

APPENDIX 9: MHQAT RESULTS – GREY- HEADED FLYING-FOX

IMPACT SITE

Modified Habitat Quality Assessment Tool (MHQAT)
IMPACT - GHFF

Assessment Unit - Regional Ecosystem		RE 12.5.4 Eucalyptus latisinensis +/- Corymbia intermedia, C. trachyphloia subsp. trachyphloia, Angophora leiocarpa, Eucalyptus exserta woodland. Occurs on complex of remnant Tertiary surfaces and Cainozoic and Mesozoic sediments. Contains Palustrine. (BVG1M:9g).									
Transect No.	Max. Score	Benchmark	Transect 1			Transect 2			Transect 3		
Site condition	Score	12.5.4	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
Vegetation Management Status	20	N/A	Category B	N/A	20.00	Category B	N/A	20.00	Category B	N/A	20.00
GHFF Tree Species Richness	20	N/A	8 species	N/A	20.00	9 species	N/A	20.00	9 species	N/A	20.00
GHFF Tree Flower Score	10	N/A	0.611	N/A	8.00	0.559	N/A	8.00	0.579	N/A	8.00
Timing of Biological Shortages	10	N/A	10	N/A	10.00	10	N/A	10.00	10	N/A	10.00
Quality of Foraging Habitat	20	N/A	3	N/A	5.00	2	N/A	5.00	3	N/A	5.00
Non-native Plant Cover	20	N/A	75	N/A	1.00	80	N/A	1.00	75	N/A	1.00
Site Condition Score (per transect)					64.0			64.0			64.0
MAX Site Condition Score (per transect)					100.0			100.0			100.0
Site Condition Score (average)		64.0									
MAX Site Condition Score		100									
Site Condition Score - out of 4		2.56									

Site Context	Max. Score	Data	Score
Size of patch	10	26 - 100 ha	5
Connectedness	10	1-3 camps (20km)	3
Context	10	10-30% habitat (20km)	3
Ecological Corridors	10	None	0
Role of site location to total population	10	No lvi 3 camps (20km)	0
Threats to the species	10	Moderate (qualitative)	5
Site Context Score			16
MAX Site Context Score			60
Site Context Score - out of 3			0.80

Transect No.	Max. Score	Transect 1			Transect 2			Transect 3		
		Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score
GHFF Foraging Tree Density	10	77	385	6.00	68	340	6.00	136	680	6.00
SSR Score (per transect)				6.0			6.0			6.0
MAX SSR Score (per transect)				10.0			10.0			10.0
SSR Score		6.0								
MAX SSR Score		10								
SSR Score - out of 3		1.80								

Final habitat quality score (weighted)	12.5.4
Site Condition score (out of 4)	2.56
Site Context Score (out of 3)	0.80
Species Stocking Rate Score (out of 3)	1.80
Habitat Quality score (out of 10)	5.16
*area weighting not applicable	
TOTAL SCORE (10)	5

OFFSET SITE - EXISTING

Assessment Unit - Regional Ecosystem		RE 12.12.5 <i>Corymbia citriodora</i> subsp. <i>variegata</i> , <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks															
Transect No.	Max. Score	Benchmark	BC02			BC03			BC05			BC06			BC07		
Site condition	Score	12.12.5	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
Vegetation Management Status	20	N/A	Category B	N/A	20.00	Category C	N/A	10.00	Category B	N/A	20.00	Category C	N/A	10.00	Category X	N/A	5.00
GHFF Tree Species Richness	20	N/A	2	N/A	5.00	6	N/A	10.00	5	N/A	10.00	4	N/A	10.00	3	N/A	5.00
GHFF Tree Flower Score	10	N/A	0.61	N/A	8.00	0.57	N/A	8.00	0.65	N/A	8.00	0.57	N/A	8.00	0.53	N/A	8.00
Timing of Biological Shortages	10	N/A	3.5	N/A	3.50	7	N/A	8.50	7	N/A	7.50	5	N/A	5.00	4	N/A	4.00
Quality of Foraging Habitat	20	N/A	1	N/A	5.00	3	N/A	5.00	2	N/A	5.00	1	N/A	5.00	1	N/A	5.00
Non-native Plant Cover	20	N/A	5	N/A	10.00	20	N/A	10.00	10	N/A	10.00	10	N/A	10.00	5	N/A	10.00
Site Condition Score (per transect)					41.5			51.5			60.5			48.0			37.0
MAX Site Condition Score (per transect)					100.0			100.0			100.0			100.0			100.0
Site Condition Score (average)		47.7															
MAX Site Condition Score		100															
Site Condition Score - out of 4		1.91															

Assessment Unit - Regional Ecosystem		Non-remnant vegetation (cleared and disturbed areas) (pre-clearing RE 12.12.5)														
Transect No.	Max. Score	Benchmark	BC01			BC04										
Site condition	Score	12.12.5	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score								
Vegetation Management Status	20	N/A	Category X	N/A	5.00	Category X	N/A	5.00								
GHFF Tree Species Richness	20	N/A	3	N/A	5.00	0	N/A	4.00								
GHFF Tree Flower Score	10	N/A	0.53	N/A	8.00	0	N/A	0.00								
Timing of Biological Shortages	10	N/A	4	N/A	4.00	0	N/A	0.00								
Quality of Foraging Habitat	20	N/A	1	N/A	5.00	0	N/A	0.00								
Non-native Plant Cover	20	N/A	40	N/A	5.00	15	N/A	10.00								
Site Condition Score (per transect)					32.0			19.0								
MAX Site Condition Score (per transect)					100.0			100.0								
Site Condition Score (average)		25.5														
MAX Site Condition Score		100														
Site Condition Score - out of 4		1.02														

Site Context	Max. Score	Data	Score
Size of patch	10	207 (135 B)	7
Connectedness	10	0 roosts in 20km	0
Context	10	54% habitat in 20km	6
Ecological Corridors	10	Within	10
Role of site location to total population	10	No lvl 3 camps (20km)	0
Threats to the species	10	Moderate (qualitative)	5
Site Context Score			28
MAX Site Context Score			60
Site Context Score - out of 3			1.40

Assessment Unit - Regional Ecosystem		RE 12.12.5 <i>Corymbia citriodora</i> subsp. <i>variegata</i> , <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks														
Transect No.	Max. Score	BC02			BC03			BC05			BC06			BC07		
Species Stocking Rate (SSR)	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score
GHFF Foraging Tree Density	10	35	175	4.00	37	185	6.00	58	290	6.00	31	155	4.00	31	155	4.00
SSR Score (per transect)				4.0			6.0			6.0			4.0			4.0
MAX SSR Score (per transect)				10.0			10.0			10.0			10.0			10.0
SSR Score		4.8														
MAX SSR Score		10														
SSR Score - out of 3		1.44														

Assessment Unit - Regional Ecosystem		Non-remnant vegetation (cleared and disturbed areas) (pre-clearing RE 12.12.5)					
Transect No.	Max. Score	BC01			BC04		
Species Stocking Rate (SSR)	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score
GHFF Foraging Tree Density	10	4	20	2.00	0	0	2.00
SSR Score (per transect)				2.0			2.0
MAX SSR Score (per transect)				10.0			10.0
SSR Score		2.0					
MAX SSR Score		10					
SSR Score - out of 3		0.60					

Final habitat quality score (weighted)	AU1	AU2
Site Condition score (out of 4)	1.91	1.02
Site Context score (out of 3)	1.40	1.40
Species Stocking Rate score (out of 3)	1.44	0.60
Habitat Quality score (out of 10)	4.75	3.02
AU area	73	34
Site area	107	107
Area weighted score	3.24	0.96
TOTAL SCORE (10)	4	

OFFSET SITE - PROPOSED

Modified Habitat Quality Assessment Tool (MHQAT)
 PROPOSED OFFSET - GHFF
 Highlight indicates measure predicted to increase with management in accordance with offset completion criteria

Assessment Unit - Regional Ecosystem		RE 12.12.5 <i>Corymbia citriodora</i> subsp. <i>variegata</i> , <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks															
Transect No.	Max. Score	Benchmark	BC02			BC03			BC05			BC06			BC07		
Site condition	Score	12.12.5	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
Vegetation Management Status	20	N/A	Category B	N/A	20.00	Category B	N/A	20.00	Category B	N/A	20.00	Category B	N/A	20.00	Category B	N/A	20.00
GHFF Tree Species Richness	20	N/A	2	N/A	5.00	6	N/A	10.00	5	N/A	10.00	4	N/A	10.00	3	N/A	5.00
GHFF Tree Flower Score	10	N/A	0.61	N/A	8.00	0.57	N/A	8.00	0.65	N/A	8.00	0.57	N/A	8.00	0.53	N/A	8.00
Timing of Biological Shortages	10	N/A	3.5	N/A	3.50	7	N/A	8.50	7	N/A	7.50	5	N/A	5.00	4	N/A	4.00
Quality of Foraging Habitat	20	N/A	1	N/A	5.00	3	N/A	5.00	2	N/A	5.00	1	N/A	5.00	1	N/A	5.00
Non-native Plant Cover	20	N/A	5	N/A	10.00	20	N/A	10.00	10	N/A	10.00	10	N/A	10.00	5	N/A	10.00
Site Condition Score (per transect)					41.5			61.5			60.5			58.0			52.0
MAX Site Condition Score (per transect)					100.0			100.0			100.0			100.0			100.0
Site Condition Score (average)		54.7															
MAX Site Condition Score		100															
Site Condition Score - out of 4		2.19															

Assessment Unit - Regional Ecosystem		Non-remnant vegetation (cleared and disturbed areas) (pre-clearing RE 12.12.5)						
Transect No.	Max. Score	Benchmark	BC01			BC04		
Site condition	Score	12.12.5	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
Vegetation Management Status	20	N/A	Category B	N/A	20.00	Category B	N/A	20.00
GHFF Tree Species Richness	20	N/A	3	N/A	5.00	0	N/A	4.00
GHFF Tree Flower Score	10	N/A	0.53	N/A	8.00	0	N/A	0.00
Timing of Biological Shortages	10	N/A	4	N/A	4.00	0	N/A	0.00
Quality of Foraging Habitat	20	N/A	1	N/A	5.00	0	N/A	0.00
Non-native Plant Cover	20	N/A	40	N/A	5.00	15	N/A	10.00
Site Condition Score (per transect)					47.0			34.0
MAX Site Condition Score (per transect)					100.0			100.0
Site Condition Score (average)		40.5						
MAX Site Condition Score		100						
Site Condition Score - out of 4		1.62						

Site Context	Max. Score	Data	Score
Size of patch	10	314 (242 B)	10
Connectedness	10	No roosts in 20km	0
Context	10	54% habitat in 20km	6
Ecological Corridors	10	Within	10
Role of site location to total population	10	No lvi 3 camps (20km)	0
Threats to the species	10	Moderate (qualitative)	5
Site Context Score			31
MAX Site Context Score			60
Site Context Score - out of 3			1.55

Assessment Unit - Regional Ecosystem		RE 12.12.5 <i>Corymbia citriodora</i> subsp. <i>variegata</i> , <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks														
Transect No.	Max. Score	BC02			BC03			BC05			BC06			BC07		
Species Stocking Rate (SSR)	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score
GHFF Foraging Tree Density	10	116	580	10.00	116	580	10.00	116	580	10.00	116	580	10.00	116	580	10.00
SSR Score (per transect)				10.0			10.0			10.0			10.0			10.0
MAX SSR Score (per transect)				10.0			10.0			10.0			10.0			10.0
SSR Score		10.0														
MAX SSR Score		10														
SSR Score - out of 3		3.00														

Assessment Unit - Regional Ecosystem		Non-remnant vegetation (cleared and disturbed areas) (pre-clearing RE 12.12.5)					
Transect No.	Max. Score	BC01			BC04		
Species Stocking Rate (SSR)	Score	Recorded	Per hectare	Score	Recorded	Per hectare	Score
GHFF Foraging Tree Density	10	116	580	10.00	116	580	10.00
SSR Score (per transect)				10.0			10.0
MAX SSR Score (per transect)				10.0			10.0
SSR Score		10.0					
MAX SSR Score		10					
SSR Score - out of 3		3.00					

Final habitat quality score (weighted)	AU1	AU2
Site Condition score (out of 4)	2.19	1.62
Site Context score (out of 3)	1.55	1.55
Species Stocking Rate score (out of 3)	3.00	3.00
Habitat Quality score (out of 10)	6.74	6.17
AU area	73	34
Site area	107	107
Area weighted score	4.60	1.96
TOTAL SCORE (10)	7	