

APPENDIX 14: OFFSET ASSESSMENT RESULTS

Appendix 14.1: Modified Habitat Quality Assessment Tool (MHQAT)

Appendix 14.2: Offsets Assessment Guide (OAG)

Appendix 14.3: BioCondition Transect Data - Impact Site

Appendix 14.4: BioCondition Transect Data - Offset Site

14.1 MODIFIED HABITAT QUALITY ASSESSMENT TOOL (MHQAT)

Assessment Unit - Regional Ecosystem	RE 12.3.3									
Trasect No.	Benchmark	Transect 1			Transect 2			Transect 3		
Site condition	12.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition										
<i>Recruitment of woody perennial species in EDL</i>	100	100	100	5	0	0	0	0	0	0
<i>Native plant species richness - trees</i>	5	8	160	5	9	180	5	9	180	5
<i>Native plant species richness - shrubs</i>	5	2	40	2.5	2	40	2.5	1	20	0
<i>Native plant species richness - grasses</i>	9	0	0	0	2	22	0	2	22	0
<i>Native plant species richness - forbes</i>	25	7	28	2.5	3	12	0	5	20	0
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16	16	100	5	15	94	5	14	88	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	24	22	92	5	29.5	123	5	31.5	131	5
<i>Shrub canopy cover</i>	4	4	100	5	0	0	0	0	0	0
<i>Native grass cover</i>	52	0	0	0	0	0	0	32	62	3
<i>Organic litter</i>	20	27	135	5	26	130	5	9	45	3
<i>Coarse woody debris</i>	588	118	20	2	159	27	2	0	0	0
<i>Large trees (euc plus non-euc)</i>	14	4	29	5	5	36	5	2	14	5
<i>Non-native plant cover</i>	0	90	N/A	0	90	N/A	0	70	N/A	0
Total (out of 10)				5.25			3.6875			3.25
Blossom species				1.9			1.2			3.5
Fruiting species				5.6			0			9.9
Seasonal continuity				23			14.4			24.5
Site Condition Score				35.75			19.2875			41.15
MAX Site Condition Score				100			100			100
Site Condition Score - out of 4			1.43			0.77			1.65	

Assessment Unit - Regional Ecosystem	RE 12.9-10.2						
Trasect No.	Benchmark	Transect 4			Transect 5		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	75	75	5	33	33	3
<i>Native plant species richness - trees</i>	6	7	117	5	8	133	5
<i>Native plant species richness - shrubs</i>	7	0	0	0	1	14	0
<i>Native plant species richness - grasses</i>	7	0	0	0	1	14	0
<i>Native plant species richness - forbes</i>	13	0	0	0	5	38	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	16.5	100	5	15.5	94	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	35.5	85	5	36	86	5
<i>Shrub canopy cover</i>	6	0	0	0	1.5	25	3
<i>Native grass cover</i>	21	0	0	0	15	71	3
<i>Organic litter</i>	48	9	19	3	11	23	3
<i>Coarse woody debris</i>	506	337	67	5	181	36	2
<i>Large trees (euc plus non-euc)</i>	19	24	126	15	14	74	10
<i>Non-native plant cover</i>	0	100	N/A	0	40	N/A	3
Total (out of 10)				5.375			5.5625
Blossom species	40			4			12.7
Fruiting species	20			0			5.9
Seasonal continuity	30			13			16.7
Site Condition Score				22.375			40.8625
MAX Site Condition Score				100			100
Site Condition Score - out of 4				0.90			1.63

Assessment Unit - Regional Ecosystem	RE 12.3.7						
Trasect No.	Benchmark	Transect 6			Transect 7		
Site condition	12.3.7	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	20	20	3	14	14	0
<i>Native plant species richness - trees</i>	6	9	150	5	7	117	5
<i>Native plant species richness - shrubs</i>	8	2	25	2.5	2	25	2.5
<i>Native plant species richness - grasses</i>	6	1	17	0	0	0	0
<i>Native plant species richness - forbes</i>	17	6	35	2.5	2	12	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	17	15	88	5	14	82	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	27	45.5	169	5	41	152	5
<i>Shrub canopy cover</i>	22	0	0	0	0	0	0
<i>Native grass cover</i>	8	0	0	0	0	0	0
<i>Organic litter</i>	27	15	56	5	15	56	5
<i>Coarse woody debris</i>	667	421	63	5	204	31	2
<i>Large trees (euc plus non-euc)</i>	60	10	17	5	12	20	5
<i>Non-native plant cover</i>	0	50	N/A	0	80	N/A	0
Total (out of 10)				4.75			4
Blossom species				2.2			8.5
Fruiting species				1.7			0
Seasonal continuity				5.8			7.4
Site Condition Score				14.45			19.9
<i>MAX Site Condition Score</i>				100			100
Site Condition Score - out of 4			0.58				0.80

Site Context		
	Benchmark	Score
Size of patch	30	5
Context	10	10
Ecological Corridors	10	20
Power line density	30	0
Number of roosts	20	20
Site Context Score	100	55
<i>MAX Site Context Score</i>		
Site Context Score - out of 3 (all assessment units)	1.65	

Species Stocking Rate (SSR)					12.9-10.2	12.3.3	12.3.7	
Species usage of the site (habitat type & evidenced usage)	Score	0	20	35	35	35	35	
		Not habitat	Summer	Winter				
Maxent modelling	Score	0	10	25	10	10	10	
		Not habitat	Regrowth	Remnant				
Range limit	Score	0		10	0	0	0	
		No		Yes				
NSR proximity	Score	0	10	18	25	25	25	
		Outside 40km	Within 21-40km	Within 11-20km				Within 10km
Total SRR score (out of 100)					TOTAL	TOTAL	TOTAL	
					70	70	70	
					SRR Score (out of 3)	2.1	2.1	2.1

Final habitat quality score (weighted)	12.9-10.2	12.3.3	12.3.7	Average
Site Condition score (out of 4)	1.26	1.28	0.69	0.81
Site Context Score (out of 3)	1.65	1.65	1.65	1.24
Species Stocking Rate Score (out of 3)	2.10	2.10	2.10	1.58
Habitat Quality score (out of 10)	5.01	5.03	4.44	3.62
Total impact area (ha) for this VSU	12.69	2.17	2.54	4.35
Total area	17.39	17.39	17.39	13.04
% weighting	0.73	0.12	0.15	0.25
Size Weighting	3.66	0.63	0.65	1.23
TOTAL SCORE (10)	5			

Assessment Unit - Regional Ecosystem		Remnant			Remnant		
Trasect No.	Benchmark	Transect 1			Transect 8		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	100	100	5	100	100	5
<i>Native plant species richness - trees</i>	6	5	83	2.5	9	150	5
<i>Native plant species richness - shrubs</i>	7	2	29	2.5	4	57	2.5
<i>Native plant species richness - grasses</i>	7	4	57	2.5	4	57	2.5
<i>Native plant species richness - forbes</i>	13	4	31	2.5	6	46	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	16.5	100	5	17	103	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	48.8	116	5	33.3	79	5
<i>Shrub canopy cover</i>	6	0	0	0	0	0	0
<i>Native grass cover</i>	21	12	57	3	19	90	5
<i>Organic litter</i>	48	48	100	5	19	40	3
<i>Coarse woody debris</i>	506	525	104	5	202	40	2
<i>Large trees (euc plus non-euc)</i>	19	7	37	5	9	47	5
<i>Non-native plant cover</i>	0	10	N/A	5	5	N/A	5
Total (out of 10)				6			5.9375
Blossom species	40			19.41			18.18
Fruiting species	20			1.4			0.3
Seasonal continuity	30			17.8			13.5
Site Condition Score				44.61			37.9175
MAX Site Condition Score				100			100
Site Condition Score - out of 4				1.78			1.52

Assessment Unit - Regional Ecosystem		Mesic					
Trasect No.	Benchmark	Transect 3			Transect 6		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	100	100	3	100	100	5
<i>Native plant species richness - trees</i>	6	6	100	5	8	133	5
<i>Native plant species richness - shrubs</i>	7	0	0	0	1	14	0
<i>Native plant species richness - grasses</i>	7	6	86	2.5	4	57	2.5
<i>Native plant species richness - forbes</i>	13	8	62	2.5	4	31	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	23.5	142	5	12.5	76	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	18	43	2	28	67	5
<i>Shrub canopy cover</i>	6	1.5	25	3	0	0	0
<i>Native grass cover</i>	21	8	38	1	33	157	5
<i>Organic litter</i>	48	24	50	3	27	56	3
<i>Coarse woody debris</i>	506	40	8	0	326	64	5
<i>Large trees (euc plus non-euc)</i>	19	4	21	5	7	37	5
<i>Non-native plant cover</i>	0	15	N/A	5	15	N/A	5
Total (out of 10)				4.625			6
Blossom species	40			20.6			4.9
Fruiting species	20			1.1			0
Seasonal continuity	30			18.9			9.3
Site Condition Score				45.225			20.2
MAX Site Condition Score				100			100
Site Condition Score - out of 4				1.81			0.81

Assessment Unit - Regional Ecosystem		Regrowth					
Trasect No.	Benchmark	Transect 4			Transect 5		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	75	75	5	67	67	3
<i>Native plant species richness - trees</i>	6	6	100	5	5	83	2.5
<i>Native plant species richness - shrubs</i>	7	4	57	2.5	5	71	2.5
<i>Native plant species richness - grasses</i>	7	5	71	2.5	5	71	2.5
<i>Native plant species richness - forbes</i>	13	5	38	2.5	5	38	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	10	61	3	12.25	74	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	23.5	56	5	39	93	5
<i>Shrub canopy cover</i>	6	1.5	25	3	0	0	0
<i>Native grass cover</i>	21	17	81	3	7	33	1
<i>Organic litter</i>	48	20	42	3	39	81	3
<i>Coarse woody debris</i>	506	480	95	5	425	84	5
<i>Large trees (euc plus non-euc)</i>	19	6	32	5	4	21	5
<i>Non-native plant cover</i>	0	40	N/A	3	10	N/A	5
Total (out of 10)				5.9375			5.25
Blossom species	40			13.7			15.4
Fruiting species	20			2.3			2.9
Seasonal continuity	30			19.2			19.2
Site Condition Score				41.1375			42.75
MAX Site Condition Score				100			100
Site Condition Score - out of 4				1.65			1.71

Assessment Unit - Regional Ecosystem		Disturbed			Disturbed		
Trasect No.	Benchmark	Transect 2			Transect 7		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	33	33	3	100	100	5
<i>Native plant species richness - trees</i>	6	6	100	5	3	50	2.5
<i>Native plant species richness - shrubs</i>	7	3	43	2.5	0	0	0
<i>Native plant species richness - grasses</i>	7	5	71	2.5	3	43	2.5
<i>Native plant species richness - forbes</i>	13	1	8	0	3	23	0
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	18	109	5	13	79	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	19.3	46	2	10	24	2
<i>Shrub canopy cover</i>	6	3.4	57	5	0.5	8	0
<i>Native grass cover</i>	21	5	24	1	41	195	5
<i>Organic litter</i>	48	17	35	3	21	44	3
<i>Coarse woody debris</i>	506	95	19	2	231	46	5
<i>Large trees (euc plus non-euc)</i>	19	3	16	5	3	16	5
<i>Non-native plant cover</i>	0	90	0	0	30	N/A	3
Total (out of 10)				4.5			4.75
Blossom species	40			2			0.32
Fruiting species	20			4.9			0
Seasonal continuity	30			13.3			3.7
Site Condition Score				24.7			8.77
MAX Site Condition Score				100			100
Site Condition Score - out of 4				0.99			0.35

Site Context		
	Benchmark	Score
Size of patch	30	30
Context	10	4
Ecological Corridors	10	10
Power line density	30	8
Number of roosts	20	20
Site Context Score	100	72
<i>MAX Site Context Score</i>		
Site Context Score - out of 3 (all assessment units)	2.16	

Species Stocking Rate (SSR)						Remnant	Disturbed	Mesic	Regrowth	
Species usage of the site (habitat type & evidenced usage)	Score	0	20	35		35	0	35	35	
		Not habitat	Summer	Winter						
Maxent modelling	Score	0	10	25		25	0	10	10	
		Not habitat	Regrowth	Remnant						
Range limit	Score	0		10		0	0	0	0	
		No		Yes						
NSR proximity	Score	0	10	18	25	10	10	10	10	
		Outside 40km	Within 21-40km	Within 11-20km	Within 10km					
Total SRR score (out of 100)						TOTAL	TOTAL	TOTAL	TOTAL	
						70	10	55	55	
						SRR Score (out of 3)	2.1	0.3	1.65	1.65

Final habitat quality score (weighted)	Remnant	Disturbed	Mesic	Regrowth	Average
Site Condition score (out of 4)	1.65	0.67	1.31	1.68	1.33
Site Context Score (out of 3)	2.16	2.16	2.16	2.16	2.16
Species Stocking Rate Score (out of 3)	2.10	0.30	1.65	1.65	1.43
Habitat Quality score (out of 10)	5.91	3.13	5.12	5.49	4.91
Total impact area (ha) for this VSU	9.40	13.7	15.8	16.00	13.73
Total area	54.90	54.90	54.90	54.90	54.90
% weighting	0.17	0.25	0.29	0.29	0.25
Size Weighting	1.01	0.78	1.47	1.60	1.22
TOTAL SCORE (10)	5				

OFFSET END (ESTIMATE) - Fauna Species - Grey-headed Flying-fox

Note that the following tables are examples only based on completion criteria and the actual scoring upon end of offset is subject to change

Assessment Unit - Regional Ecosystem		Remnant			Remnant		
Trasect No.	Benchmark	Transect 1			Transect 8		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	100	100	5	100	100	5
<i>Native plant species richness - trees</i>	6	5	83	2.5	9	150	5
<i>Native plant species richness - shrubs</i>	7	2	29	2.5	4	57	2.5
<i>Native plant species richness - grasses</i>	7	4	57	2.5	4	57	2.5
<i>Native plant species richness - forbes</i>	13	4	31	2.5	6	46	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	16.5	100	5	17	103	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	48.8	116	5	33.3	79	5
<i>Shrub canopy cover</i>	6	0	0	0	0	0	0
<i>Native grass cover</i>	21	12	57	3	19	90	5
<i>Organic litter</i>	48	48	100	5	19	40	3
<i>Coarse woody debris</i>	506	525	104	5	202	40	2
<i>Large trees (euc plus non-euc)</i>	19	7	37	5	9	47	5
<i>Non-native plant cover</i>	0	10	N/A	5	5	N/A	5
Total (out of 10)				6			5.9375
Blossom species	40			19.41			19.41
Fruiting species	20			10			10
Seasonal continuity	30			25.8			25.8
Site Condition Score				61.21			61.1475
MAX Site Condition Score				100			100
Site Condition Score - out of 4				2.45			2.45

Assessment Unit - Regional Ecosystem		Mesic					
Trasect No.	Benchmark	Transect 3			Transect 6		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	100	100	3	100	100	5
<i>Native plant species richness - trees</i>	6	6	100	5	8	133	5
<i>Native plant species richness - shrubs</i>	7	0	0	0	1	14	0
<i>Native plant species richness - grasses</i>	7	6	86	2.5	4	57	2.5
<i>Native plant species richness - forbes</i>	13	8	62	2.5	4	31	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	23.5	142	5	12.5	76	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	18	43	2	28	67	5
<i>Shrub canopy cover</i>	6	1.5	25	3	0	0	0
<i>Native grass cover</i>	21	8	38	1	33	157	5
<i>Organic litter</i>	48	24	50	3	27	56	3
<i>Coarse woody debris</i>	506	40	8	0	326	64	5
<i>Large trees (euc plus non-euc)</i>	19	4	21	5	7	37	5
<i>Non-native plant cover</i>	0	15	N/A	5	15	N/A	5
Total (out of 10)				4.625			6
Blossom species	40			19.41			19.41
Fruiting species	20			10			10
Seasonal continuity	30			25.8			25.8
Site Condition Score				59.835			61.21
MAX Site Condition Score				100			100
Site Condition Score - out of 4				2.39			2.45

Assessment Unit - Regional Ecosystem		Regrowth					
Trasect No.	Benchmark	Transect 4			Transect 5		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	75	75	5	67	67	3
<i>Native plant species richness - trees</i>	6	6	100	5	5	83	2.5
<i>Native plant species richness - shrubs</i>	7	4	57	2.5	5	71	2.5
<i>Native plant species richness - grasses</i>	7	5	71	2.5	5	71	2.5
<i>Native plant species richness - forbes</i>	13	5	38	2.5	5	38	2.5
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	10	61	3	12.25	74	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	23.5	56	5	39	93	5
<i>Shrub canopy cover</i>	6	1.5	25	3	0	0	0
<i>Native grass cover</i>	21	17	81	3	7	33	1
<i>Organic litter</i>	48	20	42	3	39	81	3
<i>Coarse woody debris</i>	506	480	95	5	425	84	5
<i>Large trees (euc plus non-euc)</i>	19	6	32	5	4	21	5
<i>Non-native plant cover</i>	0	40	N/A	3	10	N/A	5
Total (out of 10)				5.9375			5.25
Blossom species	40			19.41			19.41
Fruiting species	20			10			10
Seasonal continuity	30			25.8			25.8
Site Condition Score				61.1475			60.46
MAX Site Condition Score				100			100
Site Condition Score - out of 4				2.45			2.42

Assessment Unit - Regional Ecosystem		Disturbed			Disturbed		
Trasect No.	Benchmark	Transect 2			Transect 7		
Site condition	12.9-10.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
BioCondition							
<i>Recruitment of woody perennial species in EDL</i>	100	33	33	3	100	100	5
<i>Native plant species richness - trees</i>	6	6	100	5	3	50	2.5
<i>Native plant species richness - shrubs</i>	7	3	43	2.5	0	0	0
<i>Native plant species richness - grasses</i>	7	5	71	2.5	3	43	2.5
<i>Native plant species richness - forbes</i>	13	1	8	0	3	23	0
<i>Tree canopy height (average of emergent, canopy, sub-canopy)</i>	16.5	18	109	5	13	79	5
<i>Tree canopy cover (average of emergent, canopy, sub-canopy)</i>	42	19.3	46	2	10	24	2
<i>Shrub canopy cover</i>	6	3.4	57	5	0.5	8	0
<i>Native grass cover</i>	21	5	24	1	41	195	5
<i>Organic litter</i>	48	17	35	3	21	44	3
<i>Coarse woody debris</i>	506	95	19	2	231	46	5
<i>Large trees (euc plus non-euc)</i>	19	3	16	5	3	16	5
<i>Non-native plant cover</i>	0	90	0	0	30	N/A	3
Total (out of 10)				4.5			4.75
Blossom species	40			19.41			19.41
Fruiting species	20			10			10
Seasonal continuity	30			25.8			25.8
Site Condition Score				59.71			59.96
MAX Site Condition Score				100			100
Site Condition Score - out of 4				2.39			2.40

Site Context		
	Benchmark	Score
Size of patch	30	30
Context	10	4
Ecological Corridors	10	10
Power line density	30	8
Number of roosts	20	20
Site Context Score	100	72
<i>MAX Site Context Score</i>		
Site Context Score - out of 3 (all assessment units)	2.16	

Species Stocking Rate (SSR)						Remnant	Disturbed	Mesic	Regrowth	
Species usage of the site (habitat type & evidenced usage)	Score	0	20	35		35	35	35	35	
		Not habitat	Summer	Winter						
Maxent modelling	Score	0	10	25		25	10	25	25	
		Not habitat	Regrowth	Remnant						
Range limit	Score	0	10		0	0	0	0		
		No	Yes							
NSR proximity	Score	0	10	18	25	10	10	10	10	
		Outside 40km	Within 21-40km	Within 11-20km	Within 10km					
Total SRR score (out of 100)						TOTAL	TOTAL	TOTAL	TOTAL	
						70	55	70	70	
						SRR Score (out of 3)	2.1	1.65	2.1	2.1

Final habitat quality score (weighted)	Remnant	Disturbed	Mesic	Regrowth	Average
Site Condition score (out of 4)	2.45	2.39	2.42	2.43	2.42
Site Context Score (out of 3)	2.16	2.16	2.16	2.16	2.16
Species Stocking Rate Score (out of 3)	2.10	1.65	2.10	2.10	1.99
Habitat Quality score (out of 10)	6.71	6.20	6.68	6.69	6.57
Total impact area (ha) for this VSU	9.40	13.7	15.8	16.00	13.73
Total area	54.90	54.90	54.90	54.90	54.90
% weighting	0.17	0.25	0.29	0.29	0.25
Size Weighting	1.15	1.55	1.92	1.95	1.64
TOTAL SCORE (10)	7				

14.2 OFFSET ASSESSMENT GUIDE (OAG)

Offsets Assessment Guide

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

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Grey-headed Flying fox
EPBC Act status	Vulnerable
Annual probability of extinction Based on IUCN category definitions	0.2%

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

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	Proposed clearing of native vegetation and habitat critical to the survival of the Grey-headed Flying-fox per the National Recovery Plan (2021).	Area	17.4	Hectares	Litoria Consulting Preliminary Documentation Report v 5.2 (July 2024)
			Quality	5	Scale 0-10	
			Total quantum of impact	8.70	Adjusted hectares	
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
<i>Ecological Communities</i>																				
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (% without offset)		Risk of loss (% with offset)		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source		
							Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0										
							Time until ecological benefit		Start quality (scale of 0-10)										Future quality without offset (scale of 0-10)	
<i>Threatened species habitat</i>																				
Area of habitat	Yes	8.70	Adjusted hectares	[Redacted]	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	54	Risk of loss (% without offset)	0%	Risk of loss (% with offset)	0%	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source
									Future area without offset (adjusted hectares)	54.0	Future area with offset (adjusted hectares)	54.0								
									Time until ecological benefit	20	Start quality (scale of 0-10)	5								
<i>Threatened species</i>																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
<i>Threatened species</i>																				
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g. Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	8.7	8.82	101.38%	Yes	\$0.00	N/A	\$0.00
Area of community	0				\$0.00		\$0.00
					\$0.00	\$0.00	\$0.00

APPENDIX 14.3: BIOCONDITION TRANSECT DATA - IMPACT SITE

General

Date:	12/08/2022	Site:	Transect 1	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.3.3		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	38
Sub-canopy	6
Shrub Cover:	Total Distance (m)
Native	4
Non-native	39

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	4
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	4

Tree Height:	
Canopy	22
Sub-canopy	10

Recruitment:	
Number of Trees in EDL	3
Number of EDL Trees Recruited	3
PROPORTION OF EDL RECRUITMENT:	100%

Tree Species Richness:	
Total Species Count	8

General

Date:	12/08/2022	Site:	Transect 2	Property:	[REDACTED]
Bioregion:	South East Queensland	RE/Land Type:	12.3.3		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	55
Sub-canopy	4
Shrub Cover:	Total Distance (m)
Native	0
Non-native	0

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	5
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	5

Tree Height:	
Canopy	22
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	5
Number of EDL Trees Recruited	0
PROPORTION OF EDL RECRUITMENT:	0%

Tree Species Richness:	
Total Species Count	9

General

Date:	12/08/2022	Site:	Transect 3	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.3.3		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	23
Sub-canopy	40
Shrub Cover:	
Native	0
Non-native	0

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	2
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	2

Tree Height:	
Canopy	20
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	5
Number of EDL Trees Recruited	0
PROPORTION OF EDL RECRUITMENT:	0%

Tree Species Richness:	
Total Species Count	9

General

Date:	12/08/2022	Site:	Transect 4	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	71
Sub-canopy	0
Shrub Cover:	Total Distance (m)
Native	0
Non-native	7

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	24
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	24

Tree Height:	
Canopy	25
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	4
Number of EDL Trees Recruited	3
PROPORTION OF EDL RECRUITMENT:	75%

Tree Species Richness:	
Total Species Count	7

General

Date:	12/08/2022	Site:	Transect 5	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	67.5
Sub-canopy	5
Shrub Cover:	Total Distance (m)
Native	1.5
Non-native	18.6

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	14
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	14

Tree Height:	
Canopy	24
Sub-canopy	7

Recruitment:	
Number of Trees in EDL	3
Number of EDL Trees Recruited	1
PROPORTION OF EDL RECRUITMENT:	33%

Tree Species Richness:	
Total Species Count	8

General

Date:	12/08/2022	Site:	Transect 6	Property:	[REDACTED]
Bioregion:	South East Queensland	RE/Land Type:	12.3.7		

Photos:

Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	40.5
Sub-canopy	50.5
Shrub Cover:	Total Distance (m)
Native	0
Non-native	1.5

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	3
Non-Eucalypt Large Trees	2
TOTAL LARGE TREES:	5

Tree Height:	
Canopy	18
Sub-canopy	12

Recruitment:	
Number of Trees in EDL	5
Number of EDL Trees Recruited	1
PROPORTION OF EDL RECRUITMENT:	20%

Tree Species Richness:	
Total Species Count	9

General

Date:	12/08/2022	Site:	Transect 7	Property:	[REDACTED]
Bioregion:	South East Queensland	RE/Land Type:	12.3.7		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	75
Sub-canopy	7
Shrub Cover:	
Native	0
Non-native	0

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	8
Non-Eucalypt Large Trees	4
TOTAL LARGE TREES:	12

Tree Height:	
Canopy	18
Sub-canopy	10

Recruitment:	
Number of Trees in EDL	7
Number of EDL Trees Recruited	1
PROPORTION OF EDL RECRUITMENT:	14%

Tree Species Richness:	
Total Species Count	7

50 x 20m Area

Coarse Woody Debris:	
Length (m)	20.4

50 x 10m Area

Species Richness:	
Total Shrub Species Count	2
Total Grass Species Count	0
Total Forbs / Other Species Count	2

Non-Native Plant Cover:	
Percentage	85

1 x 1m Plots

Ground Cover:						
Plot Number	1	2	3	4	5	Average
Native Perennial Grass Cover	0	0	0	0	0	0
Native Other Grass Cover	0	0	0	0	0	0
Native Forbs and Other Species	0	0	0	0	0	0
Native Shrubs	0	0	0	0	0	0
Non-Native Grass	5	5	20	0	0	6
Non-Native Shrubs	50	80	0	0	0	26
Litter	40	15	20	0	0	15
Rock	0	0	0	0	0	0
Bare Ground	5	0	60	0	0	13
Cryptograms	0	0	0	0	0	0
TOTALS:	100	100	100	0	0	60

APPENDIX 14.4: BIOCONDITION TRANSECT DATA - OFFSET SITE

General

Date:	28/06/2023	Site:	Transect 1	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	60.7
Sub-canopy	36.9
Shrub Cover:	
Native	0
Non-native	0

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	7
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	7

Tree Height:	
Canopy	23
Sub-canopy	10

Recruitment:	
Number of Trees in EDL	2
Number of EDL Trees Recruited	2
PROPORTION OF EDL RECRUITMENT:	100%

Tree Species Richness:	
Total Species Count	5

General

Date:	28/06/2023	Site:	Transect 2	Property:	[REDACTED]
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	14.9
Sub-canopy	23.7
Shrub Cover:	
Native	3.4
Non-native	3.2

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	3
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	3

Tree Height:	
Canopy	26
Sub-canopy	10

Recruitment:	
Number of Trees in EDL	3
Number of EDL Trees Recruited	1
PROPORTION OF EDL RECRUITMENT:	33%

Tree Species Richness:	
Total Species Count	6

General

Date:	11/07/2023	Site:	██████████	Transect 3	Property:	██████████
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2			

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	18
Sub-canopy	29
Shrub Cover:	
Native	1.5
Non-native	8

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	0
Non-Eucalypt Large Trees	6
TOTAL LARGE TREES:	8

Tree Height:	
Canopy	28
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	5
Number of EDL Trees Recruited	5
PROPORTION OF EDL RECRUITMENT:	100%

Tree Species Richness:	
Total Species Count	6

General

Date:	11/07/2023	Site:	Transect 4	Property:	[REDACTED]
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	18
Sub-canopy	29
Shrub Cover:	
Native	1.5
Non-native	8

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	3
Non-Eucalypt Large Trees	3
TOTAL LARGE TREES:	6

Tree Height:	
Canopy	12
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	4
Number of EDL Trees Recruited	3
PROPORTION OF EDL RECRUITMENT:	75%

Tree Species Richness:	
Total Species Count	6

General

Date:	11/07/2023	Site:	Transect 5	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	43
Sub-canopy	35
Shrub Cover:	
Native	0
Non-native	0

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	4
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	4

Tree Height:	
Canopy	16
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	3
Number of EDL Trees Recruited	2
PROPORTION OF EDL RECRUITMENT:	67%

Tree Species Richness:	
Total Species Count	5

General

Date:	29/06/2023	Site:	Transect 6	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	30.2
Sub-canopy	25.9
Shrub Cover:	
Native	0
Non-native	0

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	7
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	7

Tree Height:	
Canopy	17
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	2
Number of EDL Trees Recruited	2
PROPORTION OF EDL RECRUITMENT:	100%

Tree Species Richness:	
Total Species Count	8

General

Date:	29/06/2023	Site:	██████████	Transect 7	Property:	██████████
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2			

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	19.5
Sub-canopy	0
Shrub Cover:	Total Distance (m)
Native	0.5
Non-native	0.5

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	3
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	3

Tree Height:	
Canopy	18
Sub-canopy	8

Recruitment:	
Number of Trees in EDL	2
Number of EDL Trees Recruited	2
PROPORTION OF EDL RECRUITMENT:	100%

Tree Species Richness:	
Total Species Count	3

General

Date:	29/06/2023	Site:	Transect 8	Property:	
Bioregion:	South East Queensland	RE/Land Type:	12.9-10.2		

Photos:			
Number		Number	
1		3	
2		4	

100m Transect

Tree Cover:	Total Distance (m)
Canopy	62
Sub-canopy	4.6
Shrub Cover:	
Native	0
Non-native	1

100 x 50m Area

Large Trees:	
Eucalypt Large Trees	9
Non-Eucalypt Large Trees	0
TOTAL LARGE TREES:	9

Tree Height:	
Canopy	22
Sub-canopy	12

Recruitment:	
Number of Trees in EDL	3
Number of EDL Trees Recruited	3
PROPORTION OF EDL RECRUITMENT:	100%

Tree Species Richness:	
Total Species Count	9

