



## Appendix 4

Biodiversity  
– *additional information*



## Appendix 4.1

Additional plot data for PCT 1191

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Biobanking Plot Sheet



<b>CM Area:</b> Hawkesbury/Nepean	<b>Subregion:</b> Moss Vale	<b>Data collectors:</b> Katie Diver
<b>Proposal ID:</b> J12055	<b>Proposal Name:</b> Hume Coal Project	<b>Zone ID:</b> Plot 62
<b>Veg Formation:</b> Grassy Woodland		
<b>Veg Class:</b> Subalpine Woodland		
<b>Veg Type:</b> 1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, S E Highlands Bioregion		
<b>Coordinates: Easting/Northing</b>	56H	251240 6177318
<b>Condition:</b>	Low	
(where Low = OS < 25% of lower benchmark of type <b>AND</b> < 50% g.c indigenous <b>OR</b> > 90% g.c cleared - for grassland etc use without canopy)		
<b>Geog/habitat features?</b> (tick after printing step 2 of credit calculator)		

**20 x 20 m plot** - Survey species and provide cover abundance scores

Species	Abun	Cover (%)	Species	Abun	Cover
<i>Eucalyptus pauciflora</i>	1	7			
<i>Nassella neesiana</i>	140	20			
<i>Plantago lanceolata</i>	50	5			
<i>Anthosachne scabra</i>	50	5			
<i>Paronychia brasiliiana</i>	100	5			
<i>Cirsium vulgare</i>	3	0.5			
<i>Acetosella vulgaris</i>	20	1			
<i>Hypochaeris radicata</i>	100	15			
<i>Modiola carolineana</i>	10	0.5			
<i>Euchiton sp.</i>	10	0.5			
<i>Oxalis perennans</i>	2	0.2			
<i>Cotula australis</i>	1	0.1			
<i>Phalaris aquatica</i>	20	5			
<i>Rubus fruticosus sp. Agg</i>	2	0.2			
<i>Tolpis barbata</i>	1	1			
<i>Chenopodium album</i>	1	0.5			
<i>Portulaca oleracea</i>	1	0.5			
<i>Juncus sp.</i>	1	0.1			
<i>Gnaphalium sp.</i>	2	0.2			
<i>Holcus lanatus</i>	50	10			
<i>Trifolium subterraneum</i>	2	1			
<i>Echium plantagineum</i>	2	0.2			

Cover: <1% entered as estimate (eg 0.4). 1-5% entered as number. >5% entered as nearest 5%  
 Abundance: 1,2,3,4,5,6,7,8,9,10,20,50,100,500,1000 or specify if >1000

**50 m x 20 m Plot**

<b>HBT's</b> (count) (only hollows > 5 cm):	0
<b>Fallen Logs</b> length (>10 cm, 0.5 m):	71
<b>Regen</b> (no. spp and no. regenerating)	0

Biobanking Plot Sheet - Transect



<b>Proposal ID :</b> J12055	<b>Proposal Name:</b> Hume Coal Project EIS	<b>Zone ID:</b> Plot 62
<b>Veg Type:</b> 1191:Snow Gum - Candle Bark woodland		
<b>Coordinates: Start Transect Easting/Northing :</b> 56H 251240 6177318		

50 m Transect (every 5 m)	5	10	15	20	25	30	35	40	45	50	Avg (%)
Canopy Cover (% - see Specht)											0
Exotic Canopy Cover											0
Mid Storey Cover (shrubs > 1m)											0
Exotic Mid Storey Cover											0

50 m Transect (every 1 m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	%					
Ground Cover (shrubs < 1m)																																																					0			
Exotic shrubs	1	1																																																		4				
Ground Cover (grasses)			1		1	1	1														1	1																														14				
Exotic grasses		1		1					1	1	1	1	1	1	1	1	1	1	1											1																				1		28				
Ground Cover (other)																																																					2			
Exotic other			1																																																	1	1	1	1	18

Notes

## Appendix 4.2

### Hume Coal Project Biodiversity credit report

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# Biodiversity credit report



This report identifies the number and type of biodiversity credits required for a major project.

Date of report: 6/03/2018

Time: 11:42:41AM

Calculator version: v4.0

## Major Project details

**Proposal ID:** 196/2016/2557MP

**Proposal name:** Hume Coal Project

**Proposal address:** Unit 7-8 Clarence House 9 Clarence St Moss Vale NSW 2577

**Proponent name:** Hume Coal Pty Ltd

**Proponent address:** Unit 7-8 Clarence House 9 Clarence St Moss Vale NSW 2577

**Proponent phone:** 02 4869 8200

**Assessor name:** Katie Whiting

**Assessor address:** SUITE 1 20 CHANDOS ST St Leonards NSW 2065

**Assessor phone:** 02 9493 9500

**Assessor accreditation:** 196

## Summary of ecosystem credits required

<b>Plant Community type</b>	<b>Area (ha)</b>	<b>Credits created</b>
Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	8.00	146.00
Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	0.20	6.00
<b>Total</b>	8.20	152

## Credit profiles

**1. Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion, (HN514)**

Number of ecosystem credits created

146

IBRA sub-region

Moss Vale - Hawkesbury/Nepean

<b>Offset options - Plant Community types</b>	<b>Offset options - IBRA sub-regions</b>
<p>Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion, (HN514)</p> <p>Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion, (HN614)</p> <p>Ribbon Gum - Yellow Box grassy woodland on undulating terrain of the eastern tablelands, South Eastern Highlands Bioregion, (HN573)</p>	<p>Moss Vale - Hawkesbury/Nepean and any IBRA subregion that adjoins the IBRA subregion in which the development occurs</p>

**2. Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion, (HN589)**

Number of ecosystem credits created

6

IBRA sub-region

Moss Vale - Hawkesbury/Nepean

<b>Offset options - Plant Community types</b>	<b>Offset options - IBRA sub-regions</b>
<p>Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion, (HN589)</p> <p>Black Gum grassy woodland of damp flats and drainage lines of the eastern Southern Tablelands, South Eastern Highlands Bioregion, (HN504)</p>	<p>Moss Vale - Hawkesbury/Nepean and any IBRA subregion that adjoins the IBRA subregion in which the development occurs</p>

## Summary of species credits required

<b>Common name</b>	<b>Scientific name</b>	<b>Extent of impact Ha or individuals</b>	<b>Number of species credits created</b>
Koala	<i>Phascolarctos cinereus</i>	8.20	213
Squirrel Glider	<i>Petaurus norfolcensis</i>	8.20	180
Southern Myotis	<i>Myotis macropus</i>	8.20	180



Appendix 4.3

Berrima Rail Project Biodiversity credit report

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# Biodiversity credit report



This report identifies the number and type of biodiversity credits required for a major project.

Date of report: 6/03/2018

Time: 11:34:37AM

Calculator version: v4.0

## Major Project details

**Proposal ID:** 196/2016/3604MP  
**Proposal name:** Berrima Rail Project  
**Proposal address:** Unit 7-8 Clarence House 9 Clarence St Moss Vale NSW 2577

**Proponent name:** Hume Coal Pty Ltd  
**Proponent address:** Unit 7-8 Clarence House 9 Clarence St Moss Vale NSW 2577  
**Proponent phone:** 0448000758

**Assessor name:** Katie Whiting  
**Assessor address:** SUITE 1 20 CHANDOS ST St Leonards NSW 2065  
**Assessor phone:** 02 9493 9500  
**Assessor accreditation:** 196

## Summary of ecosystem credits required

<b>Plant Community type</b>	<b>Area (ha)</b>	<b>Credits created</b>
Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	1.90	0.00
Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	0.20	7.00
<b>Total</b>	2.10	7

## Credit profiles

**1. Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion, (HN514)**

Number of ecosystem credits created

0

IBRA sub-region

Moss Vale - Hawkesbury/Nepean

<b>Offset options - Plant Community types</b>	<b>Offset options - IBRA sub-regions</b>
<p>Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion, (HN514)</p> <p>Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion, (HN614)</p> <p>Ribbon Gum - Yellow Box grassy woodland on undulating terrain of the eastern tablelands, South Eastern Highlands Bioregion, (HN573)</p>	<p>Moss Vale - Hawkesbury/Nepean and any IBRA subregion that adjoins the IBRA subregion in which the development occurs</p>

**2. Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion, (HN589)**

Number of ecosystem credits created

7

IBRA sub-region

Moss Vale - Hawkesbury/Nepean

<b>Offset options - Plant Community types</b>	<b>Offset options - IBRA sub-regions</b>
<p>Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion, (HN589)</p> <p>Black Gum grassy woodland of damp flats and drainage lines of the eastern Southern Tablelands, South Eastern Highlands Bioregion, (HN504)</p>	<p>Moss Vale - Hawkesbury/Nepean and any IBRA subregion that adjoins the IBRA subregion in which the development occurs</p>

## Summary of species credits required

Common name	Scientific name	Extent of impact Ha or individuals	Number of species credits created
Squirrel Glider	<i>Petaurus norfolcensis</i>	2.00	44
Paddys River Box, Camden Woollybutt	<i>Eucalyptus macarthurii</i>	1.00	14

