offset site.

Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 100 mm DBH at year 10 - and thus available for foraging to koala. Scores therefore do not change at year 10.

will not change.

Mobility improved upon mangement of dense lantana infestations throughout the site to below 10% cover.

Species Stocking Rate (SSR)						AU1	AU2	AU3
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10	10	10
		No	Yes - adjacent	Yes - on site				
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15	15	15
		Not habitat	Dispersal	Foraging	Breeding			
Approximate density (per ha)	Score	0	10	20	30	10	10	10
		0%	low	medium	high			
Role/importance of species population on site*	Score (*Total from supplementary*	0	5	10	15	5	5	5
		0	5 - 15	20 - 35	40 - 45			
Total SRR score (out of 70)						40	40	40
SRR Score (out of 4)						**2.3**	**2.3**	**2.3**

*SSR Supplementary Table				AU1	AU2	AU3
*Key source population for breeding	Score	0	10	0	0	0
		No	Yes/ Possibly			
*Key source population for dispersal	Score	0	5	5	5	5
		No	Yes/ Possibly			
*Necessary for maintaining genetic diversity	Score	0	15	0	0	0
		No	Yes/ Possibly			
*Near the limit of the species range	Score	0	15	0	0	0
		No	Yes			
	Total for SSR Supplementary Table			**5**	**5**	**5**

Supplementary table for threats scoring			Score			Result			
Listed threatening process	**Scoring indicator**	**Score weighting**	**1**	**7**	**15**	**Score**	**Average / Weighted score**	**Final result**	**Anticiapted change**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		Maintain score of low.
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15			Maintain score.
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	1	1.2		Maintain score.
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	15			no change.
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								13.95	
Scaled score (1-5=1; 6-10=7; 11-15=**15**)								15	rounded score to low.

Habitat usage is improved to breeding after 20 years. this is based on the assumption that the recovery of habitat to remnant forest condition is adequateky supportive of meeting all habitat requirements to koala. Koala density score remains at 10, this is a precautionary approach as koala occupancy cannot be guaranteed.

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final
Site Condition score (out of 3)	2.80	2.30	2.00	2.37
Site Context Score (out of 3)	2.95	2.95	2.95	2.95
Species Stocking Rate Score (out of 4)	*2.29*	*2.29*	*2.29*	*2.29*
Habitat Quality score (out of 10)	*8.03*	*7.53*	*7.23*	*7.60*
Habitat Quality score (Rounded)	*7.00*	*6.00*	*5.00*	*6.00*
Assessment Unit area (ha)	61.35	20.63	6.65	88.63
Total offset area (ha) for this MNES	88.63	88.92	88.92	88.82
Size Weighting	0.69	0.23	0.07	1.00
Weighted Habitat Quality Score	***5.56***	***1.75***	***0.54***	***7.85***

28ºS ENVIRONMENTAL

Appendix 15.2: Woolshed Grey-headed Flying-fox Alternate HQA

Woolshed OFFSET - GHFF Baseline

Linked cell

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2											
		HQP 1a			HQP3a			HQP 2a				
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3				
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score
Site Condition												
Recruitment of woody perennial species in EDL	100	100	100%	5.0	33	33%	3.0	100	100%	5.0	78%	4.33
Native plant species richness - trees	6	8	133%	5.0	5	83%	2.5	8	133%	5.0	117%	4.17
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	10	77%	2.5	121%	4.17
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00
Native grass cover	21	5.2	25%	1.0	11	52%	3.0	27.6	131%	5.0	70%	3.00
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67
Coarse woody debris	506	1020	202%	2.0	1190	235%	2.0	370	73%	5.0	170%	3.00
Non-native plant cover	0	24.1	24%	5.0	23.7	24%	5.0	10.3	10%	5.0		5.0
Site Condition Score				63			65.5			67.5		65.3
MAX Site Condition Score				*80*			*80*			*80*		*80*
Site Condition Score - out of 20				**15.75**			**16.38**			**16.88**		**16.33**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**	**% contribution**	**Raw data**	**Score**		**Raw data**	**Score**		**Raw data**	**Score**		**Average Score**
Species richness	*20*	22.2	2	5.0		1	5		2	5		5
Flower score	*10*	11.1	0.65	8.0		0.65	8		0.65	8		8
Timing of Biological shortages	*10*	11.1	4	4.0		4	4		4	4		4
Quality of foraging habitat	*20*	22.2	2	5.0		1	5		2	5		5
non-native plant cover	*20*	22.2	0.24	10.0		0.24	10.0		0.1	10.0		10
Q+A foraging habitat + Q+A shelter habitat score				32.0			32.0			32.0		32.0
MAX Score	*80*			*80*			*80*			*80*		*80*
Site condition score	***20***	22.2		**15.8**			**16.4**			**16.9**		16.3
Q+A foraging habitat + Q+A shelter habitat score	***80***	88.9		**32.0**			**32.0**			**32.0**		32.0
Combined Habitat Quality Score				47.8			48.4			48.9		48.3
MAX Habitat Quality Score	*100*			*100*			*100*			*100*		*100*
Combined HQ Score- out of 4				**1.91**			**1.94**			**1.96**		**1.93**
Site Context	**Benchmark**		Data	Score								Average Score
Size of patch	*10*		>6200ha (Figure 50)	10.0			10.0			10.0		10.0
Connectedness	*10*		9 camps with 20 km	10.0			10.0			10.0		10.0
Context	*10*		>45% habitat within 20 km	10.0			10.0			10.0		10.0
Ecological Corridors	*10*		in state corridor	10.0			10.0			10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant camp	1.0			1.0			1.0		1.0
threats to the species	*10*		Moderate level threats	5.0			5.0			5.0		5.0
Site Context Score				46			46			46		46.0
MAX Site Context Score				*60*			*60*			*60*		*60*
Site Context Score - out of 3				**2.30**			**2.30**			**2.30**		**2.30**
Species Stocking Rate	**Benchmark**											Average Score
GHFF tree density per/ha	*10*		6	6		6	6		6	6		6
Site Context Score				6			6			6		6.0
MAX Site Context Score				*10*			*10*			*10*		*10*
Site Context Score - out of 3				**1.80**			**1.80**			**1.80**		**1.80**

Assessment Unit - Regional Ecosystem	AU 2 - Remnant RE12.8.17								
		OA AU2 T1			OA AU2 T2				
Site Reference	Benchmark	Transect 1			Transect 2			Average %	Average Score
	12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score		
Site Condition									
Recruitment of woody perennial species in EDL	100	66	66%	3.0	50	50%	3.0	58%	3.00
Native plant species richness - trees	7	9	129%	5.0	8	114%	5.0	121%	5.00
Native plant species richness - shrubs	5	3	60%	2.5	4	80%	2.5	70%	2.50
Native plant species richness - grasses	12	7	58%	2.5	3	25%	2.5	42%	2.50
Native plant species richness - forbes	27	11	41%	2.5	5	19%	0.0	30%	1.25
Tree canopy height (average of emergent, canopy, sub-canopy)	14.5	18.0	124%	5.0	10.0	69%	3.0	97%	4.00
Tree canopy cover (average of emergent, canopy, sub-canopy)	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00
Shrub canopy cover	5	0.1	2%	0.0	0	0%	0.0	1%	0.00
Native grass cover	32	13.8	43%	1.0	0.2	1%	0.0	22%	0.50
Organic litter	21	23	110%	5.0	4	19%	3.0	64%	4.00
Large trees (euc plus non-euc)	24	18	75%	10.0	6	25%	5.0	50%	7.50
Coarse woody debris	234	10	4%	0.0	100	43%	2.0	24%	1.00
Non-native plant cover	0	80	80%	0.0	100	100%	0.0	90%	0.00
Site Condition Score				*42*			*31*		36.3
MAX Site Condition Score				*80*			*80*		*80*
Site Condition Score - out of 20				***10.38***			***7.75***		**9.06**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**		**Raw data**	**Score**		**Raw data**	**Score**		**Average Score**
Species richness	*20*		3	5		1	5		5
Flower score	*10*		0.65	8		0.54	8		8
Timing of Biological shortages	*10*		8.5	8.5		3	3		5.75
Quality of foraging habitat	*20*		3	5		0	0		2.5
non-native plant cover	*20*		0.8	1.0		1	1.0		1
Q+A foraging habitat + Q+A shelter habitat score				27.5			17.0		22.3
MAX Score	*80*			*80*			*80*		*80*
Site condition score	***20***			**10.4**			**7.8**		9.1
Q+A foraging habitat + Q+A shelter habitat score	***80***			**27.5**			**17.0**		22.3
Combined Habitat Quality Score				37.9			24.8		31.3
MAX Habitat Quality Score	*100*			*100*			*100*		*100*
Combined HQ Score- out of 4				**1.52**			**0.99**		**1.25**
Site Context									Average Score
Size of patch	*10*			10.0			10.0		10.0
Connectedness	*10*			10.0			10.0		10.0
Context	*10*			10.0			10.0		10.0
Ecological Corridors	*10*			10.0			10.0		10.0
Role of site location to species overall population in the state	*10*			1.0			1.0		1.0
threats to the species	*10*			5.0			5.0		5.0
Site Context Score				46			46		46
MAX Site Context Score				*60*			*60*		*60*
Site Context Score - out of 3				**2.30**			**2.30**		**2.30**
Species Stocking Rate									Average Score
GHFF tree density per/ha	*10*	2		2		2	2		2
Site Context Score				2			2		2.0
MAX Site Context Score				*10*			*10*		*10*
Site Context Score - out of 3				**0.60**			**0.60**		**0.60**

Assessment Unit - Regional Ecosystem	AU 3 - Remnant RE12.8.24									Totals	
		OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Average % benchmark	Average Score	Average % benchmark	Average Score
	12.8.24	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score				
Site Condition											
Recruitment of woody perennial species in EDL	100	33	33%	3.0	0	0%	0.0	17%	1.50	51%	2.94
Native plant species richness - trees	7	9	129%	5.0	4	57%	2.5	93%	3.75	110%	4.31
Native plant species richness - shrubs	7	6	86%	2.5	1	14%	0.0	50%	1.25	96%	2.92
Native plant species richness - grasses	13	1	8%	0.0	2	15%	0.0	12%	0.00	69%	2.50
Native plant species richness - forbes	28	7	25%	2.5	6	21%	0.0	23%	1.25	58%	2.22
Tree canopy height (average of emergent, canopy, sub-canopy)	19	16.5	87%	5.0	11.5	61%	3.0	74%	4.00	93%	4.33
Tree canopy cover (average of emergent, canopy, sub-canopy)	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	7	0	0%	0.0	0	0%	0.0	0%	0.00	49%	1.67
Native grass cover	8	0	0%	0.0	0	0%	0.0	0%	0.00	30%	1.17
Organic litter	32	0	0%	0.0	0	0%	0.0	0%	0.00	59%	3.00
Large trees (euc plus non-euc)	25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89
Coarse woody debris	764	100	13%	2.0	30	4%	0.0	9%	1.00	67%	1.67
Non-native plant cover	0	100	100%	0.0	100	100%	0.0	100%	0.00	95%	1.67
Site Condition Score				*35*			*16*		25.3		42.3
MAX Site Condition Score				*80*			*80*		*80*		*80*
Site Condition Score - out of 20				***8.75***			***3.88***		**6.31**		**10.57**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**		**Raw data**	**Score**		**Raw data**	**Score**		**Average Score**		**Total average score**
Species richness	*20*		2	5		1	5		5		5.0
Flower score	*10*		0.65	8		0.65	8		8		8.0
Timing of Biological shortages	*10*		4	4		4	4		4		4.6
Quality of foraging habitat	*20*		2	5		1	5		5		4.2
non-native plant cover	*20*		1	1.0		1	1.0		1		4.0
Q+A foraging habitat + Q+A shelter habitat score				23.0			23.0		23.0		25.8
MAX Score	*80*			*80*			*80*		*80*		*80*
Site condition score	***20***			**8.8**			**3.9**		**6.3**		**10.6**
Q+A foraging habitat + Q+A shelter habitat score	***80***			**23.0**			**23.0**		**23.0**		**25.8**
Combined Habitat Quality Score				31.8			26.9		29.3		36.3
MAX Habitat Quality Score	*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**1.27**			**1.08**		**1.17**		**1.45**
Site Context									Average Score		Total average score
Size of patch	*10*		>6200ha ((	10.0		>6200ha ((	10.0		10.0		10.0
Connectedness	*10*		9 camps w	10.0		9 camps w	10.0		10.0		10.0
Context	*10*		>45% habi	10.0		>45% habi	10.0		10.0		10.0
Ecological Corridors	*10*		in state co	10.0		in state co	10.0		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significa	1.0		1 significa	1.0		1.0		1.0
threats to the species	*10*		Moderate	5.0		Moderate	5.0		5.0		5.0
Site Context Score				46			46		46		46.0
MAX Site Context Score				*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.30**			**2.30**		**2.30**		**2.30**
Species Stocking Rate									Average Score		Total average score
GHFF tree density per/ha	*10*	2		2		2	2		2		**3.3**
Site Context Score				2			2		2		3.3
MAX Site Context Score				*10*			*10*		*10*		*10*
Site Context Score - out of 3				**0.60**			**0.60**		**0.60**		**1.00**

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final	
Habitat Quality (out of 4)	1.93	1.25	1.17	1.45	
Site Context Score (out of 3)	2.30	2.30	2.30	2.30	
Species Stocking Rate Score (out of 3)	1.80	0.60	0.60	1.00	
Habitat Quality score (out of 10)	*6.03*	*4.15*	*4.07*	*4.75*	
Habitat Quality score (Rounded)	*6.00*	*4.00*	*4.00*	*4.67*	
Assessment Unit area (ha)	61.35	20.63	6.65	88.63	
Total offset area (ha) for this MNES	*88.63*	*88.63*	*88.63*	*88.63*	
Size Weighting	0.69	0.23	0.08	1.00	
Weighted Habitat Quality Score	***4.18***	***0.97***	***0.31***	***5.45***	***5.00***

Supplementary table for threats scoring			Score			Result		Final result
Listed threatening pro	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**	
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	1	0.3	
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	7	1.05	
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	15	2.25	
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	
Threats score out of 15								9.6
Scaled score (1-5=1; 6-10=5; 11-15=10)								5

Stem count thresholds for relevant REs

12.9-10.2		
T1	110	
	110	
lower value	upper value	score
0.0	13.8	2
14.2	59.6	4
60.0	100.8	6
101.3	107.7	8
108.2	112.3	10
112.8	119.2	8
119.6	160.4	6
160.9	206.3	4
206.3		2

12.8.17		
T1	160	
	160	
lower value	upper value	score
0.0	20.0	2
20.7	86.7	4
87.3	146.7	6
147.3	156.7	8
157.3	163.3	10
164.0	173.3	8
174.0	233.3	6
234.0	300.0	4
300.0		2

12.8.24		
T1	213	
	213	
lower value	upper value	score
0.0	26.6	2
27.5	115.4	4
116.3	195.3	6
196.1	208.6	8
209.4	217.4	10
218.3	230.7	8
231.6	310.6	6
311.5	399.4	4
399.4		2

Timing of biological shortages

		month period							
		Jul-Sept	Jul-Nov	Oct-Mar	and	paths: all	industries		adapted
Tree species	sum	2.5	1.5	1.5	1.5	1.5	1.5	**Wt p*r**	**score**
Corymbia citriodora	4	2.5	1.5					**0.65**	
Eucalyptus tereticornis	8.5	2.5	1.5	1.5		1.5	1.5	0.37-0.88	**0.65**
Corymbia intermedia	3			1.5	1.5			**0.86**	
Blakella tessellaris	4.5		1.5	1.5	1.5			0.4	
Eucalyptus crebra	4	2.5	1.5					0.45-0.81	**0.65**
Eucalyptus melanophoila	3		1.5		1.5			0.45-0.54	0.54
Corymbia trachyphloia	3			1.5	1.5			0.45	
Eucalyptus melliodora	4.5			1.5	1.5		1.5	0.39	
Lophostemon confertus	6		1.5	1.5	1.5		1.5	0.46	
Melaleuca quinquenervia	4.5			1.5	1.5		1.5	**0.88**	
E. moluccana	4.5			1.5	1.5		1.5	0.35-0.65	**0.65**
Eucalyptus fibrosa	7.5		1.5	1.5	1.5	1.5	1.5	0.54	
Eucalyptus acmenoides	4.5			1.5	1.5		1.5	0.43	
gevillia robusta	3		1.5	1.5				**1**	
Eucalytpus siderophloia	10	2.5	1.5	1.5	1.5	1.5	1.5	**0.81**	
Delete and add tree species above as are present on site									

Yr 0

	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	40	56						14		
	Eucalyyptus crebra	100	12	10		40	10		12				2		1
	Eucalyptus tereticornis					10			4						
All tree stem counts - shelter tree scoring	Eucalyptus melanophloia										6				
	Blakella tessellaris					50			2						
	Corymbia intermedia	20													
								60		60		35		35	
	sum of T1 stems		70		68		66		18		6		16		1
	score	6		6		6		2		2		2		2	
	Biological score (trees >300 mm only)	4		4		4		8.5		3		4		4	

Yr 5

	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem	12.9-10.2		12.9-10.2		12.9-10.2		12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	40	56						14		
	Eucalyyptus crebra	100	12	10		40	10		12				2		1
	Eucalyptus tereticornis					10			4						
All tree stem counts - shelter tree scoring	Eucalyptus melanophloia										6				
	Blakella tessellaris					50			2						
	Corymbia intermedia	20													
								60		60		35		35	
	sum of T1 stems		70		68		66		18		6		16		1
	score	6		6		6		2		2		2		2	
	Biological score (trees >300 mm only)	4		4		4		8.5		3		4		4	

Yr 10

	Assessment Units (AU)	AU1						AU2				AU3			
	BioCondition Transect	T1		T2		T3		T4		T5		T6		T7	
	Equivalent Regional Ecosystem														
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	58	250	68	46	56					15	14	15	
	Eucalyyptus crebra	100	12	10		46	10	22	12	22		15	2	15	1
	Eucalyptus tereticornis					12		21	4	21		4		4	
All tree stem counts - shelter tree scoring	Eucalyptus melanophloia							10		10	6				
	Blakella tessellaris			1		60		5	2	5					
	Corymbia intermedia	20													
								60		60		35		35	
	sum of T1 stems		70		68		66		18		6		16		1
	score	6		6		6		2		2		2		2	
	Biological score (trees >300 mm only)	4		4		4		8.5		3		4		4	

Yr 15

	Assessment Units (AU)							AU2				AU3			
	BioCondition Transect							T4		T5		T6		T7	
	Equivalent Regional Ecosystem							12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	61	250	70	46	66					30	14	30	
	Eucalyyptus crebra	100	17	10	5	46	20	44	12	44		30	2	30	1
	Eucalyptus tereticornis					12	2	42	4	42		4		4	
	Eucalyptus melanophloia							20		20	6				
All tree stem counts - shelter tree scoring	Blakella tessellaris			1	1	55	5	10	2	10		4		4	
	Corymbia intermedia	15	5												
								60		60		0	35	0	35
	sum of T1 stems		83		76		93		18		6		51		36
	score	6		6		6		2		2		2		2	
	Biological score (trees >300 mm only)	7		7		10		10		3		4		4	

Yr 20

	Assessment Units (AU)							AU2				AU3			
	BioCondition Transect							T4		T5		T6		T7	
	Equivalent Regional Ecosystem							12.8.17		12.8.17		12.8.24		12.8.24	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Blakella citriodora	190	62	250	71	46	66					30	29	30	15
	Eucalyyptus crebra	100	18	10	6	46	20	100	47	100	35	30	17	30	16
	Eucalyptus tereticornis					12	2	50	29	50	25	4		4	
	Eucalyptus melanophloia							30	6	30	12				
All tree stem counts - shelter tree scoring	Blakella tessellaris			1	2	55	5	10	7	10	5	8		8	
	Corymbia intermedia	15	6												
									60		60	0	35	0	35
	sum of T1 stems		86		79		93		149		137		81		66
	score	6		6		6		8		6		4		4	
	Biological score (trees >300 mm only)	7		7		10		10		10		4		4	

Woolshed OFFSET - GHFF Year 5

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2												AU 2 - Remnant RE12.8.17										AU 3 - Remnant RE12.8.24									Totals		
		HQP 1a			HQP3a			HQP 2a						OA AU2 T1			OA AU2 T2							OA AU3 T1			OA AU3 T2							
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3					Benchmark	Transect 1			Transect 2						Benchmark	Transect 1			Transect 2							
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmar	Score	Raw Data	Benchm	Score	Average % benchmark	Average Score	12.8.17	Raw Data	% Benchmar	Score	Raw Data	% Benchmar	Score	age % bench	Average Score		12.8.24	Raw Data	% Benchmar	Score	Raw Data	% Benchmar	Score	age % bench	Average Score	age % benchm	Average Score	
Site Condition																																		
Recruitment of woody perennial species in EDL	100	100	100%	5.0	33	33%	3.0	100	100%	5.0	78%	4.33	100	66	66%	3.0	50	50%	3.0	58%	3.00		100	33	33%	3.0	15	15%	0.0	24%	1.50	53%	2.94	some recuirment appearing inm AU3-T3
Native plant species richness - trees	6	8	133%	5.0	5	83%	2.5	8	133%	5.0	117%	4.17	7	9	129%	5.0	8	114%	5.0	121%	5.00		7	9	129%	5.0	4	57%	2.5	93%	3.75	110%	4.31	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	3	60%	2.5	4	80%	2.5	70%	2.50		7	6	86%	2.5	1	14%	0.0	50%	1.25	96%	2.92	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	7	58%	2.5	3	25%	2.5	42%	2.50		13	1	8%	0.0	2	15%	0.0	12%	0.00	69%	2.50	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	10	77%	2.5	121%	4.17	27	11	41%	2.5	5	19%	0.0	30%	1.25		28	7	25%	2.5	6	21%	0.0	23%	1.25	58%	2.22	no predicted change at year 5 due to significant habitat disturbance associated with Lantana management.
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	10.5	72%	5.0	98%	5.00		19	16.5	87%	5.0	12.0	63%	3.0	75%	4.00	94%	4.67	Tree canopy height is expected to increase over time. Conservative estimate of 2cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00		38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00	Predictions not made due to high score already attained at each site.
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	0.1	2%	0.0	0	0%	0.0	1%	0.00		7	0	0%	0.0	0	0%	0.0	0%	0.00	49%	1.67	no change predicted at yr 5
Native grass cover	21	5.2	25%	1.0	11	52%	3.0	27.6	131%	5.0	70%	3.00	32	13.8	43%	1.0	0.2	1%	0.0	22%	0.50		8	0	0%	0.0	0	0%	0.0	0%	0.00	30%	1.17	given the coverage and vegetation disturbance required for Lantana removal, native grass cover changes are not predicted for yr 5.
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	4	19%	3.0	64%	4.00		32	0	0%	0.0	0	0%	0.0	0%	0.00	59%	3.00	given the coverage and vegetation disturbance required for Lantana removal, litter cover changes are not predicted for yr 5.
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67	24	18	75%	10.0	6	25%	5.0	50%	7.50		25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89	no change predicted at yr 5
Coarse woody debris	506	1020	202%	2.0	1190	235%	2.0	370	73%	5.0	170%	3.00	234	10	4%	0.0	100	43%	2.0	24%	1.00		764	100	13%	2.0	30	4%	0.0	9%	1.00	67%	1.67	no change predicted at yr 5
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	10.3	10%	5.0		5.0	0	30	30%	3.0	30	30%	3.0	30%	3.00		0	30	30%	3.0	30	30%	3.0	30%	3.00	30%	3.67	AU1 - reduced to below 15%, AU2/3 reduced to 30% accounting for mass removal of LC, and potential high recuitment of other herbaceous pioneer species.
Site Condition Score				63			65.5			67.5		65.3				*45*			*36*		40.3					*38*			*19*		28.3		44.6	
MAX Site Condition Score				*80*			*80*			*80*		*80*				*80*			*80*		*80*					*80*			*80*		*80*		*80*	
Site Condition Score - out of 20				**15.75**			**16.38**			**16.88**		**16.33**				***11.13***			***9.00***		**10.06**					**9.50**			***4.63***		**7.06**		**11.15**
Quality and availability of food and foraging habitat + Quality and availabil	**Benchmark**	**contributi**	Raw data	Score		Raw data	Score		Raw dat	Score		Average Score	**Benchmark**		Raw data	Score		Raw data	Score		Average Score		**Benchmark**		Raw data	Score		Raw data	Score		Average Score		Total average score	
Species richness	*20*	22.2	2	5.0		1	5		2	5		5	*20*		3	5		1	5		5		*20*		2	5		1	5		5		5.0	
Flower score	*10*	11.1	0.65	8.0		0.65	8		0.65	8		8	*10*		0.65	8		0.54	8		8		*10*		0.65	8		0.65	8		8		8.0	
Timing of Biological shortages	*10*	11.1	4	4.0		4	4		4	4		4	*10*		8.5	10		3	3		6.5		*10*		4	4		4	4		4		4.8	
Quality of foraging habitat	*20*	22.2	2	5.0		1	5		2	5		5	*20*		3	5		0	0		2.5		*20*		2	5		1	5		5		4.2	
non-native plant cover	*20*	22.2	0.15	10.0		0.15	10.0		0.1	10.0		10	*20*		0.30	5.0		30%	5.0		5		*20*		30%	5.0		30%	5.0		5		6.7	
Q+A foraging habitat + Q+A shelter habitat score				32.0			32.0			32.0		32.0				33.0			21.0		27.0					27.0			27.0		27.0		28.7	
MAX Score	*80*			*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*80*			*80*			*80*		*80*		*80*	
Site condition score	***20***	22.2		**15.8**			**16.4**			**16.9**		16.3	***20***			**11.1**			**9.0**		10.1		***20***			**9.5**			**4.6**		**7.1**		**11.2**
Q+A foraging habitat + Q+A shelter habitat score	***80***	88.9		**32.0**			**32.0**			**32.0**		32.0	***80***			**33.0**			**21.0**		27.0		***80***			**27.0**			**27.0**		**27.0**		**28.7**
Combined Habitat Quality Score				47.8			48.4			48.9		48.3				44.1			30.0		37.1					36.5			31.6		34.1		39.8	
MAX Habitat Quality Score	*100*			*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*			*100*			*100*		*100*		*100*	
Combined HQ Score- out of 4				**1.91**			**1.94**			**1.96**		**1.93**				**1.77**			**1.20**		**1.48**					**1.46**			**1.27**		**1.36**		**1.59**	
Site Context	**Benchmark**		Data	Score								Average Score									Average Score											Average Score		Total average score	
Size of patch	*10*		>6200ha (Figure 50)	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0	
Connectedness	*10*		9 camps with 20 km	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0	
Context	*10*		>45% habitat within 20 km	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0	
Ecological Corridors	*10*		in state corridor	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0	
Role of site location to species overall population in the state	*10*		1 significant camp	1.0			1.0			1.0		1.0	*10*			1.0			1.0		1.0		*10*			1.0			1.0		1.0		1.0	
threats to the species	*10*		low level threats	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0	
Site Context Score				51			51			51		51.0				51			51		51					51			51		51		51.0	
MAX Site Context Score				*60*			*60*			*60*		*60*				*60*			*60*		*60*					*60*			*60*		*60*		*60*	
Site Context Score - out of 3				**2.55**			**2.55**			**2.55**		**2.55**				**2.55**			**2.55**		**2.55**					**2.55**			**2.55**		**2.55**		**2.55**	
Species Stocking Rate	**Benchmark**											Average Score									Average Score										Average Score		Total average score	
GHFF tree density per/ha	*10*		6	6		6	6		6	6		6	*10*		2	2		2	2		2		*10*		2	2		2	2		2		**3.3**	
Site Context Score				6			6			6		6.0				2			2		2.0					2			2		2		3.3	
MAX Site Context Score				*10*			*10*			*10*		*10*				*10*			*10*		*10*					*10*			*10*		*10*		*10*	
Site Context Score - out of 3				**1.80**			**1.80**			**1.80**		**1.80**				**0.60**			**0.60**		**0.60**					**0.60**			**0.60**		**0.60**		**1.00**	

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final	
Habitat Quality (out of 4)	1.93	1.48	1.36	1.59	
Site Context Score (out of 3)	2.55	2.55	2.55	2.55	
Species Stocking Rate Score (out of 3)	1.80	0.60	0.60	1.00	
Habitat Quality score (out of 10)	*6.28*	*4.63*	*4.51*	*5.14*	
Habitat Quality score (Rounded)	*6.00*	*4.00*	*4.00*	*4.67*	
Assessment Unit area (ha)	61.35	20.63	6.65	88.63	
Total offset area (ha) for this MNES	88.63	88.63	88.63	88.63	
Size Weighting	0.69	0.23	0.08	1.00	
Weighted Habitat Quality Score	***4.35***	***1.08***	***0.34***	***5.77***	***6.00***

Supplementary table for threats scoring			Score			Result		Final result	
Listed threatening p	**Scoring indicator**	**Score w**	**1**	**7**	**15**	**Score**	**Weighted score**		
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	7	2.1		Reduced fuel load due to management of Lantana camara infestations which inflate shrub layer biomass. Score change from high to moderate at year 5 due to the initial years on intensive weed management.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	7	1.05		no change.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15							11.4		
Scaled score (1-5=1; 6-10=5; 11-15=**10**)							10		upswing to low level threats

Woolshed OFFSET - GHFF Year 10

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2												AU 2 - Remnant RE12.8.17										AU 3 - Remnant RE12.8.24									Totals	
		HQP 1a			HQP3a			HQP 2a						OA AU2 T1			OA AU2 T2							OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3					Benchmark	Transect 1			Transect 2						Benchmark	Transect 1			Transect 2						
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	12.8.17	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score		12.8.24	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	Average % benchmark	Average Score
Site Condition																																	
Recruitment of woody perennial species in EDL	100	100	100%	5.0	90	90%	5.0	100	100%	5.0	97%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00		100	90	90%	5.0	90	90%	5.0	90%	5.00	92%	5.00
Native plant species richness - trees	6	8	133%	5.0	5	83%	2.5	8	133%	5.0	117%	4.17	7	9	129%	5.0	8	114%	5.0	121%	5.00		7	9	129%	5.0	4	57%	2.5	93%	3.75	110%	4.31
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	4	80%	2.5	5	100%	5.0	90%	3.75		7	6	86%	2.5	3	43%	2.5	64%	2.50	107%	3.75
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	8	67%	2.5	4	33%	2.5	50%	2.50		13	5	38%	2.5	5	38%	2.5	38%	2.50	80%	3.33
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	12	92%	5.0	126%	5.00	27	13	48%	2.5	7	26%	2.5	37%	2.50		28	9	32%	2.5	8	29%	2.5	30%	2.50	64%	3.33
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	11.0	76%	5.0	100%	5.00		19	16.5	87%	5.0	12.5	66%	3.0	76%	4.00	95%	4.67
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00		38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	2.5	50%	3.0	2.5	50%	3.0	50%	3.00		7	2.5	36%	3.0	2.5	36%	3.0	36%	3.00	77%	3.67
Native grass cover	21	10.2	49%	1.0	16	76%	3.0	27.6	131%	5.0	85%	3.00	32	18.9	59%	3.0	5.2	16%	1.0	38%	2.00		8	5	63%	3.0	5	63%	3.0	63%	3.00	62%	2.67
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	7	33%	3.0	71%	4.00		32	2	6%	0.0	2	6%	0.0	6%	0.00	63%	3.00
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67	24	18	75%	10.0	6	25%	5.0	50%	7.50		25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89
Coarse woody debris	506	1020	202%	2.0	1190	235%	2.0	370	73%	5.0	170%	3.00	234	10	4%	0.0	100	43%	2.0	24%	1.00		764	100	13%	2.0	30	4%	0.0	9%	1.00	67%	1.67
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	10.3	10%	5.0		5.0	0	15	15%	5.0	30	30%	3.0	23%	4.00		0	15	15%	5.0	15	15%	5.0	15%	5.00	19%	4.67
Site Condition Score				63			67.5			70		66.8				*54*			*47*		50.3					*51*			*39*		44.8		53.9
MAX Site Condition Score				*80*			*80*			*80*		*80*				*80*			*80*		*80*					*80*			*80*		*80*		*80*
Site Condition Score - out of 20				**15.75**			**16.88**			**17.50**		**16.71**				***13.38***			***11.75***		**12.56**					***12.63***			***9.75***		**11.19**		**13.49**
Quality and availability of food and foraging habitat + Quality and availability of shelter	Benchmark	% contribution	Raw data	Score		Raw data	Score		Raw data	Score		Average Score	Benchmark		Raw data	Score		Raw data	Score		Average Score		Benchmark		Raw data	Score		Raw data	Score		Average Score		Total average score
Species richness	*20*	22.2	2	5.0		1	5		2	5		5	*20*		3	5		1	5		5		*20*		2	5		1	5		5		5.0
Flower score	*10*	11.1	0.65	8.0		0.65	8		0.65	8		8	*10*		0.65	8		0.54	8		8		*10*		0.65	8		0.65	8		8		8.0
Timing of Biological shortages	*10*	11.1	4	4.0		4	4		4	4		4	*10*		8.5	10		3	3		6.5		*10*		4	4		4	4		4		4.8
Quality of foraging habitat	*20*	22.2	2	5.0		1	5		2	5		5	*20*		3	5		0	0		2.5		*20*		2	5		1	5		5		4.2
non-native plant cover	*20*	22.2	0.15	10.00		0.15	10.00		0.10	10.00		10	*20*		0.15	10.00		0.30	5.00		7.50		*20.00*		0.15	10.00		0.15	10.00		10.00		9.17
Q+A foraging habitat + Q+A shelter habitat score				32.0			32.0			32.0		32.0				38.0			21.0		29.5					32.0			32.0		32.0		31.2
MAX Score	*80*			*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*80*			*80*			*80*		*80*		*80*
Site condition score	***20***	22.2		**15.8**			**16.9**			**17.5**		16.7	***20***			**13.4**			**11.8**		12.6		***20***			**12.6**			**9.8**		**11.2**		**13.5**
Q+A foraging habitat + Q+A shelter habitat score	***80***	88.9		**32.0**			**32.0**			**32.0**		32.0	***80***			**38.0**			**21.0**		29.5		***80***			**32.0**			**32.0**		**32.0**		**31.2**
Combined Habitat Quality Score				47.8			48.9			49.5		48.7				51.4			32.8		42.1					44.6			41.8		43.2		44.7
MAX Habitat Quality Score	*100*			*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**1.91**			**1.96**			**1.98**		**1.95**				**2.06**			**1.31**		**1.68**					**1.79**			**1.67**		**1.73**		**1.79**
Site Context	**Benchmark**		Data	Score								Average Score									Average Score											Average Score		Total average score
Size of patch	*10*		>6200ha (Figure 50)	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0
Connectedness	*10*		9 camps with 20 km	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0
Context	*10*		>45% habitat within 20 km	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0
Ecological Corridors	*10*		in state corridor	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant camp	1.0			1.0			1.0		1.0	*10*			1.0			1.0		1.0		*10*			1.0			1.0		1.0		1.0
threats to the species	*10*		Low level threats	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0		*10*			10.0			10.0		10.0		10.0
Site Context Score				51			51			51		51.0				51			51		51					51			51		51		51.0
MAX Site Context Score				*60*			*60*			*60*		*60*				*60*			*60*		*60*					*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.55**			**2.55**			**2.55**		**2.55**				**2.55**			**2.55**		**2.55**					**2.55**			**2.55**		**2.55**		**2.55**
Species Stocking Rate	**Benchmark**											Average Score									Average Score											Average Score		Total average score
GHFF tree density per/ha	*10*		6	6		6	6		6	6		6	*10*		2	2		2	2		2		*10*		2	2		2	2		2		**3.3**
Site Context Score				6			6			6		6.0				2			2		2.0					2			2		2		3.3
MAX Site Context Score				*10*			*10*			*10*		*10*				*10*			*10*		*10*					*10*			*10*		*10*		*10*
Site Context Score - out of 3				**1.80**			**1.80**			**1.80**		**1.80**				**0.60**			**0.60**		**0.60**					**0.60**			**0.60**		**0.60**		**1.00**

The assisted regeneration of trees will ensure recuitment in taking place. Natural recruitment is assumed following year 15. although assisted planting has taken place, species richness will not be reflected until trees are contributing to the T1/T2 layer. native shrub layer is expected to be more dense with assisted regeneration species. Spp richness may increase by 1-2 species. assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. AU1 - no predicted change. AU2 - One new native grass species is expected to accumulate each vegetation survey year. AU3 - assisted reveg of native grasses will take place.

Native forbs are expected to regenerate naturally over time to align with benchmark values, especially following good rain years. Estimated at 2 new species each vegetation survey year (for sites below benchmark). Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained. canopy cover has attained high score. expected increase in native shrub cover at AU2 and AU3, following the removal of lantana and assisted regeneration of native species. Native grasses are expected to observably recovering by year 10. An estimated 5% increase is reflected in scores. organic litter regeneration is expected to be low in year 10. This is attributed to the early stages of assisted regeneration and a predicted more dense native shrub layer in year 10. A 2% cover increase is reflected at sites which are below benchmark. no change predicted at yr 10 no change predicted at yr 10 all sites maintained below 15% weed cover.

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final	
Habitat Quality (out of 4)	1.95	1.68	1.73	1.79	
Site Context Score (out of 3)	2.55	2.55	2.55	2.55	
Species Stocking Rate Score (out of 3)	1.80	0.60	0.60	1.00	
Habitat Quality score (out of 10)	*6.30*	*4.83*	*4.88*	*5.34*	
Habitat Quality score (Rounded)	*6.00*	*4.00*	*4.00*	*4.67*	
Assessment Unit area (ha)	61.35	20.63	6.65	88.63	
Total offset area (ha) for this MNES	*88.63*	*88.63*	*88.63*	*88.63*	
Size Weighting	0.69	0.23	0.08	1.00	
Weighted Habitat Quality Score	***4.36***	***1.12***	***0.37***	5.85	***6.00***

Supplementary table for threats scoring			Score			Result			
Listed threatening pr	Scoring indicator	Score weig	1	7	15	Score	Weighted score	Final result	
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		further reduction in fuel load to score of low. Reflection of maintained intensive weed management.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	7	1.05		no change.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								13.8	
Scaled score (1-5=1; 6-10=5; 11-15=10)								10	Maintained low level threats

Woolshed OFFSET - GHFF Year 15

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2												AU 2 - Remnant RE12.8.17									AU 3 - Remnant RE12.8.24									Totals	
		HQP 1a			HQP3a			HQP 2a						OA AU2 T1			OA AU2 T2						OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3			Average % benchmark	Average Score	Benchmark	Transect 1			Transect 2			Average % benchmar	Average Score	Benchmark	Transect 1			Transect 2			Average % benchmar	Average Score	Average % benchmark	Average Score
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	Benchmar	Score	Raw Data	Benchmar	Score			12.8.17	Raw Data	Benchmar	Score	Raw Data	Benchmar	Score			12.8.24	Raw Data	Benchmar	Score	Raw Data	Benchmar	Score				
Site Condition																																
Recruitment of woody perennial species in EDL	100	100	100%	5.0	90	90%	5.0	100	100%	5.0	97%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	92%	5.00
Native plant species richness - trees	6	8	133%	5.0	6	100%	5.0	8	133%	5.0	122%	5.00	7	9	129%	5.0	8	114%	5.0	121%	5.00	7	9	129%	5.0	5	71%	2.5	100%	3.75	115%	4.58
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	5	100%	5.0	5	100%	5.0	100%	5.00	7	6	86%	2.5	4	57%	2.5	71%	2.50	113%	4.17
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	9	75%	2.5	5	42%	2.5	58%	2.50	13	6	46%	2.5	6	46%	2.5	46%	2.50	86%	3.33
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	12	92%	5.0	126%	5.00	27	15	56%	2.5	9	33%	2.5	44%	2.50	28	11	39%	2.5	10	36%	2.5	38%	2.50	69%	3.33
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	11.0	76%	5.0	100%	5.00	19	16.5	87%	5.0	13.0	68%	3.0	78%	4.00	96%	4.67
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	3	60%	5.0	3	60%	5.0	60%	5.00	7	3	43%	3.0	3	43%	3.0	43%	3.00	83%	4.33
Native grass cover	21	15.2	72%	3.0	21	100%	5.0	27.6	131%	5.0	101%	4.33	32	24	75%	3.0	10.2	32%	1.0	53%	2.00	8	7	88%	3.0	7	88%	3.0	88%	3.00	81%	3.11
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	12	57%	5.0	83%	5.00	32	7	22%	3.0	7	22%	3.0	22%	3.00	72%	4.33
Large trees (euc plus non-euc)	38	30	79%	10.0	56	147%	15.0	34	89%	10.0	105%	11.67	24	18	75%	10.0	6	25%	5.0	50%	7.50	25	16	64%	10.0	2	8%	5.0	36%	7.50	64%	8.89
Coarse woody debris	506	520	103%	5.0	690	136%	5.0	370	73%	5.0	104%	5.00	234	260	111%	5.0	250	107%	5.0	109%	5.00	764	475	62%	5.0	455	60%	5.0	61%	5.00	91%	5.00
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	10.3	10%	5.0		5.0	0	15	15%	5.0	30	30%	3.0	23%	4.00	0	15	15%	5.0	15	15%	5.0	15%	5.00	19%	4.67
Site Condition Score				68			75			70		71.0				63			54		58.5				57			47		51.8		60.4
MAX Site Condition Score				*80*			*80*			*80*		*80*				*80*			*80*		*80*				*80*			*80*		*80*		*80*
Site Condition Score - out of 20				**17.00**			**18.75**			**17.50**		**17.75**				***15.75***			***13.50***		**14.63**				***14.13***			***11.75***		**12.94**		**15.10**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**	**% contribution**	**Raw data**	**Score**		**Raw data**	**Score**		**Raw data**	**Score**		**Average Score**	**Benchmark**		**Raw data**	**Score**		**Raw data**	**Score**		**Average Scor**	**Benchmark**		**Raw data**	**Score**		**Raw data**	**Score**		**Average Score**		**Total average score**
Species richness	*20*	22.2	2	5.0		1	5		2	5		5	*20*		3	5		1	5		5	*20*		2	5		1	5		5		5.0
Flower score	*10*	11.1	0.65	8.0		0.65	8		0.65	8		8	*10*		0.65	8		0.54	8		8	*10*		0.65	8		0.65	8		8		8.0
Timing of Biological shortages	*10*	11.1	4	4.0		4	4		4	4		4	*10*		8.5	10		3	3		6.5	*10*		4	4		4	4		4		4.8
Quality of foraging habitat	*20*	22.2	2	5.0		1	5		2	5		5	*20*		3	5		0	0		2.5	*20*		2	5		1	5		5		4.2
non-native plant cover	*20*	22.2	0.15	10.00		0.15	10.00		0.10	10.0		10	*20*		0.15	10.00		0.30	5.00		7.50	*20.00*		0.15	10.00		0.15	10.00		10.00		9.2
Q+A foraging habitat + Q+A shelter habitat score				32.0			32.0			32.0		32.0				38.0			21.0		29.5				32.0			32.0		32.0		31.2
MAX Score	*80*			*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*80*
Site condition score	***20***	22.2		**17.0**			**18.8**			**17.5**		17.8	***20***			**15.8**			**13.5**		14.6	***20***			**14.1**			**11.8**		**12.9**		**15.1**
Q+A foraging habitat + Q+A shelter habitat score	***80***	88.9		**32.0**			**32.0**			**32.0**		32.0	***80***			**38.0**			**21.0**		29.5	***80***			**32.0**			**32.0**		**32.0**		**31.2**
Combined Habitat Quality Score				49.0			50.8			49.5		49.8				53.8			34.5		44.1				46.1			43.8		44.9		46.3
MAX Habitat Quality Score	*100*			*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**1.96**			**2.03**			**1.98**		***1.99***				**2.15**			**1.38**		**1.77**				**1.85**			**1.75**		**1.80**		**1.85**
Site Context	**Benchmark**		**Data**	**Score**								**Average Score**									**Average Score**									**Average Score**		**Total average score**
Size of patch	*10*		>6200ha (Figu	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Connectedness	*10*		9 camps with 2	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Context	*10*		>45% habitat v	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Ecological Corridors	*10*		In state corrido	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant ca	1.0			1.0			1.0		1.0	*10*			1.0			1.0		1.0	*10*			1.0			1.0		1.0		1.0
threats to the species	*10*		Low level threa	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Site Context Score				51			51			51		51.0				51			51		51				51			51		51		51.0
MAX Site Context Score				*60*			*60*			*60*		*60*				*60*			*60*		*60*				*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.55**			**2.55**			**2.55**		***2.55***				**2.55**			**2.55**		***2.55***				**2.55**			**2.55**		***2.55***		**2.55**
Species Stocking Rate	**Benchmark**											**Average Score**									**Average Score**									**Average Score**		**Total average score**
GHFF tree density per/ha	*10*		6	6		6	6		6	6		6	*10*		2	2		2	2		2	*10*		2	2		2	2		2		**3.3**
Site Context Score				6			6			6		6.0				2			2		2.0				2			2		2		3.3
MAX Site Context Score				*10*			*10*			*10*		*10*				*10*			*10*		*10*				*10*			*10*		*10*		*10*
Site Context Score - out of 3				**1.80**			**1.80**			**1.80**		***1.80***				**0.60**			**0.60**		***0.60***				**0.60**			**0.60**		***0.60***		**1.00**

The assisted regeneration of trees will ensure recuitment in taking place.
Natural recruitment is assumed following year 15.
By year 15, assisted regeneration trees are expected to exceed 100 mm DBH, and therefore contribute to the T1/T2 layer.
Spp richness may increase by 1-2 species.

assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. AU1 - no predicted change. AU2 - One new native grass species is expected to accumulate each vegetation survey year. AU3 - assisted reveg of native grasses will take place.

Native forbs are expected to regenerate naturally over time to align with benchmark values, especially following good rain years. Estimated at 2 new species each vegetation survey year (for sites below benchmark).
Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
canopy cover has attained high score.
expected increase in native shrub cover at AU2 and AU3, following the removal of lantana and assisted regeneration of native species.
Native grasses are expected to continue to recover by year 15. An estimated 2-5% increase is reflected in scores.

organic litter regeneration is expected to accelerate more at year 15. A 2-5% cover increase is reflected at sites which are below benchmark.
no change predicted at yr 15
the over crowding of CWD at AU1 will be redistributed between AU2 and AU3.
all sites maintained below 15% weed cover.

Final habitat quality score (weighted)	AU1	AU2	AU3	Ave / Final	
Habitat Quality (out of 4)	1.99	1.77	1.80	1.85	
Site Context Score (out of 3)	2.55	2.55	2.55	2.55	
Species Stocking Rate Score (out of 3)	1.80	0.60	0.60	1.00	
Habitat Quality score (out of 10)	*6.34*	*4.92*	*4.95*	*5.40*	
Habitat Quality score (Rounded)	*6.00*	*4.00*	*4.00*	*4.67*	
Assessment Unit area (ha)	61.35	20.63	6.65	88.63	
Total offset area (ha) for this MNES	*88.63*	*88.63*	*88.63*	*88.63*	
Size Weighting	0.69	0.23	0.08	1.00	
Weighted Habitat Quality Score	***4.39***	***1.14***	***0.37***	***5.90***	***6.00***

Supplementary table for threats scoring			Score			Result		Final result	
Listed threatening process	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**		
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		Maintained low rating.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	7	1.05		no change.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								13.8	
Scaled score (1-5=1; 6-10=5; 11-15=**10)**								10	Maintained low level threats

Woolshed OFFSET - GHFF Year 20

Assessment Unit - Regional Ecosystem	AU 1 - Remnant and High Value Regrowth RE12.9-10.2												AU 2 - Remnant RE12.8.17									AU 3 - Remnant RE12.8.24									Totals	
		HQP 1a			HQP3a			HQP 2a						OA AU2 T1			OA AU2 T2						OA AU3 T1			OA AU3 T2						
Site Reference	Benchmark	Transect 1			Transect 2			Transect 3					Benchmark	Transect 1			Transect 2			Average %	Average	Benchmark	Transect 1			Transect 2			Average %	Average	Average %	
	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	Benchmar	Score	Raw Data	Benchmar	Score	Average % benchmark	Average Score	12.8.17	Raw Data	Benchmar	Score	Raw Data	Benchmar	Score	benchmar	Score	12.8.24	Raw Data	Benchmar	Score	Raw Data	Benchmar	Score	benchmar	Score	benchmark	Average Score
Site Condition																																
Recruitment of woody perennial species in EDL	100	100	100%	5.0	90	90%	5.0	100	100%	5.0	97%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	100	90	90%	5.0	90	90%	5.0	90%	5.00	92%	5.00
Native plant species richness - trees	6	8	133%	5.0	6	100%	5.0	8	133%	5.0	122%	5.00	7	9	129%	5.0	8	114%	5.0	121%	5.00	7	9	129%	5.0	5	71%	2.5	100%	3.75	115%	4.58
Native plant species richness - shrubs	7	12	171%	5.0	14	200%	5.0	9	129%	5.0	167%	5.00	5	5	100%	5.0	5	100%	5.0	100%	5.00	7	6	86%	2.5	4	57%	2.5	71%	2.50	113%	4.17
Native plant species richness - grasses	7	10	143%	5.0	12	171%	5.0	10	143%	5.0	152%	5.00	12	10	83%	2.5	6	50%	2.5	67%	2.50	13	7	54%	2.5	7	54%	2.5	54%	2.50	91%	3.33
Native plant species richness - forbes	13	14	108%	5.0	23	177%	5.0	12	92%	5.0	126%	5.00	27	17	63%	2.5	11	41%	2.5	52%	2.50	28	13	46%	2.5	12	43%	2.5	45%	2.50	74%	3.33
Tree canopy height (average of emergent, canopy, sub-canopy)	16.5	17.85	108%	5.0	18.6	113%	5.0	17.75	108%	5.0	109%	5.00	14.5	18.0	124%	5.0	11.0	76%	5.0	100%	5.00	19	16.5	87%	5.0	13.5	71%	5.0	79%	5.00	96%	5.00
Tree canopy cover (average of emergent, canopy, sub-canopy)	42	49.15	117%	5.0	44.65	106%	5.0	47.85	114%	5.0	112%	5.00	34	31.6	93%	5.0	29.4	86%	5.0	90%	5.00	38.5	48.8	127%	5.0	53.6	139%	5.0	133%	5.00	112%	5.00
Shrub canopy cover	6	10.8	180%	5.0	9.9	165%	5.0	5.7	95%	5.0	147%	5.00	5	3	60%	5.0	3	60%	5.0	60%	5.00	7	4	57%	5.0	4	57%	5.0	57%	5.00	88%	5.00
Native grass cover	21	20	95%	5.0	21	100%	5.0	27.6	131%	5.0	109%	5.00	32	29	91%	5.0	17	53%	3.0	72%	4.00	8	10	125%	5.0	10	125%	5.0	125%	5.00	102%	4.67
Organic litter	48	64	133%	5.0	43	90%	5.0	54	113%	5.0	112%	5.00	21	23	110%	5.0	17	81%	5.0	95%	5.00	32	12	38%	3.0	12	38%	3.0	38%	3.00	82%	4.33
Large trees (euc plus non-euc)	38	34	89%	10.0	54	142%	15.0	42	111%	15.0	114%	13.33	24	22	92%	10.0	10	42%	5.0	67%	7.50	25	20	80%	10.0	6	24%	5.0	52%	7.50	78%	9.44
Coarse woody debris	506	520	103%	5.0	690	136%	5.0	370	73%	5.0	104%	5.00	234	260	111%	5.0	250	107%	5.0	109%	5.00	764	475	62%	5.0	455	60%	5.0	61%	5.00	91%	5.00
Non-native plant cover	0	10	10%	5.0	10	10%	5.0	10.3	10%	5.0		5.0	0	10	10%	5.0	10	10%	5.0	10%	5.00	0	10	10%	5.0	10	10%	5.0	10%	5.00	10%	5.00
Site Condition Score				70			75			75		73.3				65			58		61.5				61			53		56.8		63.9
MAX Site Condition Score				*80*			*80*			*80*		*80*				*80*			*80*		*80*				*80*			*80*		*80*		*80*
Site Condition Score - out of 20				**17.50**			**18.75**			**18.75**		**18.33**				***16.25***			***14.50***		**15.38**				***15.13***			***13.25***		**14.19**		**15.97**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**	**% contribution**	Raw data	Score		Raw data	Score		Raw data	Score		Average Score	**Benchmark**		Raw data	Score		Raw data	Score		Average Score	**Benchmark**		Raw data	Score		Raw data	Score		Average Score		Total average score
Species richness	*20*	22.2	3	5.0		3	5		4	10		6.666666667	*20*		5	10		5	10		10	*20*		3	5		3	5		5		7.2
Flower score	*10*	11.1	0.65	8.0		0.65	8		0.65	8		8	*10*		0.65	8		0.54	8		8	*10*		0.65	8		0.65	8		8		8.0
Timing of Biological shortages	*10*	11.1	7	7.0		7	7		10	10		8	*10*		10	10		10	10		10	*10*		6	6		6	6		6		8.0
Quality of foraging habitat	*20*	22.2	3	5.0		2	5		3	5		5	*20*		3	5		3	5		5	*20*		2	5		2	5		5		5.0
non-native plant cover	*20*	22.2	0.10	10.00		0.10	10.00		0.10	10.00		10.00	*20.00*		0.10	10.00		0.10	10.00		10.00	*20.00*		0.10	10.00		0.10	10.00		10.00		10.0
Q+A foraging habitat + Q+A shelter habitat score				35.0			35.0			43.0		37.7				43.0			43.0		43.0				34.0			34.0		34.0		38.2
MAX Score	*80*			*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*80*
Site condition score	***20***	22.2		**17.5**			**18.8**			**18.8**		18.3	***20***			**16.3**			**14.5**		15.4	***20***			**15.1**			**13.3**		**14.2**		**16.0**
Q+A foraging habitat + Q+A shelter habitat score	***80***	88.9		**35.0**			**35.0**			**43.0**		37.7	***80***			**43.0**			**43.0**		43.0	***80***			**34.0**			**34.0**		**34.0**		**38.2**
Combined Habitat Quality Score				52.5			53.8			61.8		56.0				59.3			57.5		58.4				49.1			47.3		48.2		54.2
MAX Habitat Quality Score	*100*			*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**2.10**			**2.15**			**2.47**		**2.24**				**2.37**			**2.30**		**2.34**				**1.97**			**1.89**		**1.93**		**2.17**
Site Context	**Benchmark**		Data	Score								Average Score									Average Score									Average Score		Total average score
Size of patch	*10*		>6200ha (Figu	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Connectedness	*10*		9 camps with 2	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Context	*10*		>45% habitat v	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Ecological Corridors	*10*		in state corrido	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant ca	1.0			1.0			1.0		1.0	*10*			1.0			1.0		1.0	*10*			1.0			1.0		1.0		1.0
threats to the species	*10*		Low level thre	10.0			10.0			10.0		10.0	*10*			10.0			10.0		10.0	*10*			10.0			10.0		10.0		10.0
Site Context Score				51			51			51		51.0				51			51		51				51			51		51		51.0
MAX Site Context Score				*60*			*60*			*60*		*60*				*60*			*60*		*60*				*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.55**			**2.55**			**2.55**		**2.55**				**2.55**			**2.55**		**2.55**				**2.55**			**2.55**		**2.55**		**2.55**
Species Stocking Rate	**Benchmark**											Average Score									Average Score									Average Score		Total average score
GHFF tree density per/ha	*10*		6	6		6	6		6	6		6	*10*		8	8		6	6		7	*10*		4	4		4	4		4		**5.7**
Site Context Score				6			6			6		6.0				8			6		7.0				4			4		4		5.7
MAX Site Context Score				*10*			*10*			*10*		*10*				*10*			*10*		*10*				*10*			*10*		*10*		*10*
Site Context Score - out of 3				**1.80**			**1.80**			**1.80**		**1.80**				**2.40**			**1.80**		**2.10**				**1.20**			**1.20**		**1.20**		**1.70**

The assisted regeneration of trees will ensure recuitment in taking place. Natural recruitment is assumed following year 15.
By year 15, assisted regeneration trees are expected to exceed 100 mm DBH, and therefore contribute to the T1/T2 layer.
Spp richness may increase by 1-2 species.

assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. AU1 - no predicted change. AU2 - One new native grass species is expected to accumulate each vegetation survey year. AU3 - assisted reveg of native grasses will take place.
Native forbs are expected to regenerate naturally over time to align with benchmark values, especially following good rain years. Estimated at 2 new species each vegetation survey year (for sites below benchmark).
Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
canopy cover has attained high score.
continued native shrub growth of up to 1 m cover between yr 15 and 20.
Native grasses are expected to continue to recover by year 20. An estimated 2-5% increase is reflected in scores.
organic litter regeneration is expected to accelerate more at year 15-20. A 2-5% cover increase is reflected at sites which are below benchmark.
some large tree accummulation. See large tree predictions tab.

the over crowding of CWD at AU1 will be redistributed between AU2 and AU3.
all sites maintained below 15% weed cover.

Final habitat quality score (weighted)	**AU1**	**AU2**	**AU3**	**Ave / Final**	
Habitat Quality (out of 4)	2.24	2.34	1.93	2.17	
Site Context Score (out of 3)	2.55	2.55	2.55	2.55	
Species Stocking Rate Score (out of 3)	1.80	2.10	1.20	1.70	
Habitat Quality score (out of 10)	*6.59*	*6.99*	*5.68*	*6.42*	
Habitat Quality score (Rounded)	*6.00*	*4.00*	*4.00*	*4.67*	
Assessment Unit area (ha)	61.35	20.63	6.65	88.63	
Total offset area (ha) for this MNES	88.63	88.63	88.63	88.63	
Size Weighting	0.69	0.23	0.08	1.00	
Weighted Habitat Quality Score	***4.56***	***1.63***	***0.43***	***6.61***	***7.00***

Supplementary table for threats scoring			**Score**			**Result**		**Final result**	
Listed threatening process	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**		
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		Maintained low rating.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	7	1.05		no change.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	15	2.25		no change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		no change.
Threats score out of 15								13.8	
Scaled score (1-5=**1**; 6-10=**5**; 11-15=**10**)								10	Maintained low level threats

28ºS ENVIRONMENTAL

Appendix 15.3: Thagoona Koala MHQA

OFFSET - KOALA Baseline

cell linked

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3										
Site Reference	Benchmark	BC06			BC08					Benchmark	BC05			BC07					Total average	Total
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	% benchmark	average score
Site Condition																				
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	0	0%	0.0	100	100%	5.0	50%	2.5	75%	3.8
Native plant species richness - trees	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	1	20%	0.0	2	40%	2.5	30%	1.3	30%	1.3
Native plant species richness - shrubs	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	3	60%	2.5	2	40%	2.5	50%	2.5	40%	1.9
Native plant species richness - grasses	9	2	22%	0.0	2	22%	0.0	22%	0.0	9	4	44%	2.5	6	67%	2.5	56%	2.5	39%	1.3
Native plant species richness - forbes	25	8	32%	2.5	13	52%	2.5	42%	2.5	25	19	76%	2.5	17	68%	2.5	72%	2.5	57%	2.5
Tree canopy height (average of emergent, canopy, sub-canopy)	17	10.5	62%	3.0	16	94%	5.0	78%	4.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	93%	4.5
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	5.1	21%	2.0	7.5	31%	2.0	26%	2.0	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	49%	3.5
Shrub canopy cover	4	2	50%	3.0	0	0%	0.0	25%	1.5	4	0	0%	0.0	11.5	288%	3.0	144%	1.5	84%	1.5
Native grass cover	52	1	2%	0.0	0	0%	0.0	1%	0.0	52	27.6	53%	3.0	0	0%	0.0	27%	1.5	14%	0.8
Organic litter	20	11	55%	5.0	25.4	127%	5.0	91%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	81%	5.0
Large trees (euc plus non-euc)	14	2	14%	5.0	0	0%	0.0	7%	2.5	14	0	0%	0.0	4	29%	5.0	14%	2.5	11%	2.5
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5
Non-native plant cover	0	70	70%	0.0	50	50%	3.0	60%	1.5	0	50	50%	3.0	50	50%	3.0	50%	3.0	55%	2.3
Quality and availability of food and foraging habitat	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	28%	5.0
Quality and availability of shelter	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	28%	5.0
					0															
Site Condition Score				35.5			37.5		36.5				38.5			53		45.8		41.1
MAX Site Condition Score				*100*			*100*		*100*				*100*			*100*		*100*		*100*
Site Condition Score - out of 3				**1.07**			**1.13**		**1.10**				**1.16**			**1.59**		**1.37**		**1.23**
Site Context																				
Size of patch	10			10			10		10.0	10	>200 ha		10			10	10	10.0	10	10.0
Connectedness	5			2			2		2.0	5	0.35%		2			2	2	2.0	2	2.0
Context	5			4			4		4.0	5	0.51%		4			4	4	4.0	4	4.0
Ecological Corridors	6			6			6		6.0	6	within		6			6	6	6.0	6	6.0
Role of site location to species overall population in the state	5			5			5		5.0	5	at critical due to breeding.		5			5	5	5.0	5	5.0
Threats to the species	15			15			15		15.0	15	lowlevel threats		15			15	15	15.0	15	15.0
Species mobility capacity	10			10.00			10.00		10.0	10	Minimal barriers		10.00			10.00	10	10.0	10	10.0
Site Context Score				52			52		52.0				52			52		52.0		52.0
MAX Site Context Score				*56*			*56*		*56*				*56*			*56*		*56*		*56*
Site Context Score - out of 3				**2.79**			**2.79**		**2.79**				**2.79**			**2.79**		**2.79**		**2.79**
Habitat Quality			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score
Quality and availability of food and foraging habitat																				
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		1.00	20.00		1.00	20.00		20.00	*20*		1.00	20.00		1.00	20.00		20.00		20.00
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		1.00	5.00		1.00	5.00		5.00	*10*		1.00	5.00		1.00	5.00		5.00		5.00
Tree density (per hectare stem count) of LIKT species	*20*		0.06	5.00		0.27	10.00		7.50	*20*		0.50	10.00		0.01	5.00		7.50		7.50
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		1.00	10.00		10.00		10.00
Total Score	**60**			40.00			45.00		42.50	**60**			45.00			40.00		42.50		42.50
% of total score				66.67			75.00		70.83				75.00			66.67		70.83		70.83
scaled score				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Quality and availability of shelter																				
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		0.00	0.00		0.00	0.00		0.00	*10*		0.00	0.00		1.00	1.00		0.50		0.25
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		0.21	5.00		0.31	10.00		7.50	*20*		0.69	15.00		0.75	15.00		15.00		11.25
Recruitment of all Forage/Shelter tree species (% of total tree species dive	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		0.50	5.00		7.50		8.75
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		0.06	5.00		0.27	10.00		7.50	*20*		0.50	10.00		0.14	5.00		7.50		7.50
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	*10*		5.00	5.00		5.00	5.00		5.00		5.00
Total Score	**70**			25.00			35.00		30.00	**70**			40.00			31.00		35.50		32.75
% of total score				35.71			50.00		42.86				57.14			44.29		50.71		46.79
scaled score				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Species mobility																				
Physical barriers – structures / fences / powerlines / services / dams / wat	*10*		Low	10.00		Low	10.00		10.00	*10*		Low	10.00		Low	10.00		10.00		10.00
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		20.00	*20*		0.00	20.00		0.00	20.00		20.00		20.00
MAX Score	**30**			30.00			30.00		30.00	**30**			30.00			30.00		30.00		30.00
% of total score				100.00			100.00		100.00				100.00			100.00		100.00		100.00
scaled score				**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**		**10.00**

Species Stocking Rate (SSR)						Matter Area
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	10
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	10
		0%	low	medium	high	
Predictions pertaining to species' population within the Offset Area is Role/importance of species population on siteChange in attribute score	Score (*Total from supplementary table below*)	0	5	10	15	5
		0	5 - 15	20 - 35	40 - 45	
Total SRR score (out of 70)						40
SRR Score (out of 4)						**2.29**

Site	SAT Results
BC05	N/A
BC07	0
BC06	N/A
BC08	N/A

Koala occupancy is presumed to be low based on absence of scat evidence. Scratch marks and possible scat suggest koala do utilise the habitat. Previous survey observed koala and back young. In the interest of adopting a precautionary approach, koala is consider to occur on site.

Supplementary table for threats scoring			Score			Result		
Listed threatening process	Scoring indicator	Score weighting	1	7	15	Score	Average / Weighted score	Final result
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15		
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	15	2.25	
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	7		
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	1.65	
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	
Threats score out of 15								14.4
Scaled score (1-5=**1**; 6-10=**7**; 11-15=**15**)								15

*SSR Supplementary Table				Matter area
*Key source population for breeding	Score	0	10	0
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0
		No	Yes	
Total for SSR Supplementary Table				**5**

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.10	1.37	1.23
Site Context Score (out of 3)	2.79	2.79	2.79
Species Stocking Rate Score (out of 4)	2.29	2.29	2.29
Habitat Quality score (out of 10)	6.17	6.44	6.31
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**2.04**	**4.32**	**6.35**

6

Thagoona North Offset - Landscape Scoring

AU	Patch size		Connectedness		Context		Ecological corridors	
	area	score	area	score	area	score	result	score
1	>200 ha	10	0.35	2	0.51	4	Within (whole or part)	6
2	>200 ha	10	0.35	2	0.51	4	Within (whole or part)	6

BASELINE

Thagoona North Offset - Koala - stem counts for Habitat Quality scoring

REDD Technical-Description stem count	**RE**	12.3.3
	T1	115
	T2	160
	Sum of average stem counts for combined T1/T2 layer	**275**
	10% of TD average	**27.5**

										Averages	
LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1		AU2	AU1
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	0	30	0	18	70	6		
	total stems per ha	138		30		18		76		84.00	47.00
	% of TD total	**50.18**		**10.91**		**6.55**		**27.64**		30.55	17.09

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1	
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8	
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3	
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300
	Eucalyptus tereticornis	80	58	0	30	0	18	70	6
	Blakella tessellaris				10				
	total stems per ha	138		40		18		76	
	% of TD average	**50.18**		**14.55**		**6.55**		**27.64**	

89.00	47.00
32.36	17.09

Year 5

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	0	30	0	18	70	6		
	total stems per ha	138		30		18		76		84.00	47.00
	% of TD total	**50.18**		**10.91**		**6.55**		**27.64**		30.55	17.09

assissted regen species are not expected to exceed 100 mm DBH by year 5.

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	0	30	0	18	70	6		
	Blakella tessellaris				10						
	total stems per ha	138		40		18		76		89.00	47.00
	% of TD average	**50.18**		**14.55**		**6.55**		**27.64**		32.36	17.09

Year 10

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	30	30	27	18	70	6		
	Eucalyptus crebra	20		9		20		20			
	total stems per ha	158		69		65		96		113.50	80.50
	% of TD total	**57.45**		**25.09**		**23.64**		**34.91**		41.27	29.27

assissted regen species should be exceeding 100 mm DBH by year 10.
10-20% of stem count is estimated to have accumulated.

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	30	30	27	18	70	6		
	Blakella tessellaris	2		1	10	2		2			
	Eucalyptus crebra	20		7		20		20			
	Corymbia intermedia	3		1		3		3			
	other species.	2		2		2		2			
	total stems per ha	165		81		72		103		123.00	87.50
	% of TD average	**60.00**		**29.45**		**26.18**		**37.45**		44.73	31.82

Year 15

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	60	30	54	18	70	6		
	Eucalyptus crebra	40		15		40		40			
	total stems per ha	178		105		112		116		141.50	114.00
	% of TD total	**64.73**		**38.18**		**40.73**		**42.18**		51.45	41.45

assissted regen species should occur between 100 and 300 mm DBH.
another 10-20% of stem count is estimated to have accumulated.

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	60	30	54	18	70	6		
	Blakella tessellaris	4		4	10	4		4			
	Eucalyptus crebra	40		13		40		40			
	Corymbia intermedia	8		2		8		8			
	other species.	2		2		2		2			
	total stems per ha	192		121		126		130		156.50	128.00
	% of TD average	**69.82**		**44.00**		**45.82**		**47.27**		56.91	46.55

Year 20

LIKT stem counts - foraging tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	64	45	80	29	74	6		
	Eucalyptus crebra	40	20	15	15	40	20	40	20		
	total stems per ha	198		139		169		140		168.50	154.50
	% of TD total	**72.00**		**50.55**		**61.45**		**50.91**		61.27	56.18

assissted regen species may begin to exceed 300 mm DBH
5-10% of stem count is estimated to have accumulated.

All tree stem counts - shelter tree scoring	Assessment Units (AU)	AU2		AU2		AU1		AU1			
	BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8			
	Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3			
	Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300		
	Eucalyptus tereticornis	80	58	64	45	80	29	74	6		
	Blakella tessellaris	4	1	4	10	4	1	4	1		
	Eucalyptus crebra	40	20	13	15	40	20	40	20		
	Corymbia intermedia	8	2	2	1	8	2	8	2		
	other species.	2		2		2		2			
	total stems per ha	215		156		186		157		185.50	171.50
	% of TD average	**78.18**		**56.73**		**67.64**		**57.09**		67.45	62.36

	Year 0				
year 0 Large tree predictions	Assessment Units (AU)		**AU2**		**AU1**
	BioCondition Transect	BC05	BC07	BC06	BC08
	Equivalent Regional Ecosystem	12.3.3	12.3.3	12.3.3	12.3.3
	Eucalyptus large tree DBH			**540**	
	Eucalyptus tereticornis	340,360,490,470,330,390,310,510, 390,300,340,480,510,350,460,370, 350,440,330,390,390,330,350,350, 380,320,320,390,420	500,360,250,250,410,400,330,**1345** ,390,370,250,360,470,**825**,450,410, 220,420,480,180	410,410,470,310,220,440,380,530,**56** **5**,460	520,530, 410,380,250
	New large trees		0	0	0
	Total large trees		0	2	1
	Total large trees per hectare (*2)		**0**	**4**	**2**

	Year 5				
year 5 Large tree predictions	Assessment Units (AU)		**AU2**		**AU1**
	BioCondition Transect	BC05	BC07	BC06	BC08
	Equivalent Regional Ecosystem	12.3.3	12.3.3	12.3.3	12.3.3
	Eucalyptus large tree DBH			**540**	
	Eucalyptus tereticornis	340,360,490,470,330,390,310,520, 390,300,340,480,520,350,460,370, 350,440,330,390,390,330,350,350, 380,320,320,390,420	510,360,250,250,410,400,330,**1345** ,390,370,250,360,470,**825**,450,410, 220,420,480,180	410,410,470,310,220,440,380,540,**56** **5**,460	530,540,410,380,250
	New large trees		0	0	1
	Total large trees		0	2	2
	Total large trees per hectare (*2)		**0**	**4**	**4**

	Year 10				
year 10 Large tree predictions	Assessment Units (AU)		**AU2**		**AU1**
	BioCondition Transect	BC05	BC07	BC06	BC08
	Equivalent Regional Ecosystem	12.3.3	12.3.3	12.3.3	12.3.3
	Eucalyptus large tree DBH		**540**		
	Eucalyptus tereticornis	340,360,490,470,330,390,310,530, 390,300,340,480,530,350,460,370, 350,440,330,390,390,330,350,350, 380,320,320,390,420	520,360,250,250,410,400,330,**1345** ,390,370,250,360,470,**825**,450,410, 220,420,480,180	410,410,470,310,220,440,380,540,**56** **5**,460	540,540,410,380,250
	New large trees		0	0	0
	Total large trees		0	2	2
	Total large trees per hectare (*2)		**0**	**4**	**4**

	Year 15				
year 15 Large tree predictions	Assessment Units (AU)		**AU2**		**AU1**
	BioCondition Transect	BC05	BC07	BC06	BC08
	Equivalent Regional Ecosystem	12.3.3	12.3.3	12.3.3	12.3.3
	Eucalyptus large tree DBH		**540**		
	Eucalyptus tereticornis	340,360,490,470,330,390,310,540, 390,300,340,480,540,350,460,370, 350,440,330,390,390,330,350,350, 380,320,320,390,420	530,360,250,250,410,400,330,**1345** ,390,370,250,360,470,**825**,450,410, 220,420,480,180	410,410,470,310,220,440,380,540,**56** **5**,460	540,540,410,380,250
	New large trees		2	0	0
	Total large trees		2	2	2
	Total large trees per hectare (*2)		**4**	**4**	**4**

	Year 20				
yr 20 Large tree predictions	Assessment Units (AU)		**AU2**		**AU1**
	BioCondition Transect	BC05	BC07	BC06	BC08
	Equivalent Regional Ecosystem	12.3.3	12.3.3	12.3.3	12.3.3
	Eucalyptus large tree DBH		**540**		
	Eucalyptus tereticornis	340,360,490,470,330,390,310,540, 390,300,340,480,540,350,460,370, 350,440,330,390,390,330,350,350, 380,320,320,390,420	540,360,250,250,410,400,330,**1345** ,390,370,250,360,470,**825**,450,410, 220,420,480,180	410,410,470,310,220,440,380,540,**56** **5**,460	540,540,410,380,250
	New large trees		0	1	0
	Total large trees		2	3	2
	Total large trees per hectare (*2)		**4**	**6**	**4**

An estimated annual diameter growth rate of **0.2 cm/year** was adopted for *Eucalyptus tereticornis* as a conservative assumption for south-east Queensland conditions. This estimate is supported by the long-term growth analysis of Ngugi et al. (2015), who quantified diameter increments from over 86,000 trees monitored across subtropical Queensland over a 75-year period. The study found that 94% of annual diameter increments in native forests ranged between 0.01 and 0.50 cm/year, with growth varying according to species, rainfall and stem diameter class. *Eucalyptus tereticornis* was identified as one of the species exhibiting increased diameter growth with increasing mean annual rainfall across the study gradient (approximately 500–2,000 mm/year), consistent with the rainfall conditions typical of south-east Queensland. Although growth rates in favourable environments may exceed 0.2 cm/year, the adopted value lies toward the lower end of the observed range for the species and is therefore considered an appropriately conservative estimate for modelling long-term habitat development within native forest restoration contexts.

An annual growth rate of 0.2cm is applied. A total of 40 mm of growth will result over the 20 year offset period. To achieve and exceed a benchmark value of 540 mm DBH, only trees of 500 mm and greater are captured in large tree upswing predictions.

OFFSET - KOALA Year 5

cell linked

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3									Total	Total	
Site Reference	Benchmark	BC06			BC08			Average %		Benchmark	BC05			BC07					average %	average	logic
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	benchmark	score	
Site Condition																					
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	33	33%	3.0	100	100%	5.0	67%	4.0	83%	4.5	assumed full planting - although not yet reflected in scores.
Native plant species richness - trees	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	1	20%	0.0	2	40%	2.5	30%	1.3	30%	1.3	assumed full planting - although not yet reflected in scores.
Native plant species richness - shrubs	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	3	60%	2.5	2	40%	2.5	50%	2.5	40%	1.9	assisssted revegetation will plant native stock to meet benchmark values native to the area and RE. - not yet reflected
Native plant species richness - grasses	9	3	33%	2.5	3	33%	2.5	33%	2.5	9	5	56%	2.5	7	78%	2.5	67%	2.5	50%	2.5	assissted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One-two new native grass species are expected to accumulate each interim performance target year.
Native plant species richness - forbes	25	12	48%	2.5	17	68%	2.5	58%	2.5	25	21	84%	2.5	19	76%	2.5	80%	2.5	69%	2.5	Native forbs are expected to regenerate naturally over time, especially following good rain years. Estimated at 2-5 new species each assessment interval.
Tree canopy height (average of emergent, canopy, sub-canopy)	17	11	65%	3.0	16	94%	5.0	79%	4.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	94%	4.5	Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	5.1	21%	2.0	7.5	31%	2.0	26%	2.0	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	49%	3.5	no change expected at year 5.
Shrub canopy cover	4	7	175%	5.0	5	125%	5.0	150%	5.0	4	5	125%	5.0	14	350%	3.0	238%	4.0	194%	4.5	assumed full planting - higher shrub cover due to regrowth. No growth estimates of shrubs are made due to regrowth condition and subsequent inflation of shrub layer raw values. However, reduction in shrub cover at BC07 by approximately 2 metres each interim performance year is estimated. This accounts for the progression of regrowth into T1 and T2 layers, resulting in a presumed thinning of shrub raw values.
Native grass cover	52	11	21%	1.0	10	19%	1.0	20%	1.0	52	37.6	72%	3.0	10	19%	1.0	46%	2.0	33%	1.5	Expected gradual increase in raw data beteen each vegetation survey year. Especially following weed management actions. A 10% increase in estimated at year 5.
Organic litter	20	11	55%	5.0	25.4	127%	5.0	91%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	81%	5.0	potential increase in raw data. Not estimated as benchmark value is already attained at baseline.
Large trees (euc plus non-euc)	14	4	29%	5.0	2	14%	5.0	21%	5.0	14	0	0%	0.0	4	29%	5.0	14%	2.5	18%	3.8	up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5	no predicted change at year 5
Non-native plant cover	0	25	25%	5.0	25	25%	5.0	25%	5.0	0	25	25%	5.0	25	25%	5.0	25%	5.0	25%	5.0	reduced to less than 25%.
Quality and availability of food and foraging habitat	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	28%	5.0	no meaningful change predicted change at year 5
Quality and availability of shelter	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	28%	5.0	no meaningful change predicted change at year 5
					0																
Site Condition Score				46			53		49.5				48.5			56		52.3		50.9	
MAX Site Condition Score				*100*			*100*		*100*				*100*			*100*		*100*		*100*	
Site Condition Score - out of 3				**1.38**			**1.59**		**1.49**				**1.46**			**1.68**		**1.57**		**1.53**	
Site Context																					
Size of patch	10			10			10		10.0	10	>200 ha		10			10	10	10.0	10	10.0	will not change.
Connectedness	5			2			2		2.0	5	0.35%		2			2	2	2.0	2	2.0	will not change.
Context	5			4			4		4.0	5	0.51%		4			4	4	4.0	4	4.0	will not change.
Ecological Corridors	6			6			6		6.0	6	within		6			6	6	6.0	6	6.0	will not change.
Role of site location to species overall population in the state	5			5			5		5.0	5	t critical due to breeding.		5			5	5	5.0	5	5.0	high score already attained
Threats to the species	15			15			15		15.0	15	Low level threats		15			15	15	15.0	15	15.0	change predicted at year 20.
Species mobility capacity	10			10.00			10.00		10.0	10	Minimal barriers		10.00			10.00	10	10.0	10	10.0	high score already attained
Site Context Score				52			52		52.0				52			52		52.0		52.0	
MAX Site Context Score				*56*			*56*		*56*				*56*			*56*		*56*		*56*	
Site Context Score - out of 3				**2.79**			**2.79**		**2.79**				**2.79**			**2.79**		**2.79**		**2.79**	
Habitat Quality			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score	
Quality and availability of food and foraging habitat																					
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		1.00	20.00		1.00	20.00		20.00	*20*		1.00	20.00		1.00	20.00		20.00		20.00	
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		1.00	5.00		1.00	5.00		5.00	*10*		1.00	5.00		1.00	5.00		5.00		5.00	
Tree density (per hectare stem count) of LIKT species	*20*		0.06	5.00		0.27	10.00		7.50	*20*		0.50	10.00		0.01	5.00		7.50		7.50	
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		1.00	10.00		10.00		10.00	
Total Score	**60**			40.00			45.00		42.50	**60**			45.00			40.00		42.50		42.50	
% of total score				66.67			75.00		70.83				75.00			66.67		70.83		70.83	
scaled score				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**	
Quality and availability of shelter																					
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		0.00	0.00		0.00	0.00		0.00	*10*		0.00	0.00		1.00	1.00		0.50		0.25	
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		0.21	5.00		0.31	10.00		7.50	*20*		0.69	15.00		0.75	15.00		15.00		11.25	
Recruitment of all Forage/Shelter tree species (% of total tree species d	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		0.50	5.00		7.50		8.75	
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		0.06	5.00		0.27	10.00		7.50	*20*		0.50	10.00		0.14	5.00		7.50		7.50	
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	*10*		5.00	5.00		5.00	5.00		5.00		5.00	will not change.
Total Score	**70**			25.00			35.00		30.00	**70**			40.00			31.00		35.50		32.75	
% of total score				35.71			50.00		42.86				57.14			44.29		50.71		46.79	
scaled score				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**	
Species mobility																					
Physical barriers – structures / fences / powerlines / services / dams / v	*10*		Low	10.00		Low	10.00		10.00	*10*		Low	10.00		Low	10.00		10.00		10.00	
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		20.00	*20*		0.00	20.00		0.00	20.00		20.00		20.00	
MAX Score	**30**			30.00			30.00		20.00	**30**			30.00			30.00		30.00		30.00	
% of total score				100.00			100.00		66.67				100.00			100.00		100.00		100.00	
scaled score				**10.00**			**10.00**		**7.00**				**10.00**			**10.00**		**10.00**		**10.00**	

Species Stocking Rate (SSR)						**Matter Area**
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10
		No	Yes - adjacent	Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	10
		0%	low	medium	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5
		0	5 - 15	20 - 35	40 - 45	
Total SRR score (out of 70)						40
SRR Score (out of 4)						**2.3**

***SSR Supplementary Table**				**Matter area**
*Key source population for breeding	Score	0	10	0
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0
		No	Yes	
Total for SSR Supplementary Table				**5**

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.49	1.57	1.53
Site Context Score (out of 3)	2.79	2.79	2.79
Species Stocking Rate Score (out of 4)	2.29	2.29	2.29
Habitat Quality score (out of 10)	6.56	6.64	6.60
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**2.17**	**4.45**	**6.61**

Site	SAT Results
BC05	N/A
BC07	0
BC06	N/A
BC08	N/A

Koala occupancy is presumed to be low based on absence of scat evidence. Scratch marks and possible scat suggest koala do utilise the habitat. Previous survey observed koala and back young. In the interest of adopting a precautionary approach, koala is consider to occur on site.

Supplementary table for threats scoring			**Score**			**Result**		
Listed threatening	**Scoring indicator**	**Score weighting**	**1**	**7**	**15**	**Score**	**Average / Weighted score**	**Final result**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15		
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	15	2.25	
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	7		
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	1.65	
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	
Threats score out of 15								14.4
Scaled score (1-5=1; 6-10=7; 11-15=**15**)								15

6

OFFSET - KOALA Year 10

cell linked

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3										
Site Reference	Benchmark	BC06			BC08			Average %	Average	Benchmark	BC05			BC07					Total average %	Total average
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	benchmark	score
Site Condition																				
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	33	33%	3.0	100	100%	5.0	67%	4.0	83%	4.5
Native plant species richness - trees	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - shrubs	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - grasses	9	5	56%	2.5	5	56%	2.5	56%	2.5	9	6	67%	2.5	8	89%	2.5	78%	2.5	67%	2.5
Native plant species richness - forbes	25	16	64%	2.5	21	84%	2.5	74%	2.5	25	23	92%	5.0	21	84%	2.5	88%	3.8	81%	3.1
Tree canopy height (average of emergent, canopy, sub-canopy)	17	11.5	68%	3.0	16	94%	5.0	81%	4.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	94%	4.5
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	7.1	30%	2.0	12.5	52%	5.0	41%	3.5	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	56%	4.3
Shrub canopy cover	4	7	175%	5.0	5	125%	5.0	150%	5.0	4	5	125%	5.0	12	300%	3.0	213%	4.0	181%	4.5
Native grass cover	52	21	40%	1.0	20	38%	1.0	39%	1.0	52	47	90%	5.0	20	38%	1.0	64%	3.0	52%	2.0
Organic litter	20	11	55%	5.0	25.4	127%	5.0	91%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	81%	5.0
Large trees (euc plus non-euc)	14	4	29%	5.0	4	29%	5.0	29%	5.0	14	0	0%	0.0	4	29%	5.0	14%	2.5	21%	3.8
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	15%	5.0	0	15	15%	5.0	15	15%	5.0	15%	5.0	15%	5.0
Quality and availability of food and foraging habitat	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	10.00	10%	10.0	5.00	50%	5.0	30%	7.5	29%	6.3
Quality and availability of shelter	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	28%	5.0
					0															
Site Condition Score				56			61		58.5				65.5			61		63.3		60.9
MAX Site Condition Score				*100*			*100*		*100*				*100*			*100*		*100*		*100*
Site Condition Score - out of 3				**1.68**			**1.83**		**1.76**				**1.97**			**1.83**		**1.90**		**1.83**
Site Context																				
Size of patch	10			10			10		10.0	10	>200 ha		10			10	10	10.0	10	10.0
Connectedness	5			2			2		2.0	5	0.35%		2			2	2	2.0	2	2.0
Context	5			4			4		4.0	5	0.51%		4			4	4	4.0	4	4.0
Ecological Corridors	6			6			6.0		6.0	6	within		6			6	6	6.0	6	6.0
Role of site location to species overall population in the state	5			5			5		5.0	5	t critical due to breeding.		5			5	5	5.0	5	5.0
Threats to the species	15			15			15		15.0	15	Low level threats		15			15	15	15.0	15	15.0
Species mobility capacity	10			10.00			10.00		10.0	10	Minimal barriers		10.00			10.00	10	10.0	10	10.0
Site Context Score				52			52		52.0				52			52		52.0		52.0
MAX Site Context Score				*56*			*56*		*56*				*56*			*56*		*56*		*56*
Site Context Score - out of 3				**2.79**			**2.79**		**2.79**				**2.79**			**2.79**		**2.79**		**2.79**
Habitat Quality			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score
Quality and availability of food and foraging habitat																				
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		1.00	20.00		1.00	20.00		20.00	*20*		1.00	20.00		1.00	20.00		20.00		20.00
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		1.00	5.00		1.00	5.00		5.00	*10*		1.00	5.00		1.00	5.00		5.00		5.00
Tree density (per hectare stem count) of LIKT species	*20*		0.23	5.00		0.34	10.00		7.50	*20*		0.57	15.00		0.25	5.00		10.00		8.75
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		1.00	10.00		10.00		10.00
Total Score	**60**			40.00			45.00		42.50	**60**			50.00			40.00		45.00		43.75
% of total score				66.67			75.00		70.83				83.33			66.67		75.00		72.92
scaled score				**5.00**			**5.00**		**5.00**				**10.00**			**5.00**		**5.00**		**5.00**
Quality and availability of shelter																				
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		0.00	0.00		0.00	0.00		0.00	*10*		0.00	0.00		1.00	1.00		0.50		0.25
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		0.30	5.00		0.52	15.00		10.00	*20*		0.69	15.00		0.75	15.00		15.00		12.50
Recruitment of all Forage/Shelter tree species (% of total tree species d	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		0.50	5.00		7.50		8.75
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		0.26	10.00		0.37	10.00		10.00	*20*		0.60	15.00		0.29	10.00		12.50		11.25
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	*10*		5.00	5.00		5.00	5.00		5.00		5.00
Total Score	**70**			30.00			40.00		35.00	**70**			45.00			36.00		40.50		37.75
% of total score				42.86			57.14		50.00				64.29			51.43		57.86		53.93
scaled score				**5.00**			**5.00**		**5.00**				**5.00**			**5.00**		**5.00**		**5.00**
Species mobility																				
Physical barriers – structures / fences / powerlines / services / dams / w	*10*		Low	10.00		Low	10.00		10.00	*10*		Low	10.00		Low	10.00		10.00		10.00
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		20.00	*20*		0.00	20.00		0.00	20.00		20.00		20.00
MAX Score	**30**			30.00			30.00		20.00	**30**			30.00			30.00		30.00		30.00
% of total score				100.00			100.00		66.67				100.00			100.00		100.00		100.00
scaled score				**10.00**			**10.00**		**7.00**				**10.00**			**10.00**		**10.00**		**10.00**

logic

assumed full planting - although not yet reflected in scores.
assumed full planting to make up a tree diversity of 5 throughout the offset area. Expected that trees will begin to move into the T2 layer by year 10.
Native shrub layer will increase, largely due to assisted regen (shrubs and trees in shrub form). This will thin out again in years 15 and 20.
assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One-two new native grass species are expected to accumulate each interim performance target year.
Native forbs are expected to regenerate naturally over time, especially following good rain years. Estimated at 2-5 new species each assessment interval.
Tree canopy height is expected to increase over time. Conservative estimate of 50cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover is expected to increase over time from the growth of existing canopy trees, and then more rapidly accummulate at years 15-20 when assisted regen trees are contributing to the canopy layer with more certainty. Conservative estimate of 2 m of growth is expected at year 10.
assumed full planting - higher shrub cover due to regrowth. No growth estimates of shrubs are made due to regrowth condition and subsequent inflation of shrub layer raw values. However, reduction in shrub cover at BC07 by approximately 2 metres each interim performance year is estimated. This accounts for the progression of regrowth into T1 and T2 layers, resulting in a presumed thinning of shrub raw values.

Expected gradual increase in raw data beteen each vegetation survey year. Especially following weed management actions. In consideration of revegetation, grass cover between years 5 and 10 is expected to remain similar.
potential increase in raw data. Not estimated as benchmark value is already attained at baseline.

up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.
no predicted change at year 10
reduced to less than 15%.
no predicted change at year 10
no predicted change at year 10

will not change.
will not change.
will not change.
will not change.
high score already attained
change predicted at year 20.
high score already attained

Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 10 mm DBH at year 100 - and thus available for foraging to koala. Scores therefore do not change at year 10.

Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 10 mm DBH at year 100 - and thus available for foraging to koala. Scores therefore do not change at year 10.

will not change.

57.4545455 25.09090909 23.63636364 34.90909091

Species Stocking Rate (SSR)						Matter Area
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	10
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	10
		0%	low	medium	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5
		0	5 - 15	20 - 35	40 - 45	
Total SRR score (out of 70)						40
SRR Score (out of 4)						**2.3**

Site	SAT Results
BC05	N/A
BC07	0
BC06	N/A
BC08	N/A

Koala occupancy is presumed to be low based on absence of scat evidence. Scratch marks and possible scat suggest koala do utilise the habitat. Previous survey observed koala and back young. In the interest of adopting a precautionary approach, koala is consider to occur on site.

Supplementary table for threats scoring			Score			Result		
Listed threatening p	**Scoring indicator**	**Score weighting**	**1**	**7**	**15**	**Score**	**Average / Weighted score**	**Final result**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	No change
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15		No change
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	15	2.25	No change
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	7		No change
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	1.65	No change
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	No change
Threats score out of 15							14.4	
Scaled score (1-5=1; 6-10=7; 11-15=15)							15	

*SSR Supplementary Table				Matter area
*Key source population for breeding	Score	0	10	0
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0
		No	Yes	
Total for SSR Supplementary Table				**5**

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.76	1.90	1.83
Site Context Score (out of 3)	2.79	2.79	2.79
Species Stocking Rate Score (out of 4)	2.29	2.29	2.29
Habitat Quality score (out of 10)	6.83	6.97	6.90
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**2.25**	**4.67**	**6.92**

6

OFFSET - KOALA Year 15

cell linked

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3										
Site Reference	Benchmark 12.3.3	BC06			BC08					Benchmark 12.3.3	BC05			BC07					Total average % benchmark	Total average score
		Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score		Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score		
Site Condition																				
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	100	100%	5.0	100	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - trees	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - shrubs	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - grasses	9	7	78%	2.5	7	78%	2.5	78%	2.5	9	8	89%	2.5	9	100%	5.0	94%	3.8	86%	3.1
Native plant species richness - forbes	25	20	80%	2.5	24	96%	5.0	88%	3.8	25	23	92%	5.0	23	92%	5.0	92%	5.0	90%	4.4
Tree canopy height (average of emergent, canopy, sub-canopy)	17	12	71%	5.0	16	94%	5.0	82%	5.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	95%	5.0
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	12.1	50%	5.0	17.5	73%	5.0	62%	5.0	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	67%	5.0
Shrub canopy cover	4	6	150%	5.0	4	100%	5.0	125%	5.0	4	4	100%	5.0	10	250%	3.0	175%	4.0	150%	4.5
Native grass cover	52	31	60%	3.0	30	58%	3.0	59%	3.0	52	47	90%	5.0	30	58%	3.0	74%	4.0	66%	3.5
Organic litter	20	16	80%	5.0	25.4	127%	5.0	104%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	87%	5.0
Large trees (euc plus non-euc)	14	4	29%	5.0	4	29%	5.0	29%	5.0	14	4	29%	5.0	4	29%	5.0	29%	5.0	29%	5.0
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5
Non-native plant cover	0	10	10%	5.0	10	10%	5.0	10%	5.0	0	10	10%	5.0	10	10%	5.0	10%	5.0	10%	5.0
Quality and availability of food and foraging habitat	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	10.00	10%	10.0	5.00	50%	5.0	30%	7.5	29%	6.3
Quality and availability of shelter	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	28%	5.0
					0															
Site Condition Score				63			65.5		64.3				72.5			68		70.3		67.3
MAX Site Condition Score				*100*			*100*		*100*				*100*			*100*		*100*		*100*
Site Condition Score - out of 3				**1.89**			**1.97**		**1.93**				**2.18**			**2.04**		**2.11**		**2.02**
Site Context																				
Size of patch	10			10			10		10.0	10	>200 ha		10			10	10	10.0	10	10.0
Connectedness	5			2			2		2.0	5	0.35%		2			2	2	2.0	2	2.0
Context	5			4			4		4.0	5	0.51%		4			4	4	4.0	4	4.0
Ecological Corridors	6			6			6		6.0	6	within		6			6	6	6.0	6	6.0
Role of site location to species overall population in the state	5			5			5		5.0	5	abitat critical due to breeding.		5			5	5	5.0	5	5.0
Threats to the species	15			15			15		15.0	15	Low level threats		15			15	15	15.0	15	15.0
Species mobility capacity	10			10.00			10.00		10.0	10	Minimal barriers		10.00			10.00	10	10.0	10	10.0
Site Context Score				52			52		52.0				52			52		52.0		52.0
MAX Site Context Score				*56*			*56*		*56*				*56*			*56*		*56*		*56*
Site Context Score - out of 3				**2.79**			**2.79**		**2.79**				**2.79**			**2.79**		**2.79**		**2.79**
Habitat Quality			Raw Data	Score		Raw Data	Score		Average Score			Raw Data	Score		Raw Data	Score		Average Score		Average Score
Quality and availability of food and foraging habitat																				
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		0.75	20.00		0.75	20.00		20.00	*20*		0.75	20.00		0.75	20.00		20.00		20.00
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		3.00	5.00		3.00	5.00		5.00	*10*		3.00	5.00		3.00	5.00		5.00		5.00
Tree density (per hectare stem count) of LIKT species	*20*		0.40	10.00		0.42	10.00		10.00	*20*		0.64	15.00		0.38	10.00		12.50		11.25
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		1.00	10.00		10.00		10.00
Total Score	**60**			45.00			45.00		45.00	**60**			50.00			45.00		47.50		46.25
% of total score				75.00			75.00		75.00				83.33			75.00		79.17		77.08
scaled score				**5.00**			**5.00**		**5.00**				**10.00**			**5.00**		**10.00**		**5.00**
Quality and availability of shelter																				
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		1.00	1.00		1.00	1.00		1.00	*10*		1.00	1.00		1.00	1.00		1.00		1.00
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		0.50	10.00		0.73	15.00		12.50	*20*		0.69	15.00		0.75	15.00		15.00		13.75
Recruitment of all Forage/Shelter tree species (% of total tree species diver	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		0.50	5.00		7.50		8.75
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		0.45	10.00		0.47	10.00		10.00	*20*		0.69	15.00		0.44	10.00		12.50		11.25
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	*10*		5.00	5.00		5.00	5.00		5.00		5.00
Total Score	**70**			36.00			41.00		38.50	**70**			46.00			36.00		41.00		39.75
% of total score				51.43			58.57		55.00				65.71			51.43		58.57		56.79
scaled score				**5.00**			**5.00**		**5.00**				**5.00**			5.00		**5.00**		**5.00**
Species mobility																				
Physical barriers – structures / fences / powerlines / services / dams / wate	*10*		Low	10.00		Low	10.00		10.00	*10*		Low	10.00		Low	10.00		10.00		10.00
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		20.00	*20*		0.00	20.00		0.00	20.00		20.00		20.00
MAX Score	**30**			30.00			30.00		20.00	**30**			30.00			30.00		30.00		30.00
% of total score				100.00			100.00		66.67				100.00			100.00		100.00		100.00
scaled score				**10.00**			**10.00**		**7.00**				**10.00**			**10.00**		**10.00**		**10.00**

logic

full recruitment expected.
assumed full planting to make up a tree diversity of 5 throughout the offset area. Expected that trees will begin to move into the T2 layer by year 10.
Native shrub layer will increase, largely due to assissted regen (shrubs and trees in shrub form). This will thin out again in years 15 and 20.

assissted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One-two new native grass species are expected to accumulate each interim performance target year.
Native forbs are expected to regenerate naturally over time, especially following good rain years. Estimated at 2-5 new species each assessment interval.
Tree canopy height is expected to increase over time. Conservative estimate of 50cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.

Tree canopy cover is expected to increase over time from the growth of existing canopy trees, and then more rapidly accummulate at years 15-20 when assissted regen trees are contributing to the canopy layer with more certainty. Increased canopy is estimated to reach 5 m of growth is expected at year 10 due to assigned regeneration.
change between years 10 and 15 are expected to reduce regeneration rates by 2.
assumed full planting - higher shrub cover due to regrowth. No growth estimates of shrubs are made due to regrowth condition and subsequent inflation of shrub layer raw values. However, reduction in shrub cover at BC07 by approximately 2 metres each interim performance year is estimated. This accounts for the progression of regrowth into T1 and T2 layers, resulting in a presumed thinning of shrub raw values.
potential increase in raw data. Not estimated as benchmark value is already attained at baseline.

up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.
no predicted change at year 15
reduced to less than 15%.
no predicted change at year 5
no predicted change at year 5

will not change.
will not change.
will not change.
will not change.
high score already attained
change predicted at year 20.
high score already attained

Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 10 mm DBH at year 10 - and thus available for foraging to koala. Scores therefore do not change at year 10.

Although species richness has increased due to assisted regeneration of native LIKT (foraging and ancillary), it is uncertain if trees will be > 10 mm DBH at year 10 - and thus available for foraging to koala. Scores therefore do not change at year 10.

will not change.

Species Stocking Rate (SSR)						Matter Area
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10		10
		No	Yes - adjacent	Yes - on site		
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	10
		0%	low	medium	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5
		0	5 - 15	20 - 35	40 - 45	
Total SRR score (out of 70)						40
SRR Score (out of 4)						**2.3**

Site	SAT Results
BC05	N/A
BC07	0
BC06	N/A
BC08	N/A

Koala occupancy is presumed to be low based on absence of scat evidence. Scratch marks and possible scat suggest koala do utilise the habitat. Previous survey observed koala and back young. In the interest of adopting a precautionary approach, koala is consider to occur on site.

Supplementary table for threats scoring			Score			Result		
Listed threatening process	Scoring indicator	Score weighting	1	7	15	Score	Average / Weighted score	Final result
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	No change
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15		No change
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	15	2.25	No change
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	7		No change
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	1.65	No change
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	No change
Threats score out of 15							14.4	
Scaled score (1-5=**3**; 6-10=**7**; 11-15=**15**)							15	

*SSR Supplementary Table				Matter area
*Key source population for breeding	Score	0	10	0
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0
		No	Yes	
Total for SSR Supplementary Table				**5**

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.93	2.11	2.02
Site Context Score (out of 3)	2.79	2.79	2.79
Species Stocking Rate Score (out of 4)	2.29	2.29	2.29
Habitat Quality score (out of 10)	7.00	7.18	7.09
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**2.31**	**4.81**	7.12

OFFSET - KOALA Year 20

cell linked

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3											
Site Reference	Benchmark	BC06			BC08			Average %		Benchmark	BC05			BC07					Total average %	Total average	logic
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	benchmark	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average % benchmark	Average Score	benchmark	score	
Site Condition																					
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	100	100%	5.0	100	100%	5.0	100%	5.0	100%	5.0	assumed full planting
Native plant species richness - trees	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0	assuming planting and can meet the benchmark
Native plant species richness - shrubs	5	6	120%	5.0	6	120%	5.0	120%	5.0	5	7	140%	5.0	6	120%	5.0	130%	5.0	125%	5.0	assisssted revegetation will plant native stock to meet benchmark values native to the area and RE.
Native plant species richness - grasses	9	9	100%	5.0	9	100%	5.0	100%	5.0	9	9	100%	5.0	9	100%	5.0	100%	5.0	100%	5.0	assisssted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One-two new native grass species are expected to accumulate each interim performance target year.
Native plant species richness - forbes	25	24	96%	5.0	23	92%	5.0	94%	5.0	25	23	92%	5.0	23	92%	5.0	92%	5.0	93%	5.0	Native forbs are expected to regenerate naturally over time, especially following good rain years. Estiamted at 2-5 new species each assessment interval.
Tree canopy height (average of emergent, canopy, sub-canopy)	17	12.5	74%	5.0	16	94%	5.0	84%	5.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	96%	5.0	assumed full planting growth will fill in over 20 years to 90% of the benchmark value
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	21.6	90%	5.0	21.6	90%	5.0	90%	5.0	24	21.6	90%	5.0	21.6	90%	5.0	90%	5.0	90%	5.0	assumed 20% increase where previous cover exists but where no cover exists assumed 20% of benchmark increase but with planting this could be exceeded
Shrub canopy cover	4	7	175%	5.0	5	125%	5.0	150%	5.0	4	5	125%	5.0	8	200%	5.0	163%	5.0	156%	5.0	assumed full planting - higher shrub cover due to regrowth. No growth estimates of shrubs are made due to regrowth condition and subsequent inflation of shrub layer raw values. However, reduction in shrub cover at BC07 by approximately 2 metres each interim performance year is estimated. This accounts for the progression of regrowth into T1 and T2 layers, resulting in a presumed thinning of shrub raw values.
Native grass cover	52	47	90%	5.0	47	90%	5.0	90%	5.0	52	47	90%	5.0	47	90%	5.0	90%	5.0	90%	5.0	assumed within 90% of benchmark native grass cover at year 20, following weed and fire management practices.
Organic litter	20	12.1	61%	5.0	25.4	127%	5.0	94%	5.0	20	14.74	74%	5.0	16.5	83%	5.0	78%	5.0	86%	5.0	assume 10% increase over 20 years due to increased organic input from establishing plants and removed weeds
Large trees (euc plus non-euc)	14	4	29%	5.0	4	29%	5.0	29%	5.0	14	4	29%	5.0	6	43%	5.0	36%	5.0	32%	5.0	up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.
Coarse woody debris	588	150	26%	2.0	150	26%	2.0	26%	2.0	588	150	26%	2.0	150	26%	2.0	26%	2.0	26%	2.0	increase by 1 cm per 5 years
Non-native plant cover	0	4.9	5%	10.0	4.9	5%	10.0	5%	10.0	0	4.9	5%	10.0	4.9	5%	10.0	5%	10.0	5%	10.0	reduced to <5%
Quality and availability of food and foraging habitat	10	10.00	10%	10.0	10.00	100%	10.0	55%	10.0	10	10.00	10%	10.0	10.00	100%	10.0	55%	10.0	55%	10.0	uplift
Quality and availability of shelter	10	5.00	5%	5.0	5.00	50%	5.0	28%	5.0	10	10.00	10%	10.0	5.00	50%	5.0	30%	7.5	29%	6.3	uplift
					0																
Site Condition Score				82			82		82.0				87			82		84.5		83.3	
MAX Site Condition Score				*100*			*100*		*100*				*100*			*100*		*100*		*100*	
Site Condition Score - out of 3				**2.46**			**2.46**		**2.46**				**2.61**			**2.46**		**2.54**		**2.50**	
Site Context																					
Size of patch	10			10			10		10.0	10	>200 ha		10			10	10	10.0	10	10.0	will not change.
Connectedness	5			2			2		2.0	5	0.35%		2			2	2	2.0	2	2.0	will not change.
Context	5			4			4		4.0	5	0.51%		4			4	4	4.0	4	4.0	will not change.
Ecological Corridors	6			6			6		6.0	6	within		6			6	6	6.0	6	6.0	will not change.
Role of site location to species overall population in the state	5			5			5		5.0	5	t critical due to breeding.		5			5	5	5.0	5	5.0	high score already attained
Threats to the species	15			15.0			15.0		15.0	15	Low level threats		15.0			15.0	15	15.0	15	15.0	high score already attained
Species mobility capacity	10			10.00			10.00		10.0	10	Minimal barriers		10.00			10.00	10	10.0	10	10.0	high score already attained
Site Context Score				52			52		52.0				52			52		52.0		52.0	
MAX Site Context Score				*56*			*56*		*56*				*56*			*56*		*56*		*56*	
Site Context Score - out of 3				**2.79**			**2.79**		**2.79**				**2.79**			**2.79**		**2.79**		**2.79**	
Habitat Quality		Raw Data		Score		Raw Data	Score		Average Score		Raw Data		Score	Raw Data		Score		Average Score		Average Score	
Quality and availability of food and foraging habitat																					
Proportion of canopy cover of LIKT trees within the 100x50 meter BioCondition plot	*20*		0.75	20.00		0.75	20.00		20.00	*20*		0.75	20.00		0.75	20.00		20.00		20.00	
Forage tree species richness (LIKTs as per Youngentob et al., 2022) (Only trees >100 DBH)	*10*		3.00	5.00		3.00	5.00		5.00	*10*		3.00	5.00		3.00	5.00		5.00		5.00	
Tree density (per hectare stem count) of LIKT species	*20*		0.61	15.00		0.51	15.00		15.00	*20*		0.72	15.00		0.51	15.00		15.00		15.00	
Recruitment of LIKT species only (% of total LIKT within plot)	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		1.00	10.00		10.00		10.00	
Total Score	**60**			50.00			50.00		50.00	**60**			50.00			50.00		50.00		50.00	
% of total score				83.33			83.33		83.33				83.33			83.33		83.33		83.33	
scaled score				**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**		**10.00**	
Quality and availability of shelter																					
presence of preferred ancilliary trees (listed in Youngentob et al.)	*10*		5.00	5.00		5.00	5.00		5.00	*10*		5.00	5.00		5.00	5.00		5.00		5.00	
Canopy cover of all trees within the 100x50 meter BioCondition plot	*20*		0.90	20.00		0.90	20.00		20.00	*20*		0.90	20.00		0.90	20.00		20.00		20.00	
Recruitment of all Forage/Shelter tree species (% of total tree species dive	*10*		1.00	10.00		1.00	10.00		10.00	*10*		1.00	10.00		1.00	10.00		10.00		10.00	
Tree density (per hectare stem count) of all trees >100 mm DBH	*20*		0.67	15.00		0.57	15.00		15.00	*20*		0.78	20.00		0.56	15.00		17.50		16.25	
Proximity to habitat refugia	*10*		5.00	5.00		5.00	5.00		5.00	*10*		5.00	5.00		5.00	5.00		5.00		5.00	will not change.
Total Score	**70**			55.00			55.00		55.00	**70**			60.00			55.00		57.50		56.25	
% of total score				78.57			78.57		78.57				85.71			78.57		82.14		80.36	
scaled score				**5.00**			**5.00**		**5.00**				**10.00**			**5.00**		**10.00**		**10.00**	
Species mobility																					
Physical barriers	*10*		Low	10.00		Low	10.00		10.00	*10*		Low	10.00		Low	10.00		10.00		10.00	
Exotic vegetation barriers	*20*		0.00	20.00		0.00	20.00		20.00	*20*		0.00	20.00		0.00	20.00		20.00		20.00	
MAX Score	**30**			30.00			30.00		30.00	**30**			30.00			30.00		30.00		30.00	
% of total score				100.00			100.00		100.00				100.00			100.00		100.00		100.00	
scaled score				**10.00**			**10.00**		**10.00**				**10.00**			**10.00**		**10.00**		**10.00**	

Species Stocking Rate (SSR)						Matter Area
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5		10	10
		No	Yes - adjacent		Yes - on site	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15	15
		Not habitat	Dispersal	Foraging	Breeding	
Approximate density (per ha)	Score	0	10	20	30	10
		0%	low	medium	high	
Role/importance of species population on site*	Score (*Total from supplementary table below*)	0	5	10	15	5
		0	5 - 15	20 - 35	40 - 45	
Total SRR score (out of 70)						40
SRR Score (out of 4)						**2.3**

Site	SAT Results
BC05	N/A
BC07	0
BC06	N/A
BC08	N/A

Habitat usage is improved to breeding after 20 years. this is based on the assumption that the recovery of habitat to remnant forest condition is adequately supportive of meeting all habitat requirements to koala. Koala density score remains at 10, this is a precautionary approach as koala occupancy cannot be guaranteed.

Supplementary table for threats scoring			Score			Result			
Listed threatening proc	Scoring indicator	Score weighting	1	7	15	Score	Average / Weighted score	Final result	
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		No change
Mortality from dogs	Wild/domestic dog activity index		An activity index score of very high or high	An activity index score of low or medium	An activity index score of absent or very low	15			No change
	Evidence of wild dog	15%	Traces of dogs detected through scats and/or tracks	Anecdotal evidence (i.e. landholder and/or local community discussion)	No traces of wild dog are detected on site / no anecdotal evidence	15	2.25		No change
Motality from vehicles	Percentage of site bounded by roads.		>75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads	16-75% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	<15% of Site boundary is either bounded by roads (within 200 meters) or intersects with roads.	7			No change
	Type of road	15%	Highway / motorway / high traffic	Street / main road / moderate traffic and/or busy during peak hour	Unsealed / low and/or occasional traffic	15	1.65		No change
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		No change
Threats score out of 15								14.4	
Scaled score (1-5=1; 6-10=7; 11-15=15)								15	

*SSR Supplementary Table				Matter area
*Key source population for breeding	Score	0	10	0
		No	Yes/ Possibly	
*Key source population for dispersal	Score	0	5	5
		No	Yes/ Possibly	
*Necessary for maintaining genetic diversity	Score	0	15	0
		No	Yes/ Possibly	
*Near the limit of the species range	Score	0	15	0
		No	Yes	
	Total for SSR Supplementary Table			**5**

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	2.46	2.54	2.50
Site Context Score (out of 3)	2.79	2.79	2.79
Species Stocking Rate Score (out of 4)	2.29	2.29	2.29
Habitat Quality score (out of 10)	7.53	7.61	7.57
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**2.49**	**5.09**	**7.58**

28ºS ENVIRONMENTAL

Appendix 15.4: Thagoona Grey-headed Flying-fox Alternate HQA

Thagoona North OFFSET - GHFF Baseline

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3										
Site Reference	Benchmark	BC06			BC08				Average	Benchmark	BC05			BC07			Average	Average	Total average	
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmar	Score	Average % benchmark	Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmar	Score	%	Score	%	Total average score
Site Condition																				
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	0	0%	0.0	100	100%	5.0	50%	2.5	75%	3.8
Native plant species richness - trees	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	1	20%	0.0	2	40%	2.5	30%	1.3	30%	1.3
Native plant species richness - shrubs	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	3	60%	2.5	2	40%	2.5	50%	2.5	40%	1.9
Native plant species richness - grasses	9	2	22%	0.0	2	22%	0.0	22%	0.0	9	4	44%	2.5	6	67%	2.5	56%	2.5	39%	1.3
Native plant species richness - forbes	25	8	32%	2.5	13	52%	2.5	42%	2.5	25	19	76%	2.5	17	68%	2.5	72%	2.5	57%	2.5
Tree canopy height (average of emergent, canopy, sub-canopy)	17	10.5	62%	3.0	16	94%	5.0	78%	4.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	93%	4.5
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	5.1	21%	2.0	7.5	31%	2.0	26%	2.0	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	49%	3.5
Shrub canopy cover	4	2	50%	3.0	0	0%	0.0	25%	1.5	4	0	0%	0.0	11.5	288%	3.0	144%	1.5	84%	1.5
Native grass cover	52	1	2%	0.0	0	0%	0.0	1%	0.0	52	27.6	53%	3.0	0	0%	0.0	27%	1.5	14%	0.8
Organic litter	20	11	55%	5.0	25.4	127%	5.0	91%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	81%	5.0
Large trees (euc plus non-euc)	14	2	14%	5.0	0	0%	0.0	7%	2.5	14	0	0%	0.0	4	29%	5.0	14%	2.5	11%	2.5
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5
Non-native plant cover	0	70	70%	0.0	50	50%	3.0	60%	1.5	0	50	50%	3.0	50	50%	3.0	50%	3.0	55%	2.3
Site Condition Score				25.5			27.5		26.5				28.5			43		35.8		31.1
MAX Site Condition Score				*80*			*80*		*80*				*80*			*80*		*80*		*80*
Site Condition Score - out of 20				**6.38**			**6.88**		**6.63**				**7.13**			**10.75**		**8.94**		**7.78**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**		Raw data	Score		Raw data	Score		Average Sc	**Benchmark**	**% contribution**	Raw data	Score		Raw data	Score		Average Score		Total average score
Species richness	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0
Flower score	*10*		0.65	8.0		0.65	8.0		8.0	*10*	11.1	0.65	8.0		0.65	8.0		8.0		8.0
Timing of Biological shortages	*10*		8.5	8.5		8.5	8.5		8.5	*10*	11.1	8.5	8.5		8.5	8.5		8.5		8.5
Quality of foraging habitat	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0
non-native plant cover	*20*		0.7	1.0		0.5	5.0		3.0	*20*	22.2	0.5	5.0		0.5	5.0		5.0		4.0
Q+A foraging habitat + Q+A shelter habitat score				27.5			31.5		29.5				31.5			31.5		31.5		123.9
MAX Score	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*60*
Site condition score	***20***			**6.4**			**6.9**		6.6	***20***	22.2		**7.1**			**10.8**		8.9		**7.8**
Q+A foraging habitat + Q+A shelter habitat score	***80***			**27.5**			**31.5**		29.5	***80***	88.9		**31.5**			**31.5**		31.5		**30.5**
Combined Habitat Quality Score				33.9			38.4		36.1				38.6			42.3		40.4		38.3
MAX Habitat Quality Score	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**1.36**			**1.54**		**1.45**				**1.55**			**1.69**		**1.62**		**1.53**
Site Context	**Benchmark**		Data	Score		Data	Score		Average Sc	**Benchmark**		Data	Score		Data	Score		Average Sc	Data	Total average score
Size of patch	*10*		> 200 ha of cat A/B/C reg v	10			10		10.0	*10*			10			10		10.0		10.0
Connectedness	*10*		12 camps within 20 km of t	10			10		10.0	*10*			10			10		10.0		10.0
Context	*10*		26% of area within 20 km i	3			3		3.0	*10*			3			3		3.0		3.0
Ecological Corridors	*10*		Within state corridor	10			10		10.0	*10*			10			10		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant camp within 2	1			1		1.0	*10*			1			1		1.0		1.0
threats to the species	*10*		low level threats	10			10		10.0	*10*			10			10		10.0		10.0
Site Context Score				44			44		44.0				44			44		44.0		44.0
MAX Site Context Score				*60*			*60*		*60*				*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.20**			**2.20**		**2.20**				**2.20**			**2.20**		**2.20**		**2.20**
Species Stocking Rate	**Benchmark**								Average Sc	**Benchmark**								Average Score		Total average score
GHFF tree density per/ha	*10*		2	2		2	2		2	*10*		2	2		2	2		2		**2.0**
Site Context Score				2			2		2.0				2			2		2.0		2.0
MAX Site Context Score				*10*			*10*		*10*				*10*			*10*		*10*		*10*
Site Context Score - out of 3				**0.60**			**0.60**		**0.60**				**0.60**			**0.60**		**0.60**		**0.60**

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.45	1.62	1.53
Site Context Score (out of 3)	2.20	2.20	2.20
Species Stocking Rate Score (out of 4)	0.60	0.60	0.60
Habitat Quality score (out of 10)	4.25	4.42	4.33
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**1.40**	**2.96**	**4.36**

4

Supplementary table for threats scoring			Score			Result		
Listed threatening process	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**	**Final result**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	7	1.05	
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	7	1.05	
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	
Threats score out of 15								12.6
Scaled score (1-5=1; 6-10=5; 11-15=10)								10

Thagoona North Offset - GHFF

baseline and year 5

Assessment Units (AU)	AU1		AU1		AU2		AU2	
BioCondition Transect	BioCon 5		BioCon 7		BioCon 6		BioCon 8	
Equivalent Regional Ecosystem	12.3.3		12.3.3		12.3.3		12.3.3	
Stem Counts from Data sheets mm	100-299	>300	100-299	>300	100-299	>300	100-299	>300
Eucalyptus tereticornis	80	58	0	30	0	18	70	6
Blakella tessellaris				10				
Total stems		**58**		**40**		**18**		**6**
score	**2**		**2**		**2**		**2**	
Biological score (trees >300 mm only)		**8.5**		**8.5**		**8.5**		**8.5**

Stem count thresholds for relevant REs

12.3.3		
T1	260	
T2		
	260	
lower value	upper value	score
0.0	32.5	2
33.6	140.8	4
141.9	238.3	6
239.4	254.6	8
255.7	265.4	10
266.5	281.7	8
282.8	379.2	6
380.3	487.5	4
487.5		2

Timing of biological shortages

		month period							
Tree species	sum	**Food shortages: Jul-Sept**	**Pregnancy: Jul-Nov**	**Lactation: Oct-Mar**	**Mating and conception : Dec-May**	**Migration paths: all years**	**Fruit industries : Aug-Mar**	**Wt p*r**	**adapted score**
		2.5	1.5	1.5	1.5	1.5	1.5		
Corymbia citriodora	4	2.5	1.5					**0.65**	
Eucalyptus tereticornis	8.5	2.5	1.5	1.5		1.5	1.5	0.37-0.88	**0.65**
Corymbia intermedia	3			1.5	1.5			**0.86**	
Blakella tessellaris	4.5		1.5	1.5	1.5			0.4	
Eucalyptus crebra	4	2.5	1.5					0.45-0.81	**0.65**
Eucalyptus melanophoila	3		1.5		1.5			0.45-0.54	0.54
Corymbia trachyphloia	3			1.5	1.5			0.45	
Eucalyptus melliodora	4.5			1.5	1.5		1.5	0.39	
Lophostemon confertus	6		1.5	1.5	1.5		1.5	0.46	
Melaleuca quinquenervia	4.5			1.5	1.5		1.5	**0.88**	
E. moluccana	4.5			1.5	1.5		1.5	0.35-0.65	**0.65**
Eucalyptus fibrosa	7.5		1.5	1.5	1.5	1.5	1.5	0.54	
Eucalyptus acmenoides	4.5			1.5	1.5		1.5	0.43	
gevillia robusta	3		1.5	1.5				**1**	
Eucalytpus siderophloia	10	2.5	1.5	1.5	1.5	1.5	1.5	**0.81**	

Delete and add tree species above as are present on site

Year 10

Assessment Units (AU)	AU2				AU1			
BioCondition Transect	5		7		6		8	
Equivalent Regional Ecosystem	12.3.3 Non-remnant				12.3.3 HVR			
Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300
Eucalyptus tereticornis	80	58	30	30	27	18	70	6
Blakella tessellaris	2		1	10	2		2	
Eucalyptus crebra	20		7		20		20	
Corymbia intermedia	3		1		3		3	
other species.	2		2		2		2	
Total stems		58		40		18		6
score	2		2		2		2	
Biological score (trees >300 mm only)		8.5		8.5		8.5		8.5

year 15

Assessment Units (AU)	AU2				AU1			
BioCondition Transect	5		7		6		8	
Equivalent Regional Ecosystem	12.3.3 Non-remnant				12.3.3 HVR			
mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300
Eucalyptus tereticornis	70	68	60	30	54	18	50	36
Blakella tessellaris	4		4	10	4		4	
Eucalyptus crebra	40		13		40		40	
Corymbia intermedia	8		2		8		8	
other species.	2		2		2		2	
Total stems		68		40		18		36
score	4		4		2		4	
Biological score (trees >300 mm only)		8.5		8.5		8.5		8.5

year 20

Assessment Units (AU)	AU2				AU1			
BioCondition Transect	5		7		6		8	
Equivalent Regional Ecosystem	12.3.3 Non-remnant				12.3.3 HVR			
Stem Counts from Data sheets mm DBH	100-299	>300	100-299	>300	100-299	>300	100-299	>300
Eucalyptus tereticornis	60	78	60	45	80	29	40	46
Blakella tessellaris	4	1	4	10	4	1	4	1
Eucalyptus crebra	40	20	13	15	40	20	40	20
Corymbia intermedia	8	2	2	1	8	2	8	2
other species.	2		2		2		2	
Total stems		101		71		52		69
score	4		4		4		4	
Biological score (trees >300 mm only)		8.5		8.5		8.5		8.5

flower scor 0.5875

Thagoona North OFFSET - GHFF Year 5

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3											
Site Reference	Benchmark	BC06			BC08			Average		Benchmark	BC05			BC07			Average	Average	Total		
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	%	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	%	Score	average % benchmar	Total average score	
Site Condition																					
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	33	33%	3.0	100	100%	5.0	67%	4.0	83%	4.5	assumed full planting - although not yet reflected in scores.
Native plant species richness - trees	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	1	20%	0.0	2	40%	2.5	30%	1.3	30%	1.3	assumed full planting - although not yet reflected in scores.
Native plant species richness - shrubs	5	1	20%	0.0	2	40%	2.5	30%	1.3	5	3	60%	2.5	2	40%	2.5	50%	2.5	40%	1.9	assissted revegetation will plant native stock to meet benchmark values native to the area and RE. - not yet reflected
Native plant species richness - grasses	9	2	22%	0.0	2	22%	0.0	22%	0.0	9	4	44%	2.5	6	67%	2.5	56%	2.5	39%	1.3	assissted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One new native grass species is expected to accumulate each vegetation survey year.
Native plant species richness - forbes	25	8	32%	2.5	13	52%	2.5	42%	2.5	25	19	76%	2.5	17	68%	2.5	72%	2.5	57%	2.5	Native forbs are expected to regenerate naturally over time, especially following good rain years. Estimated at 2 new species each assessment year.
Tree canopy height (average of emergent, canopy, sub-canopy)	17	11	65%	3.0	16	94%	5.0	79%	4.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	94%	4.5	Tree canopy height is expected to increase over time. Conservative estimate of 50 cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	5.1	21%	2.0	7.5	31%	2.0	26%	2.0	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	49%	3.5	no change expected at year 5.
Shrub canopy cover	4	7	175%	5.0	5	125%	5.0	150%	5.0	4	5	125%	5.0	16.5	413%	3.0	269%	4.0	209%	4.5	assumed full planting - higher shrub cover due to regrowth. Estiamted increase in cover by up to 5 metres.
Native grass cover	52	11	21%	1.0	10	19%	1.0	20%	1.0	52	37.6	72%	3.0	10	19%	1.0	46%	2.0	33%	1.5	Expected gradual increase in raw data beteen each vegetation survey year. Especially following weed management actions. A 10% increase in estimated at year 5.
Organic litter	20	11	55%	5.0	25.4	127%	5.0	91%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	81%	5.0	potential increase in raw data. Not estimated as benchmark value is already attained at baseline.
Large trees (euc plus non-euc)	14	2	14%	5.0	0	0%	0.0	7%	2.5	14	0	0%	0.0	4	29%	5.0	14%	2.5	11%	2.5	up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5	no predicted change at year 5
Non-native plant cover	0	25	25%	5.0	25	25%	5.0	25%	5.0	0	25	25%	5.0	25	25%	5.0	25%	5.0	25%	5.0	reduced to less than 25%.
Site Condition Score				33.5			35.5		34.5				38.5			46		42.3		38.4	
MAX Site Condition Score				*80*			*80*		*80*				*80*			*80*		*80*		*80*	
Site Condition Score - out of 20				**8.38**			**8.88**		**8.63**				**9.63**			**11.50**		**10.56**		**9.59**	
Quality and availability of food and foraging habitat + Quality and	**Benchmark**		Raw data	Score		Raw data	Score		Average Score	**Benchmark**	**% contribution**	Raw data	Score		Raw data	Score		Average Score		Total average score	
Species richness	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0	
Flower score	*10*		0.65	8.0		0.65	8.0		8.0	*10*	11.1	0.65	8.0		0.65	8.0		8.0		8.0	
Timing of Biological shortages	*10*		8.5	8.5		8.5	8.5		8.5	*10*	11.1	8.5	8.5		8.5	8.5		8.5		8.5	
Quality of foraging habitat	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0	
non-native plant cover	*20*		0.7	1.0		0.5	5.0		3.0	*20*	22.2	0.5	5.0		0.5	5.0		5.0		4.0	
Q+A foraging habitat + Q+A shelter habitat score				27.5			31.5		29.5				31.5			31.5		31.5		133.0	
MAX Score	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*60*	
Site condition score	***20***			**8.4**			**8.9**		8.6	***20***	22.2		**9.6**			**11.5**		10.6		**9.6**	
Q+A foraging habitat + Q+A shelter habitat score	***80***			**27.5**			**31.5**		29.5	***80***	88.9		**31.5**			**31.5**		31.5		**30.5**	
Combined Habitat Quality Score				35.9			40.4		38.1				41.1			43.0		42.1		40.1	
MAX Habitat Quality Score	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*	
Combined HQ Score- out of 4				**1.44**			**1.62**		1.53				**1.65**			**1.72**		**1.68**		**1.60**	
Site Context	**Benchmark**		Data	Score		Data	Score		Average Score	**Benchmark**		Data	Score		Data	Score		Average Sc	Data	Total average score	
Size of patch	*10*		> 200 ha of cat A/B/C reg v	10			10		10.0	*10*			10			10		10.0		10.0	
Connectedness	*10*		12 camps within 20 km of t	10			10		10.0	*10*			10			10		10.0		10.0	
Context	*10*		26% of area within 20 km i	3			3		3.0	*10*			3			3		3.0		3.0	
Ecological Corridors	*10*		Within state corridor	10			10		10.0	*10*			10			10		10.0		10.0	
Role of site location to species overall population in the state	*10*		1 significant camp within 2	1			1		1.0	*10*			1			1		1.0		1.0	
threats to the species	*10*		Low level threats	10			10		10.0	*10*			10			10		10.0		10.0	
Site Context Score				44			44		44.0				44			44		44.0		44.0	
MAX Site Context Score				*60*			*60*		*60*				*60*			*60*		*60*		*60*	
Site Context Score - out of 3				**2.20**			**2.20**		2.20				**2.20**			**2.20**		2.20		**2.20**	
Species Stocking Rate	**Benchmark**								Average Score	**Benchmark**								Average Score		Total average score	
GHFF tree density per/ha	*10*		2	2		2	2		2	*10*		2	2		2	2		2		**2.0**	
Site Context Score				2			2		2.0				2			2		2.0		2.0	
MAX Site Context Score				*10*			*10*		*10*				*10*			*10*		*10*		*10*	
Site Context Score - out of 3				**0.60**			**0.60**		0.60				**0.60**			**0.60**		0.60		**0.60**	

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.53	1.68	1.60
Site Context Score (out of 3)	2.20	2.20	2.20
Species Stocking Rate Score (out of 4)	0.60	0.60	0.60
Habitat Quality score (out of 10)	4.33	4.48	4.40
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**1.43**	**3.00**	**4.43**

Supplementary table for threats scoring			Score			Result		Final result	
Listed threatening process	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**		
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		No change.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	15	2.25		All fencing repalce to be fauna friendly.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	7	1.05		Cannot change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		No change.
Threats score out of 15								13.8	
Scaled score (1-5=**1;** 6-10=**5;** 11-15=**10)**								10	

Thagoona North OFFSET - GHFF Year 10

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3									Total		
Site Reference	Benchmark	BC06			BC08			Average		Benchmark	BC05			BC07			Average	Average	average		
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	%	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	Benchmar	Score	%	Score	%	Total average score	
Site Condition																					
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	33	33%	3.0	100	100%	5.0	67%	4.0	83%	4.5	assumed full planting - although not yet reflected in scores.
Native plant species richness - trees	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0	assumed full planting to make up a tree diversity of 5 throughout the offset area. Expected that trees will begin to move into the T2 layer by year 10.
Native plant species richness - shrubs	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0	Native shrub layer will increase, largely due to assissted regen (shrubs and trees in shrub form). This will thin out again in years 15 and 20.
Native plant species richness - grasses	9	3	33%	2.5	3	33%	2.5	33%	2.5	9	5	56%	2.5	7	78%	2.5	67%	2.5	50%	2.5	assissted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One new native grass species is expected to accumulate each vegetation survey year.
Native plant species richness - forbes	25	10	40%	2.5	15	60%	2.5	50%	2.5	25	21	84%	2.5	19	76%	2.5	80%	2.5	65%	2.5	Native forbs are expected to regenerate naturally over time, especially following good rain years. Estimated at 2 new species each assessment year.
Tree canopy height (average of emergent, canopy, sub-canopy)	17	11.5	68%	3.0	16	94%	5.0	81%	4.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	94%	4.5	Tree canopy height is expected to increase over time. Conservative estimate of 50cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	7.1	30%	2.0	12.5	52%	5.0	41%	3.5	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	56%	4.3	Tree canopy cover is expected to increase over time from the growth of existing canopy trees, and then more rapidly accummulate at years 15-20 when assissted regen trees are contributing to the canopy layer with more certainty. Conservative estimate of 2 m of growth is expected at year 10.
Shrub canopy cover	4	7	175%	5.0	5	125%	5.0	150%	5.0	4	5	125%	5.0	16.5	413%	3.0	269%	4.0	209%	4.5	change between years 5 and 10 are expected to be similar during initial stages of regeneration.
Native grass cover	52	11	21%	1.0	10	19%	1.0	20%	1.0	52	37.6	72%	3.0	10	19%	1.0	46%	2.0	33%	1.5	Expected gradual increase in raw data beteen each vegetation survey year. Especially following weed management actions. In consideration of revegetation, grass cover between years 5 and 10 is expected to remain similar.
Organic litter	20	11	55%	5.0	25.4	127%	5.0	91%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	81%	5.0	potential increase in raw data. Not estimated as benchmark value is already attained at baseline.
Large trees (euc plus non-euc)	14	4	29%	5.0	2	14%	5.0	21%	5.0	14	0	0%	0.0	4	29%	5.0	14%	2.5	18%	3.8	up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline.
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5	See large tree tab. no predicted change at year 10
Non-native plant cover	0	15	15%	5.0	15	15%	5.0	15%	5.0	0	15	15%	5.0	15	15%	5.0	15%	5.0	15%	5.0	reduced to less than 15%.
Site Condition Score				46.0			51		48.5				46			51		48.5		48.5	
MAX Site Condition Score				*80*			*80*		*80*				*80*			*80*		*80*		*80*	
Site Condition Score - out of 20				**11.50**			**12.75**		**12.13**				**11.50**			**12.75**		**12.13**		**12.13**	
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**		Raw data	Score		Raw data	Score		Average Score	**Benchmark**	**% contribution**	Raw data	Score		Raw data	Score		Average Score		Total average score	
Species richness	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0	
Flower score	*10*		0.65	8.0		0.65	8.0		8.0	*10*	11.1	0.65	8.0		0.65	8.0		8.0		8.0	
Timing of Biological shortages	*10*		8.5	8.5		8.5	8.5		8.5	*10*	11.1	8.5	8.5		8.5	8.5		8.5		8.5	
Quality of foraging habitat	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0	
non-native plant cover	*20*		0.7	1.0		0.5	5.0		3.0	*20*	22.2	0.5	5.0		0.5	5.0		5.0		4.0	
Q+A foraging habitat + Q+A shelter habitat score				27.5			31.5		29.5				31.5			31.5		31.5		145.6	
MAX Score	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*60*	
Site condition score	***20***			**11.5**			**12.8**		12.1	***20***	22.2		**11.5**			**12.8**		12.1		**12.1**	
Q+A foraging habitat + Q+A shelter habitat score	***80***			**27.5**			**31.5**		29.5	***80***	88.9		**31.5**			**31.5**		31.5		**30.5**	
Combined Habitat Quality Score				39.0			44.3		41.6				43.0			44.3		43.6		42.6	
MAX Habitat Quality Score	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*	
Combined HQ Score- out of 4				**1.56**			**1.77**		**1.67**				**1.72**			**1.77**		**1.75**		**1.71**	
Site Context	**Benchmark**		Data	Score		Data	Score		Average Score	**Benchmark**		Data	Score		Data	Score		Average Sc	Data	Total average score	
Size of patch	*10*		> 200 ha of cat A/B/C reg v	10			10		10.0	*10*			10			10		10.0		10.0	
Connectedness	*10*		12 camps within 20 km of	10			10		10.0	*10*			10			10		10.0		10.0	
Context	*10*		26% of area within 20 km i	3			3		3.0	*10*			3			3		3.0		3.0	
Ecological Corridors	*10*		Within state corridor	10			10		10.0	*10*			10			10		10.0		10.0	
Role of site location to species overall population in the state	*10*		1 significant camp within 2	1			1		1.0	*10*			1			1		1.0		1.0	
threats to the species	*10*		Low level threats	10			10		10.0	*10*			10			10		10.0		10.0	
Site Context Score				44			44		44.0				44			44		44.0		44.0	
MAX Site Context Score				*60*			*60*		*60*				*60*			*60*		*60*		*60*	
Site Context Score - out of 3				**2.20**			**2.20**		**2.20**				**2.20**			**2.20**		**2.20**		**2.20**	
Species Stocking Rate	**Benchmark**								Average Score	**Benchmark**								Average Score		Total average score	
GHFF tree density per/ha	*10*		2	2		2	2		2	*10*		2	2		2	2		2		**2.0**	
Site Context Score				2			2		2.0				2			2		2.0		2.0	
MAX Site Context Score				*10*			*10*		*10*				*10*			*10*		*10*		*10*	
Site Context Score - out of 3				**0.60**			**0.60**		**0.60**				**0.60**			**0.60**		**0.60**		**0.60**	

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.67	1.75	1.71
Site Context Score (out of 3)	2.20	2.20	2.20
Species Stocking Rate Score (out of 4)	0.60	0.60	0.60
Habitat Quality score (out of 10)	4.47	4.55	4.51
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**1.47**	**3.04**	**4.52**

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Supplementary table for threats scoring			Score			Result		
Listed threatening process	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**	**Final result**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	No change.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	15	2.25	All fencing repalce to be fauna friendly.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	7	1.05	Cannot change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	No change.
Threats score out of 15							13.8	
Scaled score (1-5=1; 6-10=5; 11-15=10)							10	

Thagoona North OFFSET - GHFF Year 15

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3									Total	
Site Reference	Benchmark	BC06			BC08			Average		Benchmark	BC05			BC07			Average	Average	average	
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	%	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	%	Score	%	Total average score
Site Condition																				
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	33	33%	3.0	100	100%	5.0	67%	4.0	83%	4.5
Native plant species richness - trees	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - shrubs	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - grasses	9	4	44%	2.5	4	44%	2.5	44%	2.5	9	6	67%	2.5	8	89%	2.5	78%	2.5	61%	2.5
Native plant species richness - forbes	25	12	48%	2.5	17	68%	2.5	58%	2.5	25	23	92%	5.0	21	84%	2.5	88%	3.8	73%	3.1
Tree canopy height (average of emergent, canopy, sub-canopy)	17	12	71%	5.0	16	94%	5.0	82%	5.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	95%	5.0
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	12.1	50%	5.0	17.5	73%	5.0	62%	5.0	24	16.45	69%	5.0	18	75%	5.0	72%	5.0	67%	5.0
Shrub canopy cover	4	5	125%	5.0	4	100%	5.0	113%	5.0	4	4	100%	5.0	14.5	363%	3.0	231%	4.0	172%	4.5
Native grass cover	52	16	31%	1.0	20	38%	1.0	35%	1.0	52	48.6	93%	5.0	20	38%	1.0	66%	3.0	50%	2.0
Organic litter	20	16	80%	5.0	25.4	127%	5.0	104%	5.0	20	13.4	67%	5.0	15	75%	5.0	71%	5.0	87%	5.0
Large trees (euc plus non-euc)	14	4	29%	5.0	2	14%	5.0	21%	5.0	14	4	29%	5.0	4	29%	5.0	29%	5.0	25%	5.0
Coarse woody debris	588	0	0%	0.0	0	0%	0.0	0%	0.0	588	0	0%	0.0	120	20%	2.0	10%	1.0	5%	0.5
Non-native plant cover	0	10	10%	5.0	10	10%	5.0	10%	5.0	0	10	10%	5.0	10	10%	5.0	10%	5.0	10%	5.0
Site Condition Score				51.0			51		51.0				55.5			51		53.3		52.1
MAX Site Condition Score				*80*			*80*		*80*				*80*			*80*		*80*		*80*
Site Condition Score - out of 20				**12.75**			**12.75**		**12.75**				**13.88**			**12.75**		**13.31**		**13.03**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**		Raw data	Score		Raw data	Score		Average Score	**Benchmark**	**% contribution**	Raw data	Score		Raw data	Score		Average Score		Total average score
Species richness	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0
Flower score	*10*		0.65	8.0		0.65	8.0		8.0	*10*	11.1	0.65	8.0		0.65	8.0		8.0		8.0
Timing of Biological shortages	*10*		8.5	8.5		8.5	8.5		8.5	*10*	11.1	8.5	8.5		8.5	8.5		8.5		8.5
Quality of foraging habitat	*20*		1	5.0		1	5.0		5.0	*20*	22.2	1	5.0		1	5.0		5.0		5.0
non-native plant cover	*20*		0.1	10.0		0.1	10.0		10.0	*20*	22.2	0.1	10.0		0.1	10.0		10.0		10.0
Q+A foraging habitat + Q+A shelter habitat score				36.5			36.5		36.5				36.5			36.5		36.5		150.2
MAX Score	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*60*
Site condition score	***20***			**12.8**			**12.8**		12.8	***20***	22.2		**13.9**			**12.8**		13.3		**13.0**
Q+A foraging habitat + Q+A shelter habitat score	***80***			**36.5**			**36.5**		36.5	***80***	88.9		**36.5**			**36.5**		36.5		**36.5**
Combined Habitat Quality Score				49.3			49.3		49.3				50.4			49.3		49.8		49.5
MAX Habitat Quality Score	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**1.97**			**1.97**		**1.97**				**2.02**			**1.97**		**1.99**		**1.98**
Site Context	**Benchmark**		Data	Score		Data	Score		Average Score	**Benchmark**		Data	Score		Data	Score		Average Sc	Data	Total average score
Size of patch	*10*		> 200 ha of cat A/B/C reg v	10			10		10.0	*10*			10			10		10.0		10.0
Connectedness	*10*		12 camps within 20 km of t	10			10		10.0	*10*			10			10		10.0		10.0
Context	*10*		26% of area within 20 km i	3			3		3.0	*10*			3			3		3.0		3.0
Ecological Corridors	*10*		Within state corridor	10			10		10.0	*10*			10			10		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant camp within 2	1			1		1.0	*10*			1			1		1.0		1.0
threats to the species	*10*		Low level threats	10			10		10.0	*10*			10			10		10.0		10.0
Site Context Score				44			44		44.0				44			44		44.0		44.0
MAX Site Context Score				*60*			*60*		*60*				*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.20**			**2.20**		**2.20**				**2.20**			**2.20**		**2.20**		**2.20**
Species Stocking Rate	**Benchmark**								Average Score	**Benchmark**								Average Score		Total average score
GHFF tree density per/ha	*10*		2	2		4	4		3	*10*		4	4		4	4		4		**3.5**
Site Context Score				2			4		3.0				4			4		4.0		3.5
MAX Site Context Score				*10*			*10*		*10*				*10*			*10*		*10*		*10*
Site Context Score - out of 3				**0.60**			**1.20**		**0.90**				**1.20**			**1.20**		**1.20**		**1.05**

assumed full planting - although not yet reflected in scores.	
assumed full planting to make up a tree diversity of 5 throughout the offset area. Expected that trees will begin to move into the T2 layer by year 10.	
Native shrub layer will increase, largely due to assisted regen (shrubs and trees in shrub form). This will thin out again in years 15 and 20.	
assisted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE. One new native grass species is expected to accumulate each vegetation survey year.	
Native forbs are expected to regenerate naturally over time, especially following good rain years. Estimated at 2 new species each assessment year.	
Tree canopy height is expected to increase over time. Conservative estimate of 50cm of growth is expected at each vegetation survey year (every 5 years), until benchmark value is attained.	
Tree canopy cover is expected to increase over time from the growth of existing canopy trees, and then more rapidly accummulate at years 15-20 when assisted regen trees are contributing to the canopy layer with more certainty. Increased canopy is estimated to reach 5 m of growth is expected at year 10 due to assigned regeneration.	
change between years 10 and 15 are expected to reduce regeneration rates by 2.	
Expected gradual increase in raw data beteen each vegetation survey year. Especially following weed management actions. In consideration of revegetation, grass cover between years 5 and 10 is expected to remain similar.	
potential increase in raw data. Not estimated as benchmark value is already attained at baseline.	
up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.	
no predicted change at year 10	
reduced to less than 15%.	

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	1.97	1.99	1.98
Site Context Score (out of 3)	2.20	2.20	2.20
Species Stocking Rate Score (out of 4)	0.90	1.20	1.05
Habitat Quality score (out of 10)	5.07	5.39	5.23
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**1.67**	**3.61**	**5.29**

Supplementary table for threats scoring			Score			Result		
Listed threatening process	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**	**Final result**
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5	No change.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	15	2.25	All fencing repalce to be fauna friendly.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	7	1.05	Cannot change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6	No change.
Threats score out of 15								13.8
Scaled score (1-5=1; 6-10=5; 11-15=10)								10

Thagoona North OFFSET - GHFF Year 20

Assessment Unit - Regional Ecosystem	AU1 -Non-rem - 12.3.3									AU 2 - HVR 12.3.3									Total	
Site Reference	Benchmark	BC06			BC08			Average		Benchmark	BC05			BC07			Average	Average	average %	
	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	%	Average Score	12.3.3	Raw Data	% Benchmark	Score	Raw Data	Benchmar	Score	%	Score	benchmar	Total average score
Site Condition																				
Recruitment of woody perennial species in EDL	100	100	100%	5.0	100	100%	5.0	100%	5.0	100	100	100%	5.0	100	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - trees	5	5	100%	5.0	5	100%	5.0	100%	5.0	5	5	100%	5.0	5	100%	5.0	100%	5.0	100%	5.0
Native plant species richness - shrubs	5	6	120%	5.0	6	120%	5.0	120%	5.0	5	7	140%	5.0	6	120%	5.0	130%	5.0	125%	5.0
Native plant species richness - grasses	9	7	78%	2.5	7	78%	2.5	78%	2.5	9	7	78%	2.5	7	78%	2.5	78%	2.5	78%	2.5
Native plant species richness - forbes	25	16	64%	2.5	21	84%	2.5	74%	2.5	25	27	108%	5.0	25	100%	5.0	104%	5.0	89%	3.8
Tree canopy height (average of emergent, canopy, sub-canopy)	17	12.5	74%	5.0	16	94%	5.0	84%	5.0	17	18	106%	5.0	18.75	110%	5.0	108%	5.0	96%	5.0
Tree canopy cover (average of emergent, canopy, sub-canopy)	24	21.6	90%	5.0	21.6	90%	5.0	90%	5.0	24	21.6	90%	5.0	21.6	90%	5.0	90%	5.0	90%	5.0
Shrub canopy cover	4	5	125%	5.0	4	100%	5.0	113%	5.0	4	4	100%	5.0	4	100%	5.0	100%	5.0	106%	5.0
Native grass cover	52	50	96%	5.0	50	96%	5.0	96%	5.0	52	50	96%	5.0	50	96%	5.0	96%	5.0	96%	5.0
Organic litter	20	12.1	61%	5.0	25.4	127%	5.0	94%	5.0	20	14.74	74%	5.0	16.5	83%	5.0	78%	5.0	86%	5.0
Large trees (euc plus non-euc)	14	4	29%	5.0	4	29%	5.0	29%	5.0	14	4	29%	5.0	6	43%	5.0	36%	5.0	32%	5.0
Coarse woody debris	588	150	26%	2.0	150	26%	2.0	26%	2.0	588	150	26%	2.0	150	26%	2.0	26%	2.0	26%	2.0
Non-native plant cover	0	4.9	5%	10.0	4.9	49%	3.0	27%	6.5	0	4.9	5%	10.0	4.9	5%	10.0	5%	10.0	16%	8.3
Site Condition Score				62.0			55		58.5				64.5			64.5		64.5		61.5
MAX Site Condition Score				*80*			*80*		*80*				*80*			*80*		*80*		*80*
Site Condition Score - out of 20				**15.50**			**13.75**		**14.63**				**16.13**			**16.13**		**16.13**		**15.38**
Quality and availability of food and foraging habitat + Quality and availability of shelter	**Benchmark**		Raw data	Score		Raw data	Score		Average Score	**Benchmark**	**% contribution**	Raw data	Score		Raw data	Score		Average Score		Total average score
Species richness	*20*		4	10.0		4	10.0		10.0	*20*	22.2	4	10.0		4	10.0		10.0		10.0
Flower score	*10*		0.58	8.0		0.58	8.0		8.0	*10*	11.1	0.58	8.0		0.58	8.0		8.0		8.0
Timing of Biological shortages	*10*		10	10.0		10	10.0		10.0	*10*	11.1	10	10.0		10	10.0		10.0		10.0
Quality of foraging habitat	*20*		3	5.0		3	5.0		5.0	*20*	22.2	3	5.0		3	5.0		5.0		5.0
non-native plant cover	*20*		0.049	20.0		0.049	20.0		20.0	*20*	22.2	0.049	20.0		0.049	20.0		20.0		20.0
Q+A foraging habitat + Q+A shelter habitat score				53.0			53.0		53.0				53.0			53.0		53.0		166.9
MAX Score	*80*			*80*			*80*		*80*	*80*			*80*			*80*		*80*		*60*
Site condition score	***20***			**15.5**			**13.8**		14.6	***20***	22.2		**16.1**			**16.1**		16.1		**15.4**
Q+A foraging habitat + Q+A shelter habitat score	***80***			**53.0**			**53.0**		53.0	***80***	88.9		**53.0**			**53.0**		53.0		**53.0**
Combined Habitat Quality Score				68.5			66.8		67.6				69.1			69.1		69.1		68.4
MAX Habitat Quality Score	*100*			*100*			*100*		*100*	*100*			*100*			*100*		*100*		*100*
Combined HQ Score- out of 4				**2.74**			**2.67**		**2.71**				**2.77**			**2.77**		**2.77**		**2.74**
Site Context	**Benchmark**		Data	Score		Data	Score		Average Score	**Benchmark**		Data	Score		Data	Score		Average Sc	Data	Total average score
Size of patch	*10*		> 200 ha of cat A/B/C reg v	10			10		10.0	*10*			10			10		10.0		10.0
Connectedness	*10*		12 camps within 20 km of t	10			10		10.0	*10*			10			10		10.0		10.0
Context	*10*		26% of area within 20 km i	3			3		3.0	*10*			3			3		3.0		3.0
Ecological Corridors	*10*		Within state corridor	10			10		10.0	*10*			10			10		10.0		10.0
Role of site location to species overall population in the state	*10*		1 significant camp within 2	1			1		1.0	*10*			1			1		1.0		1.0
threats to the species	*10*		Low level threats	10			10		10.0	*10*			10			10		10.0		10.0
Site Context Score				44			44		44.0				44			44		44.0		44.0
MAX Site Context Score				*60*			*60*		*60*				*60*			*60*		*60*		*60*
Site Context Score - out of 3				**2.20**			**2.20**		**2.20**				**2.20**			**2.20**		**2.20**		**2.20**
Species Stocking Rate	**Benchmark**								Average Score	**Benchmark**								Average Score		Total average score
GHFF tree density per/ha	*10*		4	4		4	4		4	*10*		4	4		4	4		4		**4.0**
Site Context Score				4			4		4.0				4			4		4.0		4.0
MAX Site Context Score				*10*			*10*		*10*				*10*			*10*		*10*		*10*
Site Context Score - out of 3				**1.20**			**1.20**		**1.20**				**1.20**			**1.20**		**1.20**		**1.20**

assumed full planting	
assuming planting and can meet the benchmark	
assisssted revegetation will plant native stock to meet benchmark values native to the area and RE.	
assisssted revegetation will plant native stock (or spread seed) to meet benchmark values native to the area and RE.	
Native forbs are expected to regenerate naturally over time, especially following good rain years. Estiamted at 2 new species each assessment yr.	
assumed full planting growth will fill in over 20 years to 90% of the benchmark value	
assumed 20% increase where previous cover exists but where no cover exists assumed 20% of benchmark increase but with planting this could be exceeded	
No predicted change at year 20 however the majority of shrub canopy within BC07 will be a part of the tree canopy layer by year 20 and therefore signifcantly reduced in percenetage	
assumed within 90% of benchmark native grass cover at year 20, following weed and fire management practices.	
assume 10% increase over 20 years due to increased organic input from establishing plants and removed weeds	
up to 2 large trees are predicted to accummulate, based on BioCondition data collected at baseline. See large tree tab.	
increase by 1 cm per 5 years	
reduced to <5%	

Final habitat quality score (weighted)	AU1	AU2	Average/ Final
Site Condition score (out of 3)	2.71	2.77	2.74
Site Context Score (out of 3)	2.20	2.20	2.20
Species Stocking Rate Score (out of 4)	1.20	1.20	1.20
Habitat Quality score (out of 10)	6.11	6.17	6.14
Assessment Unit area (ha)	5.84	11.84	17.68
Total offset area (ha) for this MNES	17.68	17.68	17.68
Size Weighting	0.33	0.67	1.00
Weighted Habitat Quality Score	**2.02**	**4.13**	**6.15**

Supplementary table for threats scoring			Score			Result		Final result	
Listed threatening proc	**Scoring indicator**	**Score weig**	**1**	**7**	**15**	**Score**	**Weighted score**		
Altered fire regimes	Fuel hazard rating	30%	Extreme or Very High fuel hazard rating	Moderate or High fuel hazard rating	Low fuel hazard rating	15	4.5		No change.
Entanglement in netting and barb wire fences	Presence of top-strand barded-wire fencing or similar	15%	Site is entirely bounded by top-strand barbed-wire fencing	Top-stand barbed-wire fencing in present on at least one fence boundary or internal fenceline	Site is absent of top-strand barbed-wire fencing	15	2.25		All fencing repalce to be fauna friendly.
Electrocution on powerlines	Presence of powerlines	15%	Powerline/s intersect site	Powerline/s run parallel with a site boundary (within 100 metres)	Powerlines are not present as per the above	7	1.05		Cannot change.
Habitat loss, fragmentation, and degradation	Proportion of wooded vegetation	40%	0-25% wooded vegetation occupies the site	26-75% wooded vegetation occupies the site	>75% wooded vegetation occupies the site	15	6		No change.
Threats score out of 15								13.8	
Scaled score (1-5=**1;** 6-10=**5;** 11-15=**10)**								10	