
Annexure A

Vegetation integrity assessment – datasheets

BAM Site – Field Survey Form

Plot ID:	7	Date:	18-12-17	Survey Name:	Lobs Hole Ravine Access Road	Recorders:	AM, SD
Zone:	55	Easting:	628780.9629	Plot dimensions:	20m x 50m	Midline bearing:	140
Datum:	GDA94	Northing:	6050388.025	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	679: Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	4
	Grasses etc.:	7
	Forbs:	18
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	25
	Shrubs:	6.4
	Grasses etc.:	27.8
	Forbs:	3.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.4

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	2	0	1
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	79		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	40	50	60	40	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	46					2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Drainage depression	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Clay loam	Soil Colour	Brown	Soil Depth	Medium
Lithology (B)							
Slope	2	Aspect	South	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historic clearing/logging
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Some old rabbit burrows in plot
Fire damage:	Moderate	3 to 10 yo	Regenerating shrubs and midstorey. Canopy largely unaffected
Storm damage:			No evidence
Weediness:	Light		Moderate density near track, low throughout most of the plot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Access Road					
	Date:	18-12-17	Plot ID:	7	Recorders:	AM, SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	25	12		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	5	50		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.3	10		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.3	5		N	
	<i>Cirsium vulgare</i>	0.1	5		E	
	<i>Holcus lanatus</i>	5	200		E	
	<i>Sonchus oleraceus</i>	0.2	30		E	
	<i>Rubus anglocandicans</i>	0.5	10		E	
Grass & grasslike	<i>Anthosachne scabra</i>	2	200		N	
Forb (FG)	<i>Geranium solanderi</i>	0.1	20		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
	<i>Taraxacum officinale</i>	0.1	10		E	
Forb (FG)	<i>Veronica subtilis</i>	0.1	20		N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	1	500		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	10		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	10		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.5	100		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
	<i>Cerastium glomeratum</i>	0.1	20		E	
Grass & grasslike	<i>Themeda triandra</i>	5	500		N	
Grass & grasslike	<i>Poa sieberiana</i>	20	1000		N	
Grass & grasslike	<i>Schoenus apogon</i>	0.2	50		N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	10		N	
Forb (FG)	<i>Myosotis australis</i>	0.1	10		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	10		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.2	10		N	
Grass & grasslike	<i>Poa helmsii</i>	0.2	20		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	10		N	
Forb (FG)	<i>Microtis unifolia</i>	0.1	5		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	10		N	
	<i>Trifolium repens</i>	0.2	20		E	
Shrub (SG)	<i>Hakea microcarpa</i>	0.1	2		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.1	10		N	
	<i>Rosa rubiginosa</i>	0.3	10		HTE	
	<i>Conyza canadensis</i> var. <i>canadensis</i>	0.1	5		E	
Forb (FG)	<i>Galium gaudichaudii</i>	0.5	500		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	1	1000		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	20		N	
Forb (FG)	<i>Leptorhynchos squamatus</i>	0.3	50		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	20		N	

BAM Site – Field Survey Form

Plot ID:	27	Date:	25-11-17	Survey Name:	Tantangara north	Recorders:	SW, LH
Zone:	55	Easting:	648047.4812	Plot dimensions:	20m x 50m	Midline bearing:	221
Datum:	GDA94	Northing:	6043061.776	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	9
	Grasses etc.:	2
	Forbs:	9
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	20
	Shrubs:	98
	Grasses etc.:	70.1
	Forbs:	40.7
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	11		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	10	50	10	10	0	0	5	0	30	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	18					7					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Dunecrest	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Fine loam	Soil Colour	Dark brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	Stumps
Cultivation (inc. pasture):			No
Soil erosion:			No
Firewood / CWD removal:			No
Grazing (identify native/stock):	Light	greater than 10yo	Rabbit holes and scats
Fire damage:			No
Storm damage:			No
Weediness:			No
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara north						
		Date:	25-11-17	Plot ID:	27	Recorders:	SW, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	20	8		N	
Shrub (SG)	<i>Hakea microcarpa</i>	60	200		N	
Forb (FG)	<i>Pimelea curviflora</i> var. <i>sericea</i>	20	100		N	
Shrub (SG)	<i>Grevillea alpina</i>	20	50		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	5	5		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.2	20		N	
Forb (FG)	<i>Senecio gunnii</i>	5	50		N	
	<i>Acetosella vulgaris</i>	0.2	100		HTE	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	20		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	15	100		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	7.5	100		N	
Shrub (SG)	<i>Ozothamnus adnatus</i>	5	10		N	
Forb (FG)	<i>Ajuga australis</i>	0.1	10		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	20		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	50		N	
Forb (FG)	<i>Cardamine robusta</i>	0.1	5		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	0.1	1		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
Forb (FG)	<i>Leptorhynchos squamatus</i> subsp. <i>alpinus</i>	0.2	200		N	
Shrub (SG)	<i>Cassinia laevis</i>	0.1	1		N	
	<i>Holcus lanatus</i>	20	1000		E	
Grass & grasslike	<i>Poa sieberiana</i>	70	2000		N	
	<i>Cerastium glomeratum</i>	0.1	1		E	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	5		N	

BAM Site – Field Survey Form

Plot ID:	32	Date:	08-02-18	Survey Name:	Tantangara west off Dam Trail	Recorders:	SD, AM
Zone:	55	Easting:	647725.27	Plot dimensions:	20m x 50m	Midline bearing:	90
Datum:	GDA94	Northing:	6042849.138	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1225: Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
				High			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)	Sum values
Count of Native Richness	Trees: 0
	Shrubs: 0
	Grasses etc.: 3
	Forbs: 5
	Ferns: 0
	Other: 0
Sum of Cover of native vascular plants by growth form group	Trees: 0
	Shrubs: 0
	Grasses etc.: 26.1
	Forbs: 31.7
	Ferns: 0
	Other: 0
High Threat Weed cover:	0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	30	90	90	70	60	15	99	30	40	80	70	70	70	90	0	0	0	0	0
Average of the 5 subplots:	68					48.8					76					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Clay loam	Soil Colour	Dark brown to black	Soil Depth	Moderate
Lithology (B)							
Slope	4	Aspect	90	Site Drainage	Poor	Distance to nearest water & type	50m dam

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Severe	less than 3yo	Brumbie, rabbits, pigs
Fire damage:			
Storm damage:			
Weediness:	Moderate	less than 3yo	
Other:	Severe	less than 3yo	Within flood zone of reservoir, damaged by inundation.

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara west off Dam Trail					
	Date:	08-02-18	Plot ID:	32	Recorders:	SD, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Forb (FG)	<i>Hydrocotyle algida</i>	30	1000		N	
Grass & grasslike	<i>Carex appressa</i>	25	1000		N	
Forb (FG)	<i>Alternanthera denticulata</i>	1	100		N	
Grass & grasslike	<i>Isolepis inundata</i>	1	500		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	30		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	5		N	
Forb (FG)	<i>Lobelia surrepens</i>	0.5	200		N	
Grass & grasslike	<i>Juncus usitatus</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	41	Date:	11-02-18	Survey Name:	Murrumbidgee floodplain downstream of Haines Hut	Recorders:	SD, CW	
Zone:	55	Easting:	646531.6169	Plot dimensions:	20m x 50m	Midline bearing:	240	
Datum:	GDA94	Northing:	6041966.161	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	637: Alpine and sub-alpine peatlands, damp herbfields and fens, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Alpine Bogs and Fens				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	1
	Forbs:	1
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	90
	Forbs:	3
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	3	1	3	3	15	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	5					7					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Wet loam	Soil Colour	Black	Soil Depth	Deep
Lithology (B)							
Slope	0	Aspect	0	Site Drainage	Poor	Distance to nearest water & type	100m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	less than 3yo	Horses and pigs
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Murrumbidgee floodplain downstream of Haines Hut					
			Date:	11-02-18	Plot ID:	41
			Recorders:		SD, CW	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Carex gaudichaudiana</i>	90	1000		N	
Forb (FG)	<i>Hydrocotyle algida</i>	3	1000		N	

BAM Site – Field Survey Form

Plot ID:	42	Date:	11-01-18	Survey Name:	Lobbs Hole Ravine Road north	Recorders:	SD
Zone:	55	Easting:	624854.5681	Plot dimensions:	20m x 50m	Midline bearing:	257
Datum:	GDA94	Northing:	6041940.321	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	6
	Shrubs:	14
	Grasses etc.:	6
	Forbs:	11
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	23.8
	Shrubs:	6.8
	Grasses etc.:	8.2
	Forbs:	2.3
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	2
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	17		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	70	30	60	70	80	2	50	20	2	0	20	0	15	40	0	1	0	15	0
Average of the 5 subplots:	50					30.8					15					3.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Gravelly loam	Soil Colour	Brown	Soil Depth	Medium
Lithology (B)							
Slope	29	Aspect	257	Site Drainage	Good	Distance to nearest water & type	dam

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Mostly even age regrowth
Cultivation (inc. pasture):			
Soil erosion:	Moderate	3 to 10 yo	Erosion from road above plus historic erosion from logging and grazing by stock and rabbits
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	3 to 10 yo	Fire scars
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobbs Hole Ravine Road north					
	Date:	11-01-18	Plot ID:	42	Recorders:	SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	15	10		N	
Tree (TG)	<i>Eucalyptus dives</i>	5	5		N	
Tree (TG)	<i>Eucalyptus mannifera</i> subsp. <i>mannifera</i>	2	5		N	
Shrub (SG)	<i>Cassinia longifolia</i>	2	8		N	
Shrub (SG)	<i>Daviesia mimosoides</i>	1	6		N	
Tree (TG)	<i>Acacia dealbata</i>	1	1		N	
Shrub (SG)	<i>Banksia canei</i>	1	4		N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	0.5	2		N	
Forb (FG)	<i>Dianella revoluta</i>	1	100		N	
	<i>Medicago lupulina</i>	0.1	10		E	
	<i>Rosa rubiginosa</i>	0.3	5		HTE	
	<i>Hypericum perforatum</i>	0.2	50		HTE	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	5	300		N	
Shrub (SG)	<i>Platylobium montanum</i>	0.5	20		N	
Shrub (SG)	<i>Indigofera australis</i>	0.2	20		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	0.5	20		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.5	10		N	
Tree (TG)	<i>Eucalyptus robertsonii</i>	0.7	3		N	
Grass & grasslike	<i>Lomandra bracteata</i>	0.7	40		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	20		N	
Forb (FG)	<i>Geranium solanderi</i>	0.1	20		N	
	<i>Rubus anglocandicans</i>	0.1	1		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.2	20		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	10		N	
Other (OG)	<i>Glycine tabacina</i>	0.1	10		N	
	<i>Centaurium erythraea</i>	0.1	30		E	
Forb (FG)	<i>Asperula scoparia</i>	0.3	20		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	10		N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	0.2	30		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	40		N	
Shrub (SG)	<i>Dillwynia phyllicoides</i>	0.1	2		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.1	1		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	1		N	
Shrub (SG)	<i>Bursaria spinosa</i>	0.1	1		N	
Forb (FG)	<i>Plantago gaudichaudii</i>	0.1	10		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	5		N	
Grass & grasslike	<i>Themeda triandra</i>	2	200		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.2	20		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	1		N	
Tree (TG)	<i>Acacia melanoxylon</i>	0.1	1		N	
Forb (FG)	<i>Galium binifolium</i>	0.1	10		N	
Grass & grasslike	<i>Rytidosperma</i> spp.	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	47	Date:	10-02-18	Survey Name:	Murrumbidgee floodplain downstream of Haines Hut	Recorders:	SD, AM	
Zone:	55	Easting:	645844.3224	Plot dimensions:	20m x 50m	Midline bearing:	90	
Datum:	GDA94	Northing:	6041520.235	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	637: Alpine and sub-alpine peatlands, damp herbfields and fens, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Alpine Bogs and Fens				EEC:	Yes	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	4
	Forbs:	7
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	75.4
	Forbs:	26
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	100	90	80	90	70	0	5	10	10	30	5	5	5	10	5	0	0	0	0	0
Average of the 5 subplots:	86					11					6					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loam	Soil Colour	Black	Soil Depth	Deep
Lithology (B)							
Slope	0	Aspect	0	Site Drainage	Poor	Distance to nearest water & type	80m, river

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	less than 3yo	Horses, pigs, rabbits, cattle (historically)
Fire damage:			
Storm damage:			
Weediness:	Light	less than 3yo	Pasture grasses
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Murrumbidgee floodplain downstream of Haines Hut					
	Date:	10-02-18	Plot ID:	47	Recorders:	SD, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Carex gaudichaudiana</i>	75	1000		N	
Forb (FG)	<i>Hydrocotyle algida</i>	25	1000		N	
	<i>Trifolium repens</i>	0.1	5		E	
Forb (FG)	<i>Spiranthes australis</i>	0.1	5		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.3	40		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	5		N	
Grass & grasslike	<i>Schoenus</i> spp.	0.2	80		N	
	<i>Hypochaeris radicata</i>	0.1	2		E	
Grass & grasslike	<i>Lachnagrostis aemula</i>	0.1	1		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.2	50		N	
	<i>Carex leporina</i>	0.1	5		E	
Forb (FG)	<i>Epilobium pallidiflorum</i>	0.2	20		N	
Grass & grasslike	<i>Juncus</i> spp.	0.1	20		N	
Forb (FG)	<i>Brachyscome graminea</i>	0.1	5		N	
	<i>Myosotis laxa</i> subsp. <i>caespitosa</i>	0.1	2		E	

BAM Site – Field Survey Form

Plot ID:	49	Date:	10-02-18	Survey Name:	Murrumbidgee floodplain downstream of Haines Hut	Recorders:	SD, AM
Zone:	55	Easting:	645724.4626	Plot dimensions:	20m x 50m	Midline bearing:	250
Datum:	GDA94	Northing:	6041491.855	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1225: Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
				Medium			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)	Sum values
Count of Native Richness	Trees: 0
	Shrubs: 1
	Grasses etc.: 3
	Forbs: 10
	Ferns: 0
	Other: 0
Sum of Cover of native vascular plants by growth form group	Trees: 0
	Shrubs: 0.1
	Grasses etc.: 30.6
	Forbs: 51.7
	Ferns: 0
	Other: 0
High Threat Weed cover:	0.7

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	80	30	90	80	10	25	70	5	20	70	1	1	5	5	0	0	0	0	0
Average of the 5 subplots:	60					26					16.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loam	Soil Colour	Black	Soil Depth	Deep
Lithology (B)							
Slope	5	Aspect	290	Site Drainage	Poor	Distance to nearest water & type	0 river

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	less than 3yo	Horses and pigs
Fire damage:			
Storm damage:			
Weediness:	Moderate	less than 3yo	Pasture weeds, forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Murrumbidgee floodplain downstream of Haines Hut					
	Date:	10-02-18	Plot ID:	49	Recorders:	SD, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Carex gaudichaudiana</i>	30	1000		N	
Forb (FG)	<i>Hydrocotyle algida</i>	50	1000		N	
Forb (FG)	<i>Geum urbanum</i>	0.1	10		N	
	<i>Taraxacum officinale</i>	0.1	50		E	
	<i>Medicago lupulina</i>	0.1	1		E	
	<i>Acetosella vulgaris</i>	0.7	300		HTE	
Forb (FG)	<i>Spiranthes australis</i>	0.1	5		N	
	<i>Viola arvensis</i>	0.1	1		E	
	<i>Trifolium repens</i>	0.2	20		E	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.2	50		N	
	<i>Mimulus moschatus</i>	0.1	10		E	
	<i>Myosotis laxa</i> subsp. <i>caespitosa</i>	0.1	10		E	
Grass & grasslike	<i>Isolepis inundata</i>	0.5	200		N	
Forb (FG)	<i>Oxalis</i> spp.	0.4	100		N	
Forb (FG)	<i>Veronica subtilis</i>	0.1	10		N	
Forb (FG)	<i>Geranium solanderi</i>	0.3	40		N	
	<i>Verbascum virgatum</i>	0.1	2		E	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	20		N	
	<i>Conyza canadensis</i> var. <i>canadensis</i>	0.1	2		E	
	<i>Holcus lanatus</i>	0.5	100		E	
	<i>Cirsium vulgare</i>	0.2	10		E	
Grass & grasslike	<i>Juncus sarophorus</i>	0.1	5		N	
	<i>Verbascum thapsus</i> subsp. <i>Thapsus</i>	0.1	1		E	
Shrub (SG)	<i>Pimelea</i> spp.	0.1	10		N	
Forb (FG)	<i>Epilobium pallidiflorum</i>	0.1	10		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.3	50		N	

BAM Site – Field Survey Form

Plot ID:	50	Date:	09-02-18	Survey Name:	Murrumbidgee floodplain downstream of Haines Hut	Recorders:	SD, AM
Zone:	55	Easting:	645785.4031	Plot dimensions:	20m x 50m	Midline bearing:	0
Datum:	GDA94	Northing:	6041385.284	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	Yes	Confidence:
						Medium	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	5
	Forbs:	2
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	81.4
	Forbs:	0.3
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	30	30	50	90	30	60	60	50	10	20	40	50	70	60	0	0	0	0	0
Average of the 5 subplots:	52					42					48					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loam	Soil Colour	Black	Soil Depth	Deep
Lithology (B)							
Slope	0	Aspect	0	Site Drainage	Poor	Distance to nearest water & type	10m floodplain wetland

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	less than 3yo	Horses, likely pigs, plus historic cattle
Fire damage:			
Storm damage:			
Weediness:	Light	less than 3yo	Fringing pasture grasses
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Murrumbidgee floodplain downstream of Haines Hut					
	Date:	09-02-18	Plot ID:	50	Recorders:	SD, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Holcus lanatus</i>	0.2	30		E	
Grass & grasslike	<i>Carex spp.</i>	80	1000		N	
Forb (FG)	<i>Alternanthera denticulata</i>	0.2	50		N	
	<i>Typha latifolia</i>	1	200		E	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	2		N	
Grass & grasslike	<i>Juncus australis</i>	0.5	5		N	
	<i>Aira elegantissima</i>	0.1	5		E	
Grass & grasslike	<i>Isalepis inundata</i>	0.1	10		N	
	<i>Ludwigia palustris</i>	5	1000		E	
	<i>Sonchus oleraceus</i>	0.1	1		E	
	<i>Myosotis laxa subsp. caespitosa</i>	0.1	10		E	
Grass & grasslike	<i>Juncus spp.</i>	0.1	10		N	
Grass & grasslike	<i>Carex appressa</i>	0.7	20		N	

BAM Site – Field Survey Form

Plot ID:	54	Date:	15-12-17	Survey Name:	Dabalo dreaming, proposed northern route		Recorders:	SD, SW
Zone:	55	Easting:	645536.7244	Plot dimensions:	20m x 50m		Midline bearing:	199
Datum:	GDA94	Northing:	6041230.3	IBRA region:	Australian Alps (Snowy Mountains)		Zone ID:	
Plant Community Type:	1225: Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	2
	Forbs:	7
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	31
	Forbs:	1.4
	Ferns:	0
	Other:	0
High Threat Weed cover:		60

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	70	40	30	20	0	0	0	0	5	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	50					1					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loam	Soil Colour	Dark brown to black	Soil Depth	At least 100mm
Lithology (B)							
Slope	Nil	Aspect	Nil	Site Drainage	Poor	Distance to nearest water & type	20m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Some evidence of brumbies and rabbits grazing
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Severe	less than 3yo	Exotic forbs
Other:	Severe	less than 3yo	High number of Poa lab dieback

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Dabito dreaming, proposed northern route					
	Date:	15-12-17	Plot ID:	54	Recorders:	SD, SW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Acetosella vulgaris</i>	60	1000		HTE	
	<i>Viola arvensis</i>	1	200		E	
Forb (FG)	<i>Senecio gunnii</i>	0.3	50		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	30	200		N	
Grass & grasslike	<i>Carex</i> spp.	1	100		N	
	<i>Trifolium repens</i>	0.5	50		E	
Forb (FG)	<i>Ranunculus inundatus</i>	0.5	50		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	10		N	
Forb (FG)	<i>Oxalis perennans</i>	0.2	20		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	5		N	
Forb (FG)	<i>Geranium neglectum</i>	0.1	20		N	
	<i>Cerastium glomeratum</i>	0.1	10		E	
	<i>Cirsium vulgare</i>	0.1	5		E	
	<i>Sonchus oleraceus</i>	0.1	10		E	
	<i>Holcus lanatus</i>	0.2	20		E	
	<i>Prunella vulgaris</i>	0.1	10		E	
Forb (FG)	<i>Cardamine robusta</i>	0.1	5		N	

BAM Site – Field Survey Form

Plot ID:	60	Date:	07-02-18	Survey Name:	Talbingo	Recorders:	AM, DK
Zone:	55	Easting:	623933.4298	Plot dimensions:	20m x 50m	Midline bearing:	275
Datum:	GDA94	Northing:	6040973.56	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	18
	Grasses etc.:	12
	Forbs:	16
	Ferns:	1
	Other:	3
Sum of Cover of native vascular plants by growth form group	Trees:	30
	Shrubs:	59.2
	Grasses etc.:	28.4
	Forbs:	2.8
	Ferns:	0.1
	Other:	0.3
High Threat Weed cover:		2.6

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	2
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	51		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	45	40	45	40	45	35	40	0	45	0	5	10	20	5	2	5	0	10	3
Average of the 5 subplots:	42					33					8					4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Brown	Soil Depth	
Lithology (B)							
Slope	5	Aspect	175	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light		Exotic forbs and woody weeds
Other:	Moderate		Feral pig damage

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo						
		Date:	07-02-18	Plot ID:	60	Recorders:	AM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus robertsonii</i> subsp. <i>robertsonii</i>	20	20		N	
Shrub (SG)	<i>Leptospermum brevipes</i>	50	40		N	
Shrub (SG)	<i>Cassinia longifolia</i>	3	10		N	
Shrub (SG)	<i>Acacia pravissima</i>	3	8		N	
	<i>Rubus fruticosus</i> sp. agg.	2	7		HTE	
Shrub (SG)	<i>Platylobium formosum</i>	0.1	10		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	25	300		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	40		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.4	50		N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	5		N	
Forb (FG)	<i>Asperula scoparia</i>	1	300		N	
Other (OG)	<i>Clematis aristata</i>	0.1	30		N	
Grass & grasslike	<i>Carex inomitata</i>	0.2	10		N	
	<i>Holcus lanatus</i>	0.1	2		E	
Shrub (SG)	<i>Pomaderris angustifolia</i>	0.2	2		N	
	<i>Rosa rubiginosa</i>	0.1	1		HTE	
Shrub (SG)	<i>Pomaderris aspera</i>	0.1	1		N	
Grass & grasslike	<i>Poa helmsii</i>	0.1	3		N	
	<i>Lotus uliginosus</i>	0.1	2		E	
Shrub (SG)	<i>Rubus parvifolius</i>	0.3	5		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	50		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.3	3		N	
Fern (EG)	<i>Asplenium flabellifolium</i>	0.1	20		N	
	<i>Hypericum perforatum</i>	0.5	50		HTE	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	4		N	
Forb (FG)	<i>Lobelia gibbosa</i>	0.1	2		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	20		N	
Grass & grasslike	<i>Microlaena stipoides</i>	1	100		N	
Shrub (SG)	<i>Pimelea curviflora</i> var. <i>gracilis</i>	0.1	10		N	
Grass & grasslike	<i>Lachnagrostis filiformis</i>	0.1	5		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.3	40		N	
Grass & grasslike	<i>Echinopogon ovatus</i>	0.2	20		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	20		N	
	<i>Hypochaeris radicata</i>	0.1	5		E	
Forb (FG)	<i>Dichondra repens</i>	0.2	500		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	30		N	
Shrub (SG)	<i>Pultenaea subspicata</i>	0.1	1		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10		N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.2	5		N	
Forb (FG)	<i>Lagenophora stipitata</i>	0.1	50		N	
	<i>Centaurium erythraea</i>	0.1	50		E	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	10		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
Forb (FG)	<i>Veronica calycina</i>	0.1	10		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.5	100		N	
Forb (FG)	<i>Dianella revoluta</i> var. <i>revoluta</i>	0.1	3		N	
Shrub (SG)	<i>Leucopogon lanceolatus</i> var. <i>lanceolatus</i>	0.1	5		N	

Shrub (SG)	<i>Bursaria spinosa</i>	0.2	3		N	
Forb (FG)	<i>Stellaria pungens</i>	0.3	200		N	
Shrub (SG)	<i>Acrotriche serrulata</i>	1	30		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	10		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	1		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	3		N	
Shrub (SG)	<i>Dillwynia phyllicoides</i>	0.2	3		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.3	30		N	
Forb (FG)	<i>Pimelea curviflora</i> var. <i>sericea</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	10	1		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.1	1		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	61	Date:	14-12-17	Survey Name:	Dabalo dreaming, proposed northern route		Recorders:	SD, SW
Zone:	55	Easting:	644941.201	Plot dimensions:	20m x 50m		Midline bearing:	145
Datum:	GDA94	Northing:	6040983.29	IBRA region:	Australian Alps (Snowy Mountains)		Zone ID:	
Plant Community Type:	1225: Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	5
	Forbs:	13
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	66.8
	Forbs:	3.5
	Ferns:	0
	Other:	0
High Threat Weed cover:		1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	15	20	10	35	0	0	1	10	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	19					2.2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loamy	Soil Colour	Dark brown to black	Soil Depth	At least 100mm
Lithology (B)							
Slope	Nil	Aspect	Nil	Site Drainage	Low	Distance to nearest water & type	70m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Some disturbance by rabbit and brumbies
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Evidence of feral grazing
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Exotic forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Dabilo dreaming, proposed northern route					
	Date:	14-12-17	Plot ID:	61	Recorders:	SD, SW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	60	1000		N	
Forb (FG)	<i>Oxalis perennans</i>	0.5	100		N	
	<i>Acetosella vulgaris</i>	1	1000		HTE	
Grass & grasslike	<i>Carex breviculmis</i>	5	1000		N	
Forb (FG)	<i>Euchiton japonicus</i>	1	1000		N	
Forb (FG)	<i>Asperula scoparia</i>	0.2	30		N	
Grass & grasslike	<i>Themeda triandra</i>	1	100		N	
	<i>Holcus lanatus</i>	0.5	50		E	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	2		N	
Grass & grasslike	<i>Agrostis venusta</i>	0.5	100		N	
Forb (FG)	<i>Geranium neglectum</i>	0.3	40		N	
Forb (FG)	<i>Veronica serpyllifolia</i>	0.2	30		N	
	<i>Taraxacum officinale</i>	0.2	10		E	
	<i>Sonchus oleraceus</i>	0.2	10		E	
	<i>Cirsium vulgare</i>	0.1	3		E	
	<i>Cerastium glomeratum</i>	0.1	10		E	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	10		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.1	2		N	
Forb (FG)	<i>Senecio gunnii</i>	0.5	20		N	
Forb (FG)	<i>Triptilodiscus pygmaeus</i>	0.1	20		N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.2	10		N	
	<i>Aira elegantissima</i>	0.3	40		E	
Forb (FG)	<i>Stellaria pungens</i>	0.1	10		N	
Grass & grasslike	<i>Poa</i> spp.	0.3	20		N	
Forb (FG)	<i>Cardamine robusta</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	70	Date:	06-02-18	Survey Name:	Talbingo	Recorders:	AM, DK
Zone:	55	Easting:	624594.6771	Plot dimensions:	20m x 50m	Midline bearing:	280
Datum:	GDA94	Northing:	6040562.586	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	10
	Grasses etc.:	14
	Forbs:	12
	Ferns:	3
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	33
	Shrubs:	51
	Grasses etc.:	40.9
	Forbs:	3.4
	Ferns:	4.5
	Other:	0
High Threat Weed cover:		4.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	2	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	27		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	40	40	15	55	0	5	15	30	10	0	5	5	10	0	0	0	0	30	0
Average of the 5 subplots:	44					12					4					6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Gully	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour		Soil Depth	
Lithology (B)							
Slope	15	Aspect	204	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo						
		Date:	06-02-18	Plot ID:	70	Recorders:	AM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	25	3		N	
Tree (TG)	<i>Eucalyptus dives</i>	3	2		N	
Shrub (SG)	<i>Bursaria spinosa</i>	6	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	25	30		N	
Shrub (SG)	<i>Dodonaea viscosa subsp. angustissima</i>	4	20		N	
Tree (TG)	<i>Acacia dealbata subsp. subalpina</i>	5	10		N	
Shrub (SG)	<i>Grevillea arenaria subsp. canescens</i>	5	20		N	
Shrub (SG)	<i>Exocarpos strictus</i>	3	10		N	
	<i>Rubus fruticosus sp. agg.</i>	2	10		HTE	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	20	1000		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.5	200		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.3	100		N	
Grass & grasslike	<i>Lomandra filiformis subsp. coriacea</i>	1	50		N	
	<i>Hypericum perforatum</i>	2	300		HTE	
	<i>Centaurium erythraea</i>	0.2	100		E	
	<i>Rosa rubiginosa</i>	0.1	5		HTE	
Forb (FG)	<i>Hydrocotyle sibthorpioides</i>	0.3	500		N	
	<i>Petrorhagia nanteuillii</i>	0.1	100		E	
Grass & grasslike	<i>Rytidosperma erianthum</i>	1	200		N	
Shrub (SG)	<i>Rubus parvifolius</i>	0.2	10		N	
	<i>Crepis capillaris</i>	0.1	50		E	
Fern (EG)	<i>Cheilanthes sieberi subsp. sieberi</i>	0.3	300		N	
Forb (FG)	<i>Dichondra repens</i>	2	1000		N	
Fern (EG)	<i>Adiantum aethiopicum</i>	4	1000		N	
	<i>Acetosella vulgaris</i>	0.1	50		HTE	
Shrub (SG)	<i>Cryptandra amara</i>	7	100		N	
Grass & grasslike	<i>Carex incomitata</i>	0.3	20		N	
Forb (FG)	<i>Daucus glochidiatus</i>	0.1	50		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.1	2		N	
Forb (FG)	<i>Wahlenbergia stricta subsp. stricta</i>	0.1	10		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	20		N	
	<i>Aira elegantissima</i>	0.1	100		E	
	<i>Holcus lanatus</i>	0.2	20		E	
Grass & grasslike	<i>Microlaena stipoides var. stipoides</i>	5	500		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	100		N	
Grass & grasslike	<i>Echinopogon ovatus</i>	2	50		N	
	<i>Cerastium glomeratum</i>	0.1	20		E	
Grass & grasslike	<i>Poa sieberiana var. cyanophylla</i>	10	300		N	
Forb (FG)	<i>Geranium solanderi var. solanderi</i>	0.1	20		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	10		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	20		N	
	<i>Conyza spp.</i>	0.1	1		E	
Fern (EG)	<i>Asplenium flabellifolium</i>	0.2	100		N	
Grass & grasslike	<i>Dichelachne sieberiana</i>	0.3	200		N	
Shrub (SG)	<i>Dillwynia phylloides</i>	0.5	10		N	
Shrub (SG)	<i>Pimelea linifolia subsp. linifolia</i>	0.2	5		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	30		N	

Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	0.2	30		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	40		N	
Forb (FG)	<i>Cullen microcephalum</i>	0.1	2		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	0.1	5		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	5		N	
	<i>Vulpia bromoides</i>	0.1	30		E	
Forb (FG)	<i>Pimelea curviflora</i> var. <i>sericea</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	71	Date:	06-02-18	Survey Name:	Talbingo	Recorders:	AM, DK	
Zone:	55	Easting:	624410.5326	Plot dimensions:	20m x 50m	Midline bearing:	260	
Datum:	GDA94	Northing:	6040490.987	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion				Confidence:	Low	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	6
	Grasses etc.:	5
	Forbs:	9
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	5
	Shrubs:	37.8
	Grasses etc.:	20.6
	Forbs:	1.1
	Ferns:	0
	Other:	0
High Threat Weed cover:		5.6

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	8		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	45	45	35	20	10	20	1	10	15	5	10	35	30	45	0	0	0	0	5
Average of the 5 subplots:	41					11.2					25					1				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Red-brown	Soil Depth	
Lithology (B)							
Slope	25	Aspect	175	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Scattered regenerating eucalyptus
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		Very minor
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Severe		Exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo						
		Date:	06-02-18	Plot ID:	71	Recorders:	AM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	5	3		N	
Shrub (SG)	<i>Acacia pravissima</i>	25	30		N	
Shrub (SG)	<i>Grevillea rosmarinifolia</i> subsp. <i>rosmarinifolia</i>	7	20		N	
Shrub (SG)	<i>Cassinia longifolia</i>	3	5		N	
Shrub (SG)	<i>Exocarpos strictus</i>	2	5		N	
Shrub (SG)	<i>Cryptandra amara</i> var. <i>amara</i>	0.5	5		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	15	1000		N	
Grass & grasslike	<i>Dichelachne rara</i>	3	500		N	
	<i>Hypericum perforatum</i>	5	1000		HTE	
	<i>Centaureum erythraea</i>	2	1000		E	
	<i>Trifolium arvense</i>	0.2	200		E	
	<i>Aira elegantissima</i>	50	1000		E	
	<i>Petrorhagia nanteuillii</i>	0.1	100		E	
Forb (FG)	<i>Daucus glochidiatus</i>	0.1	100		N	
Forb (FG)	<i>Stellaria pungens</i>	0.3	500		N	
Forb (FG)	<i>Hydrocotyle sibthorpioides</i>	0.1	100		N	
	<i>Crepis capillaris</i>	0.2	200		E	
	<i>Rubus fruticosus</i> sp. agg.	0.5	5		HTE	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	100		N	
Forb (FG)	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	0.1	50		N	
Grass & grasslike	<i>Anthosachne scabra</i>	2	300		N	
	<i>Vulpia bromoides</i>	10	1000		E	
Shrub (SG)	<i>Rubus parvifolius</i>	0.3	10		N	
	<i>Acetosella vulgaris</i>	0.1	200		HTE	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	20		N	
Grass & grasslike	<i>Carex inomitata</i>	0.3	20		N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	10		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	5		N	
	<i>Verbascum virgatum</i>	0.1	2		E	
	<i>Holcus lanatus</i>	0.1	10		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.3	50		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	72	Date:	06-02-18	Survey Name:	Talbingo	Recorders:	AM, DK
Zone:	55	Easting:	624717.9913	Plot dimensions:	20m x 50m	Midline bearing:	218
Datum:	GDA94	Northing:	6040446.547	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
							Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	10
	Grasses etc.:	9
	Forbs:	8
	Ferns:	2
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	10.1
	Shrubs:	40.3
	Grasses etc.:	37.6
	Forbs:	1
	Ferns:	0.7
	Other:	0
High Threat Weed cover:		6.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	4		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	40	10	55	30	50	5	10	0	20	5	20	30	30	25	0	5	40	0	0
Average of the 5 subplots:	32					17					22					9				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Red-brown	Soil Depth	
Lithology (B)							
Slope	20	Aspect	145	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Historic clearing
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Severe		Exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo					
	Date:	06-02-18	Plot ID:	72	Recorders:	AM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus robertsonii</i>	4	2		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	0.1	1		N	
Shrub (SG)	<i>Bursaria spinosa</i>	20	50		N	
Shrub (SG)	<i>Grevillea rosmarinifolia</i> subsp. <i>rosmarinifolia</i>	5	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	7	20		N	
	<i>Rubus fruticosus</i> sp. agg.	1	5		HTE	
Shrub (SG)	<i>Exocarpos strictus</i>	0.3	3		N	
Shrub (SG)	<i>Dodonea viscosa</i> subsp. <i>angustissima</i>	1	8		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	20	1000		N	
	<i>Aira elegantissima</i>	15	1000		E	
	<i>Centaurium erythraea</i>	0.2	300		E	
	<i>Crepis capillaris</i>	0.2	500		E	
Forb (FG)	<i>Stellaria pungens</i>	0.1	100		N	
Grass & grasslike	<i>Microlaena stipoides</i>	2	200		N	
Fern (EG)	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	0.5	100		N	
	<i>Hypericum perforatum</i>	5	500		HTE	
Forb (FG)	<i>Hydrocotyle sibthorpioides</i>	0.3	200		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10		N	
	<i>Petrorhagia nanteuillii</i>	0.1	30		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	10	200		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	40		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.2	20		N	
Grass & grasslike	<i>Carex inomitata</i>	0.1	3		N	
Fern (EG)	<i>Asplenium flabellifolium</i>	0.2	100		N	
Grass & grasslike	<i>Anthosachne scabra</i>	3	300		N	
Shrub (SG)	<i>Grevillea arenaria</i> subsp. <i>canescens</i>	6	20		N	
	<i>Acetosella vulgaris</i>	0.1	50		HTE	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	30		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10		N	
Grass & grasslike	<i>Dichelachne rara</i>	2	300		N	
	<i>Vulpia bromoides</i>	3	500		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	10		N	
Shrub (SG)	<i>Cassinia longifolia</i>	0.5	3		N	
Tree (TG)	<i>Eucalyptus dives</i>	5	4		N	
Shrub (SG)	<i>Cryptandra amara</i>	0.1	2		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	50		N	
	<i>Rosa rubiginosa</i>	0.1	2		HTE	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	10		N	
Shrub (SG)	<i>Leptospermum brevipes</i>	0.2	1		N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus mannifera</i> subsp. <i>mannifera</i>	1	2		N	
	<i>Holcus lanatus</i>	0.1	10		E	
	<i>Briza minor</i>	0.1	200		E	
	<i>Bromus molliformis</i>	0.1	20		E	

BAM Site – Field Survey Form

Plot ID:	75	Date:	15-12-17	Survey Name:	Access Roads	Recorders:	AM, EL
Zone:	55	Easting:	643610.3915	Plot dimensions:	20m x 50m	Midline bearing:	42
Datum:	GDA94	Northing:	6040255.695	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	4
	Grasses etc.:	7
	Forbs:	22
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	3.8
	Grasses etc.:	82.4
	Forbs:	4.4
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	5
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	132		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	40	5	4	5	20	0	1	15	1	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	18.8					7.4					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)		Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):		greater than 10yo	Historical possibly
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		Rabbits
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Native and exotic herbivores
Fire damage:	Severe	3 to 10 yo	Severe dieback from fire
Storm damage:	Moderate	3 to 10 yo	Fallen timber. Likely to have died in fire and then come down in wind and snow.
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads						
		Date:	15-12-17	Plot ID:	75	Recorders:	AM, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Pimelea pauciflora</i>	0.2	3		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	60	500		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	2	50		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	50		N	
Forb (FG)	<i>Asperula scoparia</i>	2	500		N	
	<i>Hypochaeris radicata</i>	0.2	100		E	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.5	20		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.2	100		N	
Grass & grasslike	<i>Themeda triandra</i>	20	300		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	30		N	
Forb (FG)	<i>Dichondra repens</i>	0.2	500		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	50		N	
Forb (FG)	<i>Senecio pinnatifolius</i> var. <i>alpinus</i>	0.1	20		N	
Forb (FG)	<i>Craspedia variabilis</i>	0.1	10		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	50		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	50		N	
Shrub (SG)	<i>Dillwynia prostrata</i>	3	40		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.2	50		N	
	<i>Trifolium repens</i>	0.2	100		E	
Forb (FG)	<i>Ajuga australis</i>	0.1	10		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	50		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	10		N	
	<i>Anthoxanthum odoratum</i>	0.2	50		E	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	20		N	
	<i>Cirsium vulgare</i>	0.1	2		E	
Forb (FG)	<i>Myosotis australis</i>	0.1	20		N	
Grass & grasslike	<i>Rytidosperma monticola</i>	0.1	30		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	50		N	
Forb (FG)	<i>Acaena agnipila</i>	0.1	10		N	
	<i>Acetosella vulgaris</i>	0.1	50		HTE	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10		N	
	<i>Taraxacum officinale</i>	0.1	10		E	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	10		N	
	<i>Verbascum thapsus</i> subsp. <i>Thapsus</i>	0.1	1		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	10		N	
	<i>Vulpia bromoides</i>	0.1	20		E	
Grass & grasslike	<i>Agrastis venusta</i>	0.1	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	5		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.1	10		N	
Forb (FG)	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	0.1	2		N	
Forb (FG)	<i>Leptorhynchus squamatus</i> subsp. <i>alpinus</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	79	Date:	10-01-18	Survey Name:	Lobbs Hole Ravine Road north	Recorders:	SD
Zone:	55	Easting:	625587.6012	Plot dimensions:	20m x 50m	Midline bearing:	50
Datum:	GDA94	Northing:	6039630.298	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	13
	Grasses etc.:	8
	Forbs:	7
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	10
	Shrubs:	65.8
	Grasses etc.:	6.3
	Forbs:	2.7
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	2	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	19		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	80	100	70	100	100	5	0	5	0	0	100	10	20	10	30	0	0	0	0	0
Average of the 5 subplots:	90					2					34					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Loamy clay	Soil Colour	Brown	Soil Depth	Shallow
Lithology (B)							
Slope	7	Aspect	300	Site Drainage	Moderate	Distance to nearest water & type	40

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Regrowth
Cultivation (inc. pasture):			
Soil erosion:	Light	greater than 10yo	
Firewood / CWD removal:			
Grazing (identify native/stock):	Light	greater than 10yo	
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobbs Hole Ravine Road north					
	Date:	10-01-18	Plot ID:	79	Recorders:	SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus rubida</i>	10	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	50	500		N	
Shrub (SG)	<i>Leptospermum continentale</i>	10	200		N	
Shrub (SG)	<i>Banksia canei</i>	0.5	1		N	
Grass & grasslike	<i>Schoenus apogon</i>	3	200		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	2	500		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	0.3	50		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.2	70		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	0.1	5		N	
Shrub (SG)	<i>Dillwynia rudis</i>	0.2	10		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	10		N	
Shrub (SG)	<i>Acacia gunnii</i>	0.1	1		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	1	40		N	
Grass & grasslike	<i>Juncus usitatus</i>	0.1	10		N	
	<i>Centaurium erythraea</i>	0.1	5		E	
Grass & grasslike	<i>Carex appressa</i>	2	200		N	
	<i>Aira elegantissima</i>	0.1	5		E	
Grass & grasslike	<i>Themeda triandra</i>	0.5	50		N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	10		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.5	20		N	
Forb (FG)	<i>Boronia nana</i> var. <i>hyssopifolia</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra bracteata</i>	0.2	40		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	0.1	20		N	
Other (OG)	<i>Cassytha glabella</i>	0.1	10		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	10		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	1		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	1		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.2	3		N	
Shrub (SG)	<i>Leptospermum brevipes</i>	1	20		N	
Shrub (SG)	<i>Acacia siculiformis</i>	2	50		N	
	<i>Rubus anglocandicans</i>	0.1	5		E	
Grass & grasslike	<i>Austrostipa</i> spp.	0.1	10		N	
	<i>Hypericum perforatum</i>	0.1	2		HTE	
Forb (FG)	<i>Hypericum japonicum</i>	0.1	10		N	
Shrub (SG)	<i>Leucopogon virgatus</i> var. <i>virgatus</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	80	Date:	10-01-18	Survey Name:	Lobbs Hole Ravine Road north	Recorders:	SD
Zone:	55	Easting:	625548.0978	Plot dimensions:	20m x 50m	Midline bearing:	20
Datum:	GDA94	Northing:	6039579.655	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	15
	Grasses etc.:	6
	Forbs:	6
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	15.5
	Shrubs:	9.8
	Grasses etc.:	5.4
	Forbs:	1.1
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	1
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	41		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	30	95	95	80	80	50	5	0	2	10	60	10	10	60	50	2	0	2	5	1
Average of the 5 subplots:	76					13.4					38					2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Clay	Soil Colour		Soil Depth	Shallow
Lithology (B)							
Slope	15	Aspect	West	Site Drainage	Moderate	Distance to nearest water & type	30

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Relatively young regrowth
Cultivation (inc. pasture):			
Soil erosion:	Severe	3 to 10 yo	Bare and eroding patches, historic grazing, rabbits
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	greater than 10yo	Close to clearing and old settlement
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobbs Hole Ravine Road north						
		Date:	10-01-18	Plot ID:	80	Recorders:	SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus rubida</i>	15	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	0.2	2		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	5	100		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	20		N	
	<i>Hypericum perforatum</i>	0.1	10		HTE	
Grass & grasslike	<i>Themeda triandra</i>	2	50		N	
Grass & grasslike	<i>Deyeuxia quadriseta</i>	0.2	30		N	
	<i>Centaureum erythraea</i>	0.1	10		E	
Grass & grasslike	<i>Lomandra bracteata</i>	1	40		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	20		N	
Grass & grasslike	<i>Aristida ramosa</i>	2	200		N	
Shrub (SG)	<i>Calytrix tetragona</i>	2	40		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.5	5		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	0.3	5		N	
Forb (FG)	<i>Xerochrysum bracteatum</i>	0.2	10		N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.2	20		N	
Fern (EG)	<i>Cheilanthes austrotenuifolia</i>	0.1	2		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.3	10		N	
Shrub (SG)	<i>Banksia canei</i>	0.1	1		N	
Grass & grasslike	<i>Rytidosperma spp.</i>	0.1	10		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10		N	
Forb (FG)	<i>Dianella revoluta</i>	0.1	1		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	2		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	10		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.5	30		N	
Tree (TG)	<i>Eucalyptus dives</i>	0.5	1		N	
Shrub (SG)	<i>Olearia tenuifolia</i>	0.3	5		N	
Shrub (SG)	<i>Dillwynia sieberi</i>	0.3	5		N	
Shrub (SG)	<i>Daviesia leptophylla</i>	0.1	2		N	
Shrub (SG)	<i>Acacia siculiformis</i>	0.1	1		N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.2	1		N	
Shrub (SG)	<i>Mirbelia oxylabioides</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	81	Date:	15-12-17	Survey Name:	Access Roads	Recorders:	AM, EL
Zone:	55	Easting:	643061.5713	Plot dimensions:	20m x 50m	Midline bearing:	298
Datum:	GDA94	Northing:	6039529.922	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	8
	Grasses etc.:	8
	Forbs:	17
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	40
	Shrubs:	16
	Grasses etc.:	91.6
	Forbs:	2.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	1
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	187		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	15	50	15	20	0	0	15	2	0	0	0	0	0	0	0	0	5	0	0
Average of the 5 subplots:	24					3.4					0					1				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Sandy clay	Soil Colour	Red	Soil Depth	Shallow
Lithology (B)							
Slope	NW	Aspect		Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			Not evident
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Rabbits
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Native and exotic herbivores
Fire damage:	Severe	3 to 10 yo	Burnt trunks and die back.
Storm damage:	Severe	3 to 10 yo	Fallen trees. Suspected after fire damaged they have blown down.
Weediness:	Light		Forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads						
		Date:	15-12-17	Plot ID:	81	Recorders:	AM, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dalrympleana</i>	10	10		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	10	10		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	20	10		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	15	30		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.2	4		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	90	1000		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.2	20		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	30		N	
	<i>Taraxacum officinale</i>	0.1	5		E	
	<i>Hypochaeris radicata</i>	0.1	10		E	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	30		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	20		N	
	<i>Acetosella vulgaris</i>	0.1	50		HTE	
Forb (FG)	<i>Stellaria pungens</i>	0.2	200		N	
Forb (FG)	<i>Asperula scoparia</i>	0.5	300		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	50		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	30		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.3	10		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	20		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.1	20		N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	10		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	20		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	50		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	3		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	30		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.5	20		N	
Grass & grasslike	<i>Rytidosperma monticola</i>	0.1	5		N	
Grass & grasslike	<i>Themeda triandra</i>	0.2	20		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.2	40		N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	20		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	20		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	2		N	
Forb (FG)	<i>Veronica calycina</i>	0.1	10		N	
Shrub (SG)	<i>Daviesia mimosoides</i> subsp. <i>mimosoides</i>	0.1	2		N	
Shrub (SG)	<i>Bossiaea buxifolia</i>	0.2	10		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	2		N	
Forb (FG)	<i>Dichondra repens</i>	0.1	100		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.1	1		N	
	<i>Holcus lanatus</i>	0.1	1		E	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	95	Date:	12-12-17	Survey Name:	Ravine early works	Recorders:	SD, EL
Zone:	55	Easting:	626113.7144	Plot dimensions:	20m x 50m	Midline bearing:	317
Datum:	GDA94	Northing:	6038721.871	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	12
	Grasses etc.:	7
	Forbs:	17
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	21.1
	Shrubs:	8.5
	Grasses etc.:	5.9
	Forbs:	5.1
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	27		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	80	20	50	25	20	3	10	10	25	2	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	39					10					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Fine sandy clay	Soil Colour	Brown	Soil Depth	Shallow
Lithology (B)							
Slope	7	Aspect	North-west	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	No very old trees
Cultivation (inc. pasture):			No evidence
Soil erosion:	Moderate	greater than 10yo	Current animal tracks.
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	greater than 10yo	
Fire damage:	Moderate	3 to 10 yo	Scars on trees and burnt logs
Storm damage:			No evidence
Weediness:	Light	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Ravine early works						
		Date:	12-12-17	Plot ID:	95	Recorders:	SD, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	20	15		N	
Tree (TG)	<i>Eucalyptus rubida</i>	1	2		N	
Shrub (SG)	<i>Banksia canei</i>	2	7		N	
Shrub (SG)	<i>Acacia pravissima</i>	0.2	3		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	0.1	1		N	
Shrub (SG)	<i>Bursaria spinosa</i>	0.1	1		N	
Grass & grasslike	<i>Themeda triandra</i>	3	300		N	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.2	50		N	
Grass & grasslike	<i>Rytidosperma caespitosum</i>	1	100		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	0.3	10		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	10		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	4	100		N	
	<i>Hypericum perforatum</i>	0.1	10		HTE	
	<i>Centaurium erythraea</i>	0.1	20		E	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	2	500		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.5	50		N	
Forb (FG)	<i>Patersonia</i> spp.	1	50		N	
Forb (FG)	<i>Leptorhynchus squamatus</i>	0.1	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	20		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.1	10		N	
Grass & grasslike	<i>Dichelachne hirtella</i>	0.2	40		N	
Shrub (SG)	<i>Cassinia longifolia</i>	0.2	1		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	40		N	
Forb (FG)	<i>Gonocarpus teucrioides</i>	0.5	100		N	
Forb (FG)	<i>Euchiton sphaericus</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	1	50		N	
Forb (FG)	<i>Asperula conferta</i>	0.1	10		N	
Forb (FG)	<i>Plantago gaudichaudii</i>	0.2	40		N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	5		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.2	10		N	
Shrub (SG)	<i>Acacia siculiformis</i>	1	10		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	1		N	
	<i>Plantago lanceolata</i>	0.1	20		E	
Shrub (SG)	<i>Pimelea glauca</i>	0.1	1		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.2	5		N	
Forb (FG)	<i>Boronia nana</i> var. <i>hyssopifolia</i>	0.1	1		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	20		N	
Forb (FG)	<i>Ranunculus plebeius</i>	0.1	2		N	
Forb (FG)	<i>Ajuga australis</i>	0.1	20		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	10		N	
Shrub (SG)	<i>Calytrix tetragona</i>	0.1	1		N	
Forb (FG)	<i>Triptilodiscus pygmaeus</i>	0.1	20		N	
	<i>Trifolium arvense</i>	0.1	1		E	
Forb (FG)	<i>Galium gaudichaudii</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	99	Date:	28-11-17	Survey Name:	Plateau	Recorders:	AM, EL
Zone:	55	Easting:	636963.003	Plot dimensions:	20m x 50m	Midline bearing:	300
Datum:	GDA94	Northing:	6038741.345	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	637: Alpine and sub-alpine peatlands, damp herbfields and fens, South Eastern Highlands Bioregion and Australian Alps Bioregion					Confidence:	High
Vegetation Class:	Alpine Bogs and Fens					EEC:	Yes
						Photo #:	
						Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	3
	Grasses etc.:	8
	Forbs:	7
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	75.3
	Grasses etc.:	71.3
	Forbs:	6.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	4	3	5	4	5	2	2	0	0	2	25	4	0	0	0	0	0	0	0	0
Average of the 5 subplots:	4.2					1.2					5.8					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Swamp	Lf Pattern (A)	Plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	Flat	Aspect	N/A	Site Drainage	Bog/fen	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			Not evident
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Horses
Fire damage:			No evidence
Storm damage:			N/A
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Plateau					
			Date:	28-11-17	Plot ID:	99
			Recorders:		AM, EL	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Epacris paludosa</i>	75	500		N	
Grass & grasslike	<i>Empodisma minus</i>	25	200		N	
Grass & grasslike	<i>Juncus australis</i>	0.5	50		N	
Grass & grasslike	<i>Baloskion australe</i>	0.2	50		N	
Forb (FG)	<i>Gonocarpus micranthus</i>	5	1000		N	
Grass & grasslike	<i>Poa costiniana</i>	20	200		N	
Forb (FG)	<i>Aciphylla glacialis</i>	0.1	20		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	0.2	5		N	
	<i>Trifolium repens</i>	0.1	20		E	
Forb (FG)	<i>Plantago antarctica</i>	0.2	50		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
Grass & grasslike	<i>Luzula modesta</i>	0.2	50		N	
Forb (FG)	<i>Hydrocotyle algida</i>	0.5	500		N	
Grass & grasslike	<i>Carex appressa</i>	0.3	20		N	
Grass & grasslike	<i>Schoenus apogon</i>	0.1	100		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	10		N	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Grass & grasslike	<i>Oreobolus distichus</i>	25	500		N	
Forb (FG)	<i>Ranunculus pimpinellifolius</i>	0.2	100		N	
Shrub (SG)	<i>Grevillea australis</i>	0.1	2		N	
Forb (FG)	<i>Asperula gunnii</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	104	Date:	27-11-17	Survey Name:	Lobs Hole Ravine	Recorders:	EL, AM	
Zone:	55	Easting:	626332.8708	Plot dimensions:	20m x 50m	Midline bearing:	290	
Datum:	GDA94	Northing:	6038703.06	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:		Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	2
	Grasses etc.:	7
	Forbs:	6
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	15
	Shrubs:	3.2
	Grasses etc.:	36.4
	Forbs:	1.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		7.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	2	5	3	1	2	0	15	0	0	0	0	2	0	0	0	0	0	0	0	0
Average of the 5 subplots:	2.6					3					0.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	Flat	Aspect	N/A	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Grazing by native herbivores
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine						
		Date:	27-11-17	Plot ID:	104	Recorders:	EL, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus camphora</i> subsp. <i>humeana</i>	15	5		N	
	<i>Rosa rubiginosa</i>	3	20		HTE	
Grass & grasslike	<i>Themeda triandra</i>	25	500		N	
	<i>Hypochaeris radicata</i>	1	100		E	
Forb (FG)	<i>Asperula scoparia</i>	0.5	50		N	
	<i>Acetosella vulgaris</i>	1	200		HTE	
Forb (FG)	<i>Veronica subtilis</i>	0.2	50		N	
Grass & grasslike	<i>Carex iynx</i>	7	100		N	
	<i>Poa pratensis</i>	30	500		E	
Grass & grasslike	<i>Juncus sarophorus</i>	3	50		N	
	<i>Plantago lanceolata</i>	5	500		E	
Forb (FG)	<i>Acaena agnifolia</i>	0.2	50		N	
	<i>Hypericum perforatum</i>	0.1	20		HTE	
	<i>Cerastium glomeratum</i>	0.1	20		E	
Grass & grasslike	<i>Carex inversa</i>	0.5	500		N	
	<i>Cirsium vulgare</i>	0.1	10		E	
	<i>Potentilla recta</i>	0.1	10		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	20		N	
	<i>Rubus fruticosus</i> sp. agg.	1	5		HTE	
Forb (FG)	<i>Geranium solanderi</i>	0.1	10		N	
	<i>Dactylis glomerata</i>	0.2	5		E	
Shrub (SG)	<i>Rubus parvifolius</i>	0.2	5		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	3	10		N	
Grass & grasslike	<i>Poa helmsii</i>	0.3	2		N	
	<i>Crataegus monogyna</i>	2	2		HTE	
Grass & grasslike	<i>Carex appressa</i>	0.1	3		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.5	10		N	
	<i>Bromus molliformis</i>	3	50		E	
	<i>Vulpia bromoides</i>	2	200		E	
	<i>Taraxacum officinale</i>	0.1	20		E	
Forb (FG)	<i>Rumex brownii</i>	0.1	1		N	
	<i>Myosotis discolor</i>	0.1	10		E	
	<i>Lysimachia arvensis</i>	0.1	20		E	

BAM Site – Field Survey Form

Plot ID:	105	Date:	06-02-18	Survey Name:		Recorders:	SD, ACM	
Zone:	55	Easting:	632918.5462	Plot dimensions:	20m x 50m	Midline bearing:	240	
Datum:	GDA94	Northing:	6038713.795	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	639: Alpine Ash - Snow Gum shrubby tall open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Montane Wet Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	10
	Grasses etc.:	4
	Forbs:	12
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	37
	Shrubs:	10.2
	Grasses etc.:	20.7
	Forbs:	5.2
	Ferns:	0
	Other:	0.3
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	75	80	40	85	70	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	70					1					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Loamy clay	Soil Colour	Brown	Soil Depth	Deep
Lithology (B)							
Slope	5	Aspect	Western	Site Drainage	Moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Presumed logged
Cultivation (inc. pasture):			
Soil erosion:	Light	greater than 10yo	Presumed
Firewood / CWD removal:			
Grazing (identify native/stock):	Light	greater than 10yo	Historical cattle
Fire damage:	Moderate	3 to 10 yo	Killed canopy - regrowth
Storm damage:	Moderate	3 to 10 yo	Much debris
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	06-02-18	Plot ID:	105	Recorders:	SD, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>Delegatensis</i>	35	20		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	2	1		N	
Shrub (SG)	<i>Daviesia ulicifolia</i> subsp. <i>ruscifolia</i>	1	40		N	
Shrub (SG)	<i>Platylobium montanum</i>	3	200		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	20	1000		N	
Forb (FG)	<i>Stellaria pungens</i>	0.4	80		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	1	100		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	2	300		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	3	300		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	1	40		N	
Forb (FG)	<i>Asperula scoparia</i>	0.8	100		N	
Forb (FG)	<i>Galium propinquum</i>	0.1	10		N	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.1	5		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	0.5	10		N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.4	3		N	
Forb (FG)	<i>Coronidium rutidolepis</i>	0.2	20		N	
Shrub (SG)	<i>Gompholobium huegelii</i>	0.6	40		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.5	20		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	
Other (OG)	<i>Clematis glycinoides</i>	0.3	30		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	20		N	
Shrub (SG)	<i>Acacia verniciflua</i>	0.5	1		N	
Forb (FG)	<i>Brachyscome aculeata</i>	0.1	10		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	5		N	
	<i>Hypochaeris radicata</i>	0.1	1		E	
Shrub (SG)	<i>Olearia phlogopappa</i>	0.1	5		N	
Grass & grasslike	<i>Deyeuxia quadriseta</i>	0.1	5		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	5		N	
Forb (FG)	<i>Dianella tasmanica</i>	0.2	5		N	

BAM Site – Field Survey Form

Plot ID:	112	Date:	08-02-18	Survey Name:	Marica	Recorders:	SD, AM	
Zone:	55	Easting:	631189	Plot dimensions:	20m x 50m	Midline bearing:	60	
Datum:	GDA94	Northing:	6038618	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	953: Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	11
	Grasses etc.:	4
	Forbs:	5
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	37
	Shrubs:	42.9
	Grasses etc.:	21.1
	Forbs:	1.5
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	7	0	1
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	1415		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	100	90	100	100	95	0	10	0	0	5	0	0	0	1	0	0	0	0	0	0
Average of the 5 subplots:	97					3					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Silty clay	Soil Colour	Brown	Soil Depth	Moderate
Lithology (B)							
Slope	5	Aspect	240	Site Drainage	Moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light	greater than 10yo	Presumed historic
Fire damage:	Light	3 to 10 yo	
Storm damage:	Moderate	3 to 10 yo	
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Marica					
			Date:	08-02-18	Plot ID:	112
			Recorders:		SD, AM	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	35	40		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	2	6		N	
Shrub (SG)	<i>Daviesia latifolia</i>	15	200		N	
Shrub (SG)	<i>Platylobium montanum</i>	15	200		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	1	80		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	1	40		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.5	30		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	20	500		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	2	80		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.7	100		N	
Shrub (SG)	<i>Daviesia ulicifolia</i> subsp. <i>ruscifolia</i>	2	50		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.5	100		N	
Shrub (SG)	<i>Monotoca scoparia</i>	1	30		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.5	5		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	20		N	
Forb (FG)	<i>Lagenophora stipitata</i>	0.1	2		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	5	100		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	0.3	4		N	
Shrub (SG)	<i>Monotoca</i> spp.	0.1	1		N	
Grass & grasslike	<i>Lomandra bracteata</i>	0.1	2		N	
Forb (FG)	<i>Galium</i> spp.	0.1	10		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	0.5	10		N	

BAM Site – Field Survey Form

Plot ID:	120	Date:	14-12-17	Survey Name:	Power corridor, Gooandra Trail			Recorders:	AM, SW
Zone:	55	Easting:	638726.6653	Plot dimensions:	20m x 50m			Midline bearing:	126
Datum:	GDA94	Northing:	6038395.726	IBRA region:	Australian Alps (Snowy Mountains)			Zone ID:	
Plant Community Type:	1225: Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:		
Vegetation Class:	Temperate Montane Grasslands				EEC:	Yes	Confidence:	Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	3
	Grasses etc.:	10
	Forbs:	14
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	16
	Grasses etc.:	90.7
	Forbs:	8.5
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	30	10	10	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	32					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loamy	Soil Colour	Dark brown to black	Soil Depth	At least 100mm
Lithology (B)							
Slope	0°	Aspect	North	Site Drainage	Poor	Distance to nearest water & type	22m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Some pugging from brumbies
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light		Exotic forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Power corridor, Gooandra Trail					
	Date:	14-12-17	Plot ID:	120	Recorders:	AM, SW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Epacris breviflora</i>	15	100		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.5	4		N	
Forb (FG)	<i>Myosotis australis</i>	0.1	20		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	80	700		N	
Grass & grasslike	<i>Baloskion australe</i>	0.2	30		N	
Forb (FG)	<i>Cardamine paucijuga</i>	0.1	100		N	
Forb (FG)	<i>Geum urbanum</i>	0.3	200		N	
	<i>Acetosella vulgaris</i>	0.1	30		HTE	
	<i>Taraxacum officinale</i>	0.2	50		E	
Forb (FG)	<i>Senecio gunnii</i>	0.1	10		N	
Grass & grasslike	<i>Carex appressa</i>	5	40		N	
Forb (FG)	<i>Geranium neglectum</i>	0.1	30		N	
Forb (FG)	<i>Epilobium billardierianum</i>	0.2	300		N	
Shrub (SG)	<i>Richea continentis</i>	0.5	20		N	
Grass & grasslike	<i>Empodisma minus</i>	3	50		N	
Forb (FG)	<i>Hydrocotyle algida</i>	1	1000		N	
Forb (FG)	<i>Gonocarpus micranthus</i>	0.1	200		N	
Grass & grasslike	<i>Poa costiniana</i>	2	100		N	
	<i>Trifolium repens</i>	0.3	100		E	
Grass & grasslike	<i>Luzula modesta</i>	0.1	20		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.2	30		N	
Forb (FG)	<i>Asperula gunnii</i>	2	500		N	
Forb (FG)	<i>Hypericum japonicum</i>	2	1000		N	
Grass & grasslike	<i>Lachnagrostis filiformis</i>	0.1	10		N	
Grass & grasslike	<i>Juncus</i> spp.	0.1	20		N	
Forb (FG)	<i>Ranunculus pimpinellifolius</i>	0.2	100		N	
Forb (FG)	<i>Stellaria angustifolia</i>	2	1000		N	
	<i>Cerastium glomeratum</i>	0.1	20		E	
Grass & grasslike	<i>Carex</i> spp.	0.1	50		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	20		N	
Grass & grasslike	<i>Carex jackiana</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	122	Date:	13-12-17	Survey Name:	Power corridor, Gooandra Trail	Recorders:	AM, SW
Zone:	55	Easting:	638454.3566	Plot dimensions:	20m x 50m	Midline bearing:	162
Datum:	GDA94	Northing:	6038390.291	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	3
	Grasses etc.:	8
	Forbs:	18
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	25
	Shrubs:	25.5
	Grasses etc.:	81.4
	Forbs:	3.1
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	40		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	55	15	15	10	15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	22					0.2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Siltstone	Soil Surface Texture	Loam clay	Soil Colour	Brown	Soil Depth	At least 100mm
Lithology (B)							
Slope	4°	Aspect	SE	Site Drainage	Good	Distance to nearest water & type	260m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Brumby and rabbits
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate	less than 3yo	Exotic forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Power corridor, Gooandra Trail						
		Date:	13-12-17	Plot ID:	122	Recorders:	AM, SW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	25	20		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	15	30		N	
Shrub (SG)	<i>Hovea montana</i>	10	50		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	65	500		N	
Forb (FG)	<i>Craspedia jamesii</i>	0.2	100		N	
Forb (FG)	<i>Craspedia coolaminica</i>	0.1	50		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.2	200		N	
Forb (FG)	<i>Diuris monticola</i>	0.1	10		N	
Forb (FG)	<i>Prasophyllum tadgellianum</i>	0.1	2		N	
	<i>Acetosella vulgaris</i>	0.2	100		HTE	
	<i>Trifolium repens</i>	8	1000		E	
	<i>Cerastium glomeratum</i>	0.1	50		E	
	<i>Taraxacum officinale</i>	0.5	200		E	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	3	30		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	30		N	
Forb (FG)	<i>Swainsona behriana</i>	0.1	50		N	
Grass & grasslike	<i>Carex inversa</i>	8	1000		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.5	50		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	1	200		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Forb (FG)	<i>Asperula scoparia</i>	0.2	100		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	30		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	20		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	10		N	
Forb (FG)	<i>Microseris lanceolata</i>	0.2	300		N	
	<i>Aira elegantissima</i>	0.1	10		E	
Forb (FG)	<i>Epilobium billardierianum</i>	0.1	20		N	
	<i>Crepis capillaris</i>	0.1	10		E	
Grass & grasslike	<i>Carex appressa</i>	0.1	10		N	
	<i>Holcus lanatus</i>	0.1	2		E	
Forb (FG)	<i>Myosotis australis</i>	0.1	40		N	
	<i>Hypochaeris radicata</i>	0.1	10		E	
Grass & grasslike	<i>Rytidosperma</i> spp.	0.1	20		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	10		N	
Forb (FG)	<i>Senecio pinnatifolius</i> var. <i>alpinus</i>	0.1	2		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	30		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	3		N	
Grass & grasslike	<i>Poa clivicola</i>	5	200		N	

BAM Site – Field Survey Form

Plot ID:	126	Date:	28-11-17	Survey Name:	Bullocks Hill trail plateau area	Recorders:	SW, SD
Zone:	55	Easting:	637046.9819	Plot dimensions:	20m x 50m	Midline bearing:	151
Datum:	GDA94	Northing:	6038358.692	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	Yes	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	9
	Forbs:	13
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	10.9
	Forbs:	27.5
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	5	15	40	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	15					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Other	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)	Hanging swamp	Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Peat	Soil Colour	Dark brown to black	Soil Depth	at least 100mm
Lithology (B)							
Slope	Gentle	Aspect	ESE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light		Exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Bullocks Hill trail plateau area					
	Date:	28-11-17	Plot ID:	126	Recorders:	SW, SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Forb (FG)	<i>Bulbine bulbosa</i>	10	500		N	
Grass & grasslike	<i>Juncus australis</i>	1	40		N	
Grass & grasslike	<i>Carex longibrachiata</i>	2	100		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	1	20		N	
Forb (FG)	<i>Plantago gaudichaudii</i>	10	1000		N	
Grass & grasslike	<i>Poa costiniana</i>	1	100		N	
Forb (FG)	<i>Geranium neglectum</i>	0.5	100		N	
Forb (FG)	<i>Hydrocotyle algida</i>	5	1000		N	
	<i>Sonchus oleraceus</i>	0.5	200		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	5	200		N	
	<i>Trifolium repens</i>	0.2	50		E	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	50		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	20		N	
	<i>Holcus lanatus</i>	1	100		E	
Grass & grasslike	<i>Luzula flaccida</i>	0.2	50		N	
Grass & grasslike	<i>Poa meionectes</i>	0.3	50		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	10		N	
	<i>Cerastium glomeratum</i>	0.1	10		E	
Forb (FG)	<i>Ranunculus collinus</i>	0.2	50		N	
Forb (FG)	<i>Brachyscome</i> spp.	0.1	1		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>cinereum</i>	0.1	1		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	20		N	
Forb (FG)	<i>Brachyscome</i> spp.	0.1	1		N	
Grass & grasslike	<i>Empodisma minus</i>	0.2	20		N	
Grass & grasslike	<i>Carex appressa</i>	0.2	20		N	
Forb (FG)	<i>Ranunculus millanii</i>	1	200		N	

BAM Site – Field Survey Form

Plot ID:	132	Date:	27-11-17	Survey Name:	Plateau	Recorders:	AM, EL	
Zone:	55	Easting:	636309.041	Plot dimensions:	20m x 50m	Midline bearing:	218	
Datum:	GDA94	Northing:	6038309.976	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:		Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	5
	Grasses etc.:	3
	Forbs:	15
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	13.2
	Grasses etc.:	70.4
	Forbs:	6.7
	Ferns:	0
	Other:	0
High Threat Weed cover:		3.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	2	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	43		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	10	1	20	35	15	2	0	1	0	0	0	0	0	0	10	4	15	40	0
Average of the 5 subplots:	18.2					3.6					0					13.8				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect	North-east	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Maintained power line corridor
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Slight damage (disturbance of ground veg) from horses
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Grazing by native herbivores and also pest species (rabbit and horse)
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate		
Other:			Clearance associated with power line corridor. Abundant logs also associated with this. Evidence of exotic (rab

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Plateau						
		Date:	27-11-17	Plot ID:	132	Recorders:	AM, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Acacia obliquinervia</i>	2	8		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	10	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	70	500		N	
	<i>Acetosella vulgaris</i>	3	500		HTE	
	<i>Trifolium repens</i>	5	500		E	
Forb (FG)	<i>Senecio gunnii</i>	0.1	10		N	
Forb (FG)	<i>Acaena agnipila</i>	0.4	50		N	
	<i>Hypochaeris radicata</i>	0.3	100		E	
Shrub (SG)	<i>Rubus parvifolius</i>	0.1	5		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.3	50		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.5	100		N	
	<i>Taraxacum officinale</i>	0.2	50		E	
Forb (FG)	<i>Asperula conferta</i>	2	200		N	
	<i>Cerastium glomeratum</i>	0.2	100		E	
Forb (FG)	<i>Epilobium gunnianum</i>	2	500		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.5	50		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Forb (FG)	<i>Celmisia costiniana</i>	0.3	50		N	
Forb (FG)	<i>Leucochrysum albicans</i>	0.2	100		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	1	10		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	20		N	
	<i>Hypericum perforatum</i>	0.2	20		HTE	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	1		N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.1	10		N	
	<i>Medicago lupulina</i>	0.1	10		E	
	<i>Tragopogon dubius</i>	0.1	5		E	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	20		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	5		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	10		N	
Forb (FG)	<i>Swainsona</i> spp.	0.1	20		N	

BAM Site – Field Survey Form

Plot ID:	135	Date:	10-02-18	Survey Name:	Nungar	Recorders:	AM, DK	
Zone:	55	Easting:	646539.0327	Plot dimensions:	20m x 50m	Midline bearing:	180	
Datum:	GDA94	Northing:	6038253.915	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	9
	Grasses etc.:	4
	Forbs:	25
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	10.2
	Shrubs:	15.9
	Grasses etc.:	75.4
	Forbs:	12.2
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	1
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	24		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	15	20	25	20	15	5	5	7	3	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	18					7					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Brown	Soil Depth	
Lithology (B)							
Slope	10	Aspect	114	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historic clearing
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Evidence of horses and rabbits
Fire damage:	Severe	greater than 10yo	Numerous dead stags with fire scarring
Storm damage:			No evidence
Weediness:	Light		Exotic forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Nungar						
		Date:	10-02-18	Plot ID:	135	Recorders:	AM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	10	20		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	1	10		N	
Shrub (SG)	<i>Grevillea lanigera</i>	10	50		N	
Shrub (SG)	<i>Hakea microcarpa</i>	2	20		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.2	2		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	0.2	3		N	
Forb (FG)	<i>Veronica derwentiana</i> subsp. <i>maideniana</i>	5	80		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	25	500		N	
Grass & grasslike	<i>Themeda triandra</i>	50	1000		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	3	500		N	
Forb (FG)	<i>Xerochrysum bracteatum</i>	1	200		N	
Forb (FG)	<i>Rhodanthe anthemoides</i>	0.1	50		N	
Forb (FG)	<i>Leptorhynchus squamatus</i> subsp. <i>alpinus</i>	0.5	500		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	50		N	
	<i>Crepis capillaris</i>	0.1	20		E	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.3	10		N	
	<i>Hypochaeris radicata</i>	0.1	50		E	
	<i>Trifolium repens</i>	0.2	100		E	
Forb (FG)	<i>Geranium antrorsum</i>	0.3	300		N	
	<i>Trifolium dubium</i>	0.1	200		E	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	50		N	
Forb (FG)	<i>Asperula conferta</i>	0.3	500		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	50		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	50		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	2	100		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	50		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	20		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.2	200		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.1	30		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	10		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	70		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	100		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	2		N	
Forb (FG)	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	0.1	10		N	
Forb (FG)	<i>Calotis glandulosa</i>	0.1	2		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.1	2		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	10		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.3	100		N	
	<i>Centaurium erythraea</i>	0.1	10		E	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.2	5		N	
Forb (FG)	<i>Prasophyllum</i> spp.	0.1	3		N	
Forb (FG)	<i>Podolepis</i> spp.	0.1	2		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	10		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	30		N	
Forb (FG)	<i>Brachyscome aculeata</i>	0.2	200		N	

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BAM Site – Field Survey Form

Plot ID:	139	Date:	21-11-17	Survey Name:	Lobs Hole Ravine Road - alternate 139 location	Recorders:	ED, LH
Zone:	55	Easting:	625890.5683	Plot dimensions:	20m x 50m	Midline bearing:	160
Datum:	GDA94	Northing:	6038121.144	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	11
	Grasses etc.:	4
	Forbs:	10
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	65
	Shrubs:	59.2
	Grasses etc.:	3.5
	Forbs:	1.3
	Ferns:	0
	Other:	0.8
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	18		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	85	85	70	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	85					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Course loam	Soil Colour	Red-brown	Soil Depth	
Lithology (B)							
Slope	Moderate	Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Road - alternate 139 location						
		Date:	21-11-17	Plot ID:	139	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Forb (FG)	<i>Thelymitra</i> spp.	0.1	30	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.8	50	Yes	N	
Shrub (SG)	<i>Boronia</i> spp.	1	100	Yes	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.4	30	Yes	N	
Other (OG)	<i>Hardenbergia violacea</i>	0.3	15		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.8	30	Yes	N	
Grass & grasslike	<i>Dichelachne hirtella</i>	0.5	40	Yes	N	
Forb (FG)	<i>Senecio</i> spp.	0.1	5		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	3	80	Yes	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	30		N	
Shrub (SG)	<i>Calytrix tetragona</i>	25	300	Yes	N	
Other (OG)	<i>Cassytha pubescens</i>	0.5	10	Yes	N	
Shrub (SG)	<i>Acacia buxifolia</i> subsp. <i>buxifolia</i>	1	10		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	25	200	Yes	N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	0.2	15	Yes	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	4	Yes	N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.2	10	Yes	N	
Forb (FG)	<i>Diuris sulphurea</i>	0.1	2	Yes	N	
Forb (FG)	<i>Wahlenbergia gracilis</i>	0.1	10	Yes	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	5	Yes	N	
Shrub (SG)	<i>Banksia canei</i>	1	2	Yes	N	
Shrub (SG)	<i>Cassinia longifolia</i>	1	1	No	N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	2	40	No	N	
Shrub (SG)	<i>Indigofera australis</i>	0.2	1	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	15		N	
Forb (FG)	<i>Wahlenbergia communis</i>	0.1	1		N	
Tree (TG)	<i>Eucalyptus nortonii</i>	20	15	Yes	N	
Tree (TG)	<i>Eucalyptus dives</i>	45	25	Yes	N	
Shrub (SG)	<i>Dillwynia rudis</i>	1	5		N	

BAM Site – Field Survey Form

Plot ID:	143	Date:	22-11-17	Survey Name:	Lobs Hole Ravine adjusted location for 143	Recorders:	ED, LH
Zone:	55	Easting:	627654.339	Plot dimensions:	20m x 50m	Midline bearing:	20
Datum:	GDA94	Northing:	6038148.986	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	Yes	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	13
	Grasses etc.:	5
	Forbs:	7
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	35
	Shrubs:	132.7
	Grasses etc.:	20.5
	Forbs:	0.8
	Ferns:	0.6
	Other:	0.1
High Threat Weed cover:		16.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	12		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	25	80	80	25	0	0	0	0	0	2	0	0	0	0	0	0	0	0	25
Average of the 5 subplots:	50					0					0.4					5				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Fine loam	Soil Colour	Dark brown	Soil Depth	Deep
Lithology (B)							
Slope	Flat	Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	Previous clearing
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Moderate	greater than 10yo	Blackberry
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine adjusted location for 143						
		Date:	22-11-17	Plot ID:	143	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Acacia pravissima</i>	60	200		N	
Shrub (SG)	<i>Pomaderris aspera</i>	45	10		N	
Grass & grasslike	<i>Poa helmsii</i>	20	200		N	
	<i>Rosa rubiginosa</i>	0.7	5		HTE	
	<i>Rubus fruticosus</i> sp. agg.	15	100		HTE	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	4	20		N	
Shrub (SG)	<i>Cassinia longifolia</i>	15	40		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	10	15		N	
Forb (FG)	<i>Geranium solanderi</i>	0.2	10		N	
Shrub (SG)	<i>Cassinia aculeata</i>	5	10		N	
	<i>Hypericum perforatum</i>	0.2	30		HTE	
Shrub (SG)	<i>Banksia spinulosa</i> var. <i>collina</i>	0.5	1		N	
	<i>Bromus diandrus</i>	0.4	20		HTE	
Forb (FG)	<i>Oxalis perennans</i>	0.1	5		N	
Shrub (SG)	<i>Leucopogon gelidus</i>	0.2	5		N	
Grass & grasslike	<i>Carex appressa</i>	0.1	1		N	
Grass & grasslike	<i>Poa sieberiana</i>	0.2	10		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	4		N	
Fern (EG)	<i>Pteridium esculentum</i>	0.6	10		N	
Shrub (SG)	<i>Dillwynia prostrata</i>	0.1	6		N	
Forb (FG)	<i>Asperula conferta</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra micrantha</i> subsp. <i>tuberculata</i>	0.1	1		N	
Shrub (SG)	<i>Bursaria spinosa</i>	1	5		N	
Shrub (SG)	<i>Gynatrix pulchella</i>	1	5		N	
Other (OG)	<i>Glycine tabacina</i>	0.1	1		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	3		N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.1	2		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	10		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.6	3		N	
Forb (FG)	<i>Dichondra repens</i>	0.1	2		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	1		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	25			N	
	<i>Malus</i> spp.	0.1	1		E	
Shrub (SG)	<i>Rubus parvifolius</i>	0.1	5		N	
	<i>Vulpia bromoides</i>	0.1	10		E	

BAM Site – Field Survey Form

Plot ID:	144	Date:	23-11-17	Survey Name:				Recorders:	ED, LH
Zone:	55	Easting:	626943.2775	Plot dimensions:	20m x 50m			Midline bearing:	10
Datum:	GDA94	Northing:	6038109.053	IBRA region:	South Eastern Highlands (Bondo)			Zone ID:	
Plant Community Type:	285: Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:	Low	Photo #:		
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:		Confidence:		

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	1
	Grasses etc.:	5
	Forbs:	3
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	60
	Shrubs:	0.2
	Grasses etc.:	17.4
	Forbs:	0.5
	Ferns:	0
	Other:	0
High Threat Weed cover:		86.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	11	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	4		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	3	10	20	35	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	15.6					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Silty loam	Soil Colour	Dark brown	Soil Depth	Deep
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Small size class eucalypts
Cultivation (inc. pasture):			No
Soil erosion:			No
Firewood / CWD removal:			No
Grazing (identify native/stock):	Light		Deers
Fire damage:			
Storm damage:			
Weediness:	Severe	greater than 10yo	Extensive blackberry
Other:	Moderate	greater than 10yo	Deers tracks and droppings

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	23-11-17	Plot ID:	144	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Rubus fruticosus</i> sp. agg.	85	500		HTE	
	<i>Rosa rubiginosa</i>	0.5	1		HTE	
Grass & grasslike	<i>Carex gaudichaudiana</i>	5	20		N	
Grass & grasslike	<i>Carex inversa</i>	5	15		N	
Grass & grasslike	<i>Carex appressa</i>	2	40		N	
Forb (FG)	<i>Sonchus</i> spp.	0.2	10		N	
Grass & grasslike	<i>Juncus filicaulis</i>	0.4	15		N	
	<i>Holcus lanatus</i>	3	30		E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.2	10		N	
	<i>Prunella</i> spp.	0.2	20		E	
	<i>Trifolium repens</i>	0.1	10		E	
	<i>Trifolium</i> spp.	0.1	10		E	
Grass & grasslike	<i>Carex breviculmis</i>	5	500		N	
	<i>Agrostis capillaris</i>	1	25		HTE	
Forb (FG)	<i>Veronica subtilis</i>	0.1	20		N	
	<i>Centaurium erythraea</i>	0.1	4		E	
Tree (TG)	<i>Eucalyptus camphora</i>	60	55		N	
Shrub (SG)	<i>Rubus parvifolius</i>	0.2	10		N	

BAM Site – Field Survey Form

Plot ID:	149	Date:	29-11-17	Survey Name:	Access Roads	Recorders:	AM, EL
Zone:	55	Easting:	638757.7272	Plot dimensions:	20m x 50m	Midline bearing:	124
Datum:	GDA94	Northing:	6037935.823	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	3
	Grasses etc.:	7
	Forbs:	10
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	2.2
	Grasses etc.:	82.2
	Forbs:	1.5
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	39		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	2	2	2	3	2	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	2.2					1.4					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historical
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Horses also some disturbance from machinery.
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Native and exotic herbivores. Lots of horse poo.
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light		A fair bit of 'heartsease' around here. Weed not reported in this area before.
Other:	Light		Disturbance on plot edge due to the movement of machinery associated with the access track.

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads						
		Date:	29-11-17	Plot ID:	149	Recorders:	AM, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Pimelea pauciflora</i>	2	10		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	80	1000		N	
	<i>Poa pratensis</i>	5	50		E	
	<i>Viola tricolor</i>	0.3	200		E	
Forb (FG)	<i>Acaena ovina</i>	0.3	50		N	
	<i>Acetosella vulgaris</i>	0.5	500		HTE	
	<i>Trifolium repens</i>	2	500		E	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Grass & grasslike	<i>Carex inversa</i>	0.2	50		N	
	<i>Taraxacum officinale</i>	0.2	50		E	
Forb (FG)	<i>Senecio gunnii</i>	0.1	20		N	
Grass & grasslike	<i>Carex appressa</i>	0.5	50		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Forb (FG)	<i>Asperula conferta</i>	0.2	50		N	
	<i>Potentilla recta</i>	0.1	10		E	
	<i>Cerastium glomeratum</i>	0.1	50		E	
Grass & grasslike	<i>Luzula flaccida</i>	0.2	50		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	20		N	
	<i>Aster</i> spp.	0.1	5		E	
	<i>Gomphocarpus</i> spp.	0.2	100		E	
Forb (FG)	<i>Geranium antrorsum</i>	0.2	50		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	20		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	5		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.2	4		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	0.1	2		N	
	<i>Anthoxanthum odoratum</i>	0.2	20		E	
	<i>Arrhenatherum elatius</i>	0.5	100		E	
	<i>Cirsium vulgare</i>	0.1	2		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	1	20		N	
Forb (FG)	<i>Craspedia jamesii</i>	0.1	10		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.2	50		N	
Shrub (SG)	<i>Cassinia aculeata</i> subsp. <i>aculeata</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	154	Date:	21-11-17	Survey Name:	Lobs Hole Ravine access	Recorders:	AM, SW	
Zone:	55	Easting:	625887.332	Plot dimensions:	20m x 50m	Midline bearing:	210	
Datum:	GDA94	Northing:	6037831.197	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	0
	Forbs:	0
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	0
	Forbs:	0
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	2		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	96	30	15	85	15	3	30	40	0	40	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	48.2					22.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Clay loam	Soil Colour	Brown-red	Soil Depth	up to 100mm
Lithology (B)							
Slope		Aspect	NE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:			No evidence
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine access					
			Date:	21-11-17	Plot ID:	154
			Recorders:		AM, SW	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum

BAM Site – Field Survey Form

Plot ID:	156	Date:	21-11-17	Survey Name:	Lobs Hole Ravine Track - adjusted 156	Recorders:	ED, LH
Zone:	55	Easting:	626037.5875	Plot dimensions:	20m x 50m	Midline bearing:	171
Datum:	GDA94	Northing:	6037660.762	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	Yes	Confidence:
					Low		

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	5
	Grasses etc.:	4
	Forbs:	8
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	45
	Shrubs:	74
	Grasses etc.:	4.5
	Forbs:	3.9
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		1.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	20		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	20	40	35	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	29					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam fine	Soil Colour	Brown-grey	Soil Depth	
Lithology (B)							
Slope	Steep	Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Large areas with trees removed
Cultivation (inc. pasture):			
Soil erosion:	Light	greater than 10yo	
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Light	greater than 10yo	Some herbaceous and shrubs weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Track - adjusted 156					
	Date:	21-11-17	Plot ID:	156	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Calytrix tetragona</i>	1	10	Yes	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	1	10	Yes	N	
Shrub (SG)	<i>Cassinia longifolia</i>	45	400		N	
Shrub (SG)	<i>Bursaria spinosa</i>	25	300		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	15	100		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	3	100		N	
Grass & grasslike	<i>Dichelachne crinita</i>	2	50		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	2	60		N	
	<i>Centaurium erythraea</i>	0.1	10		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	5		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	10	Yes	N	
Forb (FG)	<i>Geranium solanderi</i>	0.2	50		N	
Shrub (SG)	<i>Exocarpos strictus</i>	2	6		N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.2	50	Yes	N	
Grass & grasslike	<i>Carex</i> spp.	0.1	10	Yes	N	
	<i>Hypericum perforatum</i>	0.4	50		HTE	
Grass & grasslike	<i>Dichelachne hirtella</i>	0.4	50	No	N	
	<i>Petrorhagia nanteuillii</i>	0.1	5	Yes	E	
	<i>Trifolium arvense</i>	0.6	80		E	
	<i>Rosa rubiginosa</i>	0.8	10		HTE	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.3	2		HTE	
Forb (FG)	<i>Daucus glochidiatus</i>	0.1	5	Yes	N	
Forb (FG)	<i>Senecio</i> spp.	0.1	5	Yes	N	
Forb (FG)	<i>Senecio</i> spp.	0.1	3	Yes	N	
	<i>Trifolium campestre</i>	1	200		E	
	<i>Lysimachia arvensis</i>	0.1	10		E	
Fern (EG)	<i>Cheilanthes</i> spp.	0.1	2		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	20	8		N	
Tree (TG)	<i>Eucalyptus robertsonii</i>	5	3		N	
Tree (TG)	<i>Eucalyptus mannifera</i> subsp. <i>mannifera</i>	5	3		N	

BAM Site – Field Survey Form

Plot ID:	164	Date:	23-11-17	Survey Name:	Tantangara Dam south intake	Recorders:	ED, LH	
Zone:	55	Easting:	649062.6036	Plot dimensions:	20m x 50m	Midline bearing:	117	
Datum:	GDA94	Northing:	6037390.662	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Temperate Montane Grasslands				EEC:	Yes	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	3
	Grasses etc.:	8
	Forbs:	5
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	2
	Shrubs:	27.2
	Grasses etc.:	23.5
	Forbs:	2.1
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.7

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	10	10	15	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	9					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Fine loam	Soil Colour	Dark brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No
Cultivation (inc. pasture):			No
Soil erosion:			No
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	greater than 10yo	Horses and rabbits present. trampling is severe changing nsture and structure of landscape
Fire damage:			No
Storm damage:			No
Weediness:	Moderate	greater than 10yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Dam south intake					
	Date:	23-11-17	Plot ID:	164	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	2	2		N	
Grass & grasslike	<i>Themeda triandra</i>	0.2	20		N	
Shrub (SG)	<i>Hakea microcarpa</i>	25	200		N	
Shrub (SG)	<i>Epacris breviflora</i>	2	20		N	
Grass & grasslike	<i>Juncus sarophorus</i>	4	50		N	
Forb (FG)	<i>Senecio gunnii</i>	0.5	40		N	
Forb (FG)	<i>Gonocarpus montanus</i>	0.1	20		N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.2	80		N	
	<i>Cirsium spp.</i>	0.1	3		E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	1	40		N	
Forb (FG)	<i>Epilobium gunnianum</i>	0.3	50		N	
	<i>Holcus lanatus</i>	30	500		E	
	<i>Acetosella vulgaris</i>	0.7	10		HTE	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	4		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	5		N	
	<i>Hypochaeris radicata</i>	0.1	6		E	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	5	100		N	
	<i>Anthoxanthum odoratum</i>	40	1000		E	
Grass & grasslike	<i>Poa sieberiana</i>	10	300		N	
Grass & grasslike	<i>Empodisma minus</i>	4	80		N	
Shrub (SG)	<i>Epacris microphylla</i>	0.2	10		N	
Grass & grasslike	<i>Carex inversa</i>	0.1	5		N	

BAM Site – Field Survey Form

Plot ID:	167	Date:	23-11-17	Survey Name:	Tanatangara south intake	Recorders:	ED, LH	
Zone:	55	Easting:	648817.4246	Plot dimensions:	20m x 50m	Midline bearing:	328	
Datum:	GDA94	Northing:	6037148.006	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	Yes	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	4
	Grasses etc.:	6
	Forbs:	8
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	12
	Shrubs:	7.3
	Grasses etc.:	45.4
	Forbs:	6.6
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	20		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	95	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	35					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Fine loam	Soil Colour	Dark brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No
Cultivation (inc. pasture):			
Soil erosion:			No
Firewood / CWD removal:			No
Grazing (identify native/stock):	Light	greater than 10yo	Rabbit hole and horse droppings
Fire damage:			No
Storm damage:			No
Weediness:	Light	greater than 10yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tanatagara south intake					
	Date:	23-11-17	Plot ID:	167	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	5	100		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	3	30		N	
Shrub (SG)	<i>Hakea microcarpa</i>	5	45		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	1	10		N	
Forb (FG)	<i>Senecio gunnii</i>	2	100		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	10	30		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	1	10		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	1	10		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.2	20		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	15		N	
Shrub (SG)	<i>Dillwynia prostrata</i>	0.3	30		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	40		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	2	1		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	5		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	10		N	
Forb (FG)	<i>Epilobium gunnianum</i>	0.1	5		N	
	<i>Hypochaeris radicata</i>	0.1	4		E	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
	<i>Anthoxanthum odoratum</i>	50	1000		E	
Grass & grasslike	<i>Poa sieberiana</i>	40	1000		N	
Grass & grasslike	<i>Empodisma minus</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	172	Date:	20-11-17	Survey Name:	Lobs Hole Ravine Track	Recorders:	ED, LH
Zone:	55	Easting:	626846.609	Plot dimensions:	20m x 50m	Midline bearing:	60
Datum:	GDA94	Northing:	6034263.31	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	7
	Grasses etc.:	2
	Forbs:	7
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	60
	Shrubs:	96.1
	Grasses etc.:	70
	Forbs:	1.3
	Ferns:	0.8
	Other:	0.1
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	2
50 – 79 cm:	2	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	12		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	30	60	50	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	52					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Course loam	Soil Colour	Pink-brown	Soil Depth	1 m
Lithology (B)							
Slope	Steep	Aspect		Site Drainage	High	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light	greater than 10yo	Charred logs
Storm damage:			
Weediness:			
Other:			Track side edge effects

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Track					
			Date:	20-11-17	Plot ID:	172
			Recorders:		ED, LH	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	5	20	Yes	N	
Shrub (SG)	<i>Cassinia longifolia</i>	60	150		N	
Shrub (SG)	<i>Cassinia aculeata</i>	4	10	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	10	15		N	
Shrub (SG)	<i>Daviesia latifolia</i>	1	4	Yes	N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	20	50	Yes	N	
Forb (FG)	<i>Plantago varia</i>	0.2	20	Yes	N	
Forb (FG)	<i>Geranium solanderi</i>	0.2	30		N	
Shrub (SG)	<i>Platylabium formosum</i> subsp. <i>formosum</i>	0.1	4		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.2	50	Yes	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.2	40		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	10		N	
Fern (EG)	<i>Pteridium esculentum</i>	0.8	10		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	30		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	60	1000	Yes	N	
Grass & grasslike	<i>Poa sieberiana</i>	10	200	Yes	N	
Tree (TG)	<i>Eucalyptus robertsonii</i> subsp. <i>robertsonii</i>	5	1	Yes	N	
Shrub (SG)	<i>Indigofera australis</i>	1	10	Yes	N	
Forb (FG)	<i>Asperula conferta</i>	0.1	10	Yes	N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.1	2		HTE	
	<i>Trifolium campestre</i>	0.1	10	Yes	E	
	<i>Galium palustre</i>	0.1	5	Yes	E	
Tree (TG)	<i>Eucalyptus rubida</i>	20	5		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	30	7		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.3	15		N	

BAM Site – Field Survey Form

Plot ID:	173	Date:	20-11-17	Survey Name:	Lobs Hole Ravine Track	Recorders:	ED, LH
Zone:	55	Easting:	627162.9974	Plot dimensions:	20m x 50m	Midline bearing:	84
Datum:	GDA94	Northing:	6033833.665	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	643: Alpine shrubland on scree, blockstreams and rocky sites of high altitude areas of Kosciuszko National Park, Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Alpine Heaths				EEC:	Yes	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	4
	Grasses etc.:	0
	Forbs:	2
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	4
	Shrubs:	8.2
	Grasses etc.:	0
	Forbs:	0.2
	Ferns:	1
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	1	0
< 5 cm:	0	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	17		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	75	5	10	10	0	0	0	0	0	15	0	0	0	0	75	25	85	90	90
Average of the 5 subplots:	22					0					3					73				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Basalt	Soil Surface Texture	Volcanic boulderfield	Soil Colour		Soil Depth	
Lithology (B)							
Slope	Steep	Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light	greater than 10yo	Charred logs
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Track					
	Date:	20-11-17	Plot ID:	173	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Fern (EG)	<i>Pteridium esculentum</i>	1	25		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	5		N	
	<i>Rubus fruticosus</i> sp. agg.	0.1	2		HTE	
Shrub (SG)	<i>Indigofera australis</i>	0.2	3		N	
Shrub (SG)	<i>Bedfordia arborescens</i>	2	2	Yes	N	
Shrub (SG)	<i>Cassinia longifolia</i>	5	10		N	
Tree (TG)	<i>Acacia melanoxylon</i>	1	3		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	2	5		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	1	1		N	
	<i>Galium aparine</i>	0.1	2	Yes	E	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	3		N	
Shrub (SG)	<i>Polyscias sambucifolia</i> subsp. <i>leptophylla</i>	1	1		N	

BAM Site – Field Survey Form

Plot ID:	174	Date:	20-11-17	Survey Name:	Lobs Hole Ravine Track	Recorders:	ED, LH	
Zone:	55	Easting:	626962.4218	Plot dimensions:	20m x 50m	Midline bearing:	110	
Datum:	GDA94	Northing:	6036924.274	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	Low	Photo #:	
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	2
	Grasses etc.:	6
	Forbs:	6
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	5
	Shrubs:	50
	Grasses etc.:	5.7
	Forbs:	0.9
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		29

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	2	10	15	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	8.2					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Grey	Soil Depth	Shallow
Lithology (B)							
Slope	Steep	Aspect		Site Drainage	High	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	No canopy present
Cultivation (inc. pasture):			
Soil erosion:	Moderate	greater than 10yo	
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Severe	greater than 10yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Track					
	Date:	20-11-17	Plot ID:	174	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	30	100		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	5	50		N	
Shrub (SG)	<i>Exocarpos strictus</i>	20	150	No	N	
	<i>Crataegus monogyna</i>	1	1		HTE	
	<i>Hypericum perforatum</i>	25	1000		HTE	
	<i>Trifolium arvense</i>	25	1000		E	
	<i>Trifolium campestre</i>	15	1000		E	
	<i>Petrorhagia dubia</i>	2	150		E	
	<i>Plantago lanceolata</i>	0.3	20		E	
Grass & grasslike	<i>Carex</i> spp.	0.1	5	Yes	N	
	<i>Centaurium erythraea</i>	0.8	100		E	
	<i>Rubus fruticosus</i> sp. agg.	2	5		HTE	
	<i>Rosa rubiginosa</i>	1	4		HTE	
Grass & grasslike	<i>Austrostipa scabra</i>	2	50		N	
Grass & grasslike	<i>Dichelachne hirtella</i>	2	40		N	
	<i>Conyza</i> spp.	0.4	50		E	
Forb (FG)	<i>Geranium solanderi</i>	0.1	2		N	
Forb (FG)	<i>Acaena agnifolia</i>	0.1	4	Yes	N	
Grass & grasslike	<i>Poa induta</i>	0.2	15	Yes	N	
	<i>Bromus hordeaceus</i>	0.5	30	Yes	E	
	<i>Hypochaeris radicata</i>	0.1	2		E	
Forb (FG)	<i>Rumex brownii</i>	0.1	2	Yes	N	
	<i>Lysimachia arvensis</i>	0.1	5		E	
	<i>Aira elegantissima</i>	0.5	50	Yes	E	
Forb (FG)	<i>Wahlenbergia communis</i>	0.1	20	Yes	N	
Fern (EG)	<i>Cheilanthes sieberi</i>	0.1	10	Yes	N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.4	30		N	
Forb (FG)	<i>Sonchus</i> spp.	0.1	2		N	
	<i>Bromus madritensis</i>	0.3	50		E	
Grass & grasslike	<i>Dichelachne crinita</i>	0.6	40		N	
Grass & grasslike	<i>Deyeuxia</i> spp.	0.8	50		N	

BAM Site – Field Survey Form

Plot ID:	178	Date:	24-11-17	Survey Name:	Tantangara Road	Recorders:	SW, AM	
Zone:	55	Easting:	647441.0498	Plot dimensions:	20m x 50m	Midline bearing:	179	
Datum:	GDA94	Northing:	6032428.879	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	9
	Grasses etc.:	5
	Forbs:	11
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	1.1
	Shrubs:	12.4
	Grasses etc.:	85.3
	Forbs:	1.3
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	12		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	75	35	40	60	15	0	0	0	5	5	0	5	0	0	0	0	0	0	0
Average of the 5 subplots:	43					4					2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Brown	Soil Depth	at least 100mm
Lithology (B)							
Slope		Aspect	southern	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	less than 3yo	Poweline easement
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Native herbivores and pests
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Some exotic forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	24-11-17	Plot ID:	178	Recorders:	SW, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	1	8		N	
Shrub (SG)	<i>Hovea montana</i>	2	10		N	
Grass & grasslike	<i>Themeda triandra</i>	5	50		N	
Grass & grasslike	<i>Poa sieberiana</i>	80	500		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	20		N	
	<i>Poa pratensis</i>	5	200		E	
Shrub (SG)	<i>Podolobium alpestre</i>	2	20		N	
	<i>Hypochaeris radicata</i>	0.3	50		E	
	<i>Anthoxanthum odoratum</i>	0.1	10		E	
	<i>Achillea millefolium</i>	0.1	2		HTE	
Shrub (SG)	<i>Grevillea lanigera</i>	5	20		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	0.1	3		N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.1	10		N	
Shrub (SG)	<i>Hakea microcarpa</i>	2	10		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	1	10		N	
Shrub (SG)	<i>Epacris breviflora</i>	0.1	2		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
	<i>Hypericum perforatum</i>	0.1	20		HTE	
Forb (FG)	<i>Stellaria pungens</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.1	10		N	
Forb (FG)	<i>Leucochrysum albicans</i>	0.1	10		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	2		N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	5		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	20		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.1	1		N	
	<i>Trifolium repens</i>	0.1	20		E	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	20		N	
Forb (FG)	<i>Acaena agnipila</i>	0.1	5		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.1	2		N	
Forb (FG)	<i>Veronica calycina</i>	0.1	20		N	
	<i>Holcus lanatus</i>	0.1	5		E	
	<i>Taraxacum officinale</i>	0.1	3		E	
Forb (FG)	<i>Senecio gunnii</i>	0.1	5		N	
Forb (FG)	<i>Asperula scoparia</i>	0.3	50		N	
Forb (FG)	<i>Caladenia alpina</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	181	Date:	11-12-17	Survey Name:	Lobs Hole Ravine	Recorders:	SW, SD
Zone:	55	Easting:	626759.9121	Plot dimensions:	20m x 50m	Midline bearing:	300
Datum:	GDA94	Northing:	6038307.093	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	8
	Forbs:	4
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	2.8
	Forbs:	1.4
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		22.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	2	5	2	45	15	25	5	15	0	2	5	0	5	0	0	5	2	0	15	1
Average of the 5 subplots:	13.8					9.4					2					4.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Clay	Soil Colour	Light brown	Soil Depth	skeletal
Lithology (B)							
Slope	27°	Aspect	NE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	less than 3yo	Historically cleared and now maintained for camping
Cultivation (inc. pasture):			No evidence
Soil erosion:	Severe	less than 3yo	Skeletal soils, topsoil washed away, rabbit burrows observed within plotb
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Moderate	less than 3yo	Native and feral herbivores
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Severe	less than 3yo	Exotic grasses and forbs, Blackberry
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	11-12-17	Plot ID:	181	Recorders:	SW, SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	0.1	20		N	
	<i>Hypericum perforatum</i>	20	500		HTE	
	<i>Rubus anglocandicans</i>	1	10		E	
	<i>Verbascum</i> spp.	0.5	100		E	
	<i>Taraxacum officinale</i>	0.2	100		E	
Grass & grasslike	<i>Microlaena stipoides</i>	1	200		N	
	<i>Trifolium arvense</i>	0.1	10		E	
	<i>Acetosella vulgaris</i>	2	1000		HTE	
Grass & grasslike	<i>Carex appressa</i> x <i>tereticaulis</i>	0.1	5		N	
Forb (FG)	<i>Wahlenbergia</i> spp.	0.1	20		N	
	<i>Centaurium erythraea</i>	0.5	200		E	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>cinereum</i>	1	500		N	
Fern (EG)	<i>Cheilanthes sieberi</i>	0.1	20		N	
Grass & grasslike	<i>Chloris truncata</i>	0.7	200		N	
Grass & grasslike	<i>Rytidosperma caespitosum</i>	0.5	100		N	
Grass & grasslike	<i>Dichelachne inaequiglumis</i>	0.2	100		N	
	<i>Chondrilla juncea</i>	0.1	20		E	
	<i>Conyza</i> spp.	0.1	10		E	
Grass & grasslike	<i>Carex</i> spp.	0.1	20		N	
	<i>Phalaris</i> spp.	0.1	5		E	
Forb (FG)	<i>Oxalis perennans</i>	0.2	200		N	
	<i>Rosa rubiginosa</i>	0.1	1		HTE	
	<i>Vulpia bromoides</i>	0.2	50		E	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.1	1		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	10		N	
	<i>Cirsium vulgare</i>	0.1	1		E	

BAM Site – Field Survey Form

Plot ID:	183	Date:	11-12-17	Survey Name:	Lobs Hole Ravine	Recorders:	SW, SD	
Zone:	55	Easting:	626501.0478	Plot dimensions:	20m x 50m	Midline bearing:	115	
Datum:	GDA94	Northing:	6038370.566	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	Low	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	3
	Grasses etc.:	5
	Forbs:	8
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0.5
	Shrubs:	0.5
	Grasses etc.:	70.7
	Forbs:	1.4
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	2	5	2	5	10	20	20	20	10	0	20	1	30	10	0	0	0	0	0
Average of the 5 subplots:	5.8					16					12.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Clay loam	Soil Colour	Light brown	Soil Depth	shallow
Lithology (B)							
Slope	0.06	Aspect	ESE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Canopy and mid storey removed
Cultivation (inc. pasture):			No evidence
Soil erosion:	Severe	less than 3yo	Eroded down to bedrock in one corner of plot the rest is skeletal
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			Native and feral herbivores
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Some exotic grasses and forbs
Other:	Severe	less than 3yo	High amount of rabbit activity, latrine observed.

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
			Date:	11-12-17	Plot ID:	183
			Recorders:		SW, SD	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	70	1000		N	
	<i>Centaurium erythraea</i>	0.1	30		E	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	20		N	
	<i>Trifolium arvense</i>	0.1	5		E	
	<i>Hypericum perforatum</i>	0.1	20		HTE	
Forb (FG)	<i>Leptorhynchus squamatus</i>	0.5	100		N	
	<i>Aira elegantissima</i>	0.2	80		E	
Forb (FG)	<i>Stackhousia monogyna</i>	0.1	20		N	
Forb (FG)	<i>Gonocarpus teucrioides</i>	0.2	50		N	
Grass & grasslike	<i>Dichelachne inaequiglumis</i>	0.1	10		N	
Grass & grasslike	<i>Poa spp.</i>	0.3	50		N	
Grass & grasslike	<i>Lomandra filiformis subsp. coriacea</i>	0.2	50		N	
	<i>Potentilla recta</i>	0.1	1		E	
Forb (FG)	<i>Oxalis spp.</i>	0.1	10		N	
Forb (FG)	<i>Geranium spp.</i>	0.1	2		N	
	<i>Conyza spp.</i>	0.1	1		E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	20		N	
	<i>Hypochaeris radicata</i>	0.1	10		E	
Shrub (SG)	<i>Banksia canei</i>	0.2	1		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	10		N	
	<i>Taraxacum officinale</i>	0.1	10		E	
Tree (TG)	<i>Eucalyptus camphora</i>	0.4	3		N	
Forb (FG)	<i>Hypericum japonicum</i>	0.2	50		N	
Shrub (SG)	<i>Acacia pravissima</i>	0.2	5		N	
	<i>Vulpia bromoides</i>	0.1	20		E	
Shrub (SG)	<i>Exocarpos strictus</i>	0.1	1		N	
Tree (TG)	<i>Eucalyptus rubida</i>	0.1	1		N	
	<i>Rosa rubiginosa</i>	0.1	1		HTE	

BAM Site – Field Survey Form

Plot ID:	188	Date:	13-12-17	Survey Name:	Lobs Hole Ravine	Recorders:	AM, SW
Zone:	55	Easting:	627887.1793	Plot dimensions:	20m x 50m	Midline bearing:	190
Datum:	GDA94	Northing:	6038242.868	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	13
	Grasses etc.:	4
	Forbs:	5
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	35
	Shrubs:	119
	Grasses etc.:	10.2
	Forbs:	1.4
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	3
20 – 29 cm:	1	0	1
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	48		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	80	60	85	90	80	0	15	0	0	0	0	10	0	0	0	5	1	1	0	10
Average of the 5 subplots:	79					3					2					3.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam clay	Soil Colour	Brown	Soil Depth	Skeletal to shallow
Lithology (B)							
Slope		Aspect	Western	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:			No evidence
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	13-12-17	Plot ID:	188	Recorders:	AM, SW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	35	20		N	
Shrub (SG)	<i>Banksia canei</i>	60	200		N	
Shrub (SG)	<i>Acacia buxifolia</i> subsp. <i>buxifolia</i>	0.2	3		N	
Other (OG)	<i>Cassytha pubescens</i>	0.2	5		N	
Shrub (SG)	<i>Tetratheca bauerifolia</i>	2	100		N	
Forb (FG)	<i>Gonocarpus teucrioides</i>	1	200		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	10		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	5	50		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	30	500		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	1	30		N	
Forb (FG)	<i>Boronia nana</i> var. <i>hyssopifolia</i>	0.1	20		N	
Shrub (SG)	<i>Podolobium procumbens</i>	3	50		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	5	30		N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.5	10		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	5	100		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.1	10		N	
Shrub (SG)	<i>Dillwynia phyllicoides</i>	10	100		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	5	50		N	
Shrub (SG)	<i>Calytrix tetragona</i>	2	20		N	
Forb (FG)	<i>Dianella revoluta</i> var. <i>revoluta</i>	0.1	3		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.1	2		N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	5		N	

BAM Site – Field Survey Form

Plot ID:	189	Date:	07-02-18	Survey Name:	Talbingo	Recorders:	AM, DK
Zone:	55	Easting:	623808.8502	Plot dimensions:	20m x 50m	Midline bearing:	140
Datum:	GDA94	Northing:	6041283.442	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	17
	Grasses etc.:	4
	Forbs:	8
	Ferns:	0
	Other:	4
Sum of Cover of native vascular plants by growth form group	Trees:	36
	Shrubs:	45.7
	Grasses etc.:	60.7
	Forbs:	1.1
	Ferns:	0
	Other:	0.4
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	3
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	12		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	40	45	75	75	35	10	10	5	10	15	35	30	0	5	0	0	0	15	0
Average of the 5 subplots:	55					14					17					3				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Brown	Soil Depth	
Lithology (B)							
Slope	25	Aspect	220	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light		Very low abundance
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo						
		Date:	07-02-18	Plot ID:	189	Recorders:	AM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	15	15		N	
Tree (TG)	<i>Eucalyptus robertsonii</i> subsp. <i>robertsonii</i>	4	2		N	
Tree (TG)	<i>Eucalyptus mannifera</i> subsp. <i>mannifera</i>	15	5		N	
Shrub (SG)	<i>Leptospermum brevipes</i>	15	30		N	
Shrub (SG)	<i>Banksia canei</i>	5	8		N	
Shrub (SG)	<i>Cassinia longifolia</i>	2	5		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	2	5		N	
Shrub (SG)	<i>Acacia siculiformis</i>	3	10		N	
Shrub (SG)	<i>Grevillea rosmarinifolia</i> subsp. <i>rosmarinifolia</i>	3	10		N	
Shrub (SG)	<i>Indigofera australis</i>	0.2	5		N	
Shrub (SG)	<i>Dillwynia phyllicoides</i>	15	40		N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.5	5		N	
Shrub (SG)	<i>Platylobium formosum</i>	0.2	20		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.2	30		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.2	10		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	0.3	5		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	20		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	0.2	40		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	60	1000		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	50		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.2	40		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.2	100		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	50		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.3	50		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	2		N	
	<i>Centaurium erythraea</i>	0.1	10		E	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	5		N	
Forb (FG)	<i>Dianella revoluta</i> var. <i>revoluta</i>	0.2	20		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
Other (OG)	<i>Cassytha melantha</i>	0.1	2		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.2	5		N	
Shrub (SG)	<i>Acrotriche serrulata</i>	0.4	20		N	
Forb (FG)	<i>Hydrocotyle sibthorpioides</i>	0.1	30		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	20		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	0.3	30		N	
Shrub (SG)	<i>Podolobium procumbens</i>	0.1	2		N	

BAM Site – Field Survey Form

Plot ID:	193	Date:	12-12-17	Survey Name:	Access Roads	Recorders:	SD, EL
Zone:	55	Easting:	626912.7351	Plot dimensions:	20m x 50m	Midline bearing:	347
Datum:	GDA94	Northing:	6036372.909	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:		Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	6
	Grasses etc.:	5
	Forbs:	11
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	5.5
	Shrubs:	28.1
	Grasses etc.:	0.7
	Forbs:	27.7
	Ferns:	0.1
Other:	0	
High Threat Weed cover:		4

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	1
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	24		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	80	10	55	25	20	5	60	5	10	4	2	2	5	5	0	4	1	2	5
Average of the 5 subplots:	48					20					3.6					2.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Clay loam	Soil Colour	Dark brown	Soil Depth	Shallow
Lithology (B)							
Slope	28	Aspect	East	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historic
Cultivation (inc. pasture):			
Soil erosion:	Light	3 to 10 yo	Associated with historical clearing
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			Not evident
Fire damage:	Moderate	3 to 10 yo	
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads					
	Date:	12-12-17	Plot ID:	193	Recorders:	SD, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Forb (FG)	<i>Cullen microcephalum</i>	0.1	5		N	
Shrub (SG)	<i>Bursaria spinosa</i>	10	200		N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustifolia</i>	5	200		N	
Shrub (SG)	<i>Acacia saliciformis</i>	10	200		N	
Shrub (SG)	<i>Cassinia longifolia</i>	1	20		N	
	<i>Rosa rubiginosa</i>	2	40		HTE	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	25	200		N	
Fern (EG)	<i>Cheilanthes sieberi</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus rubida</i>	5	4		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.5	30		N	
	<i>Centaurium erythraea</i>	0.5	50		E	
Forb (FG)	<i>Geranium potentilloides</i>	1	200		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.5	500		N	
	<i>Hypericum perforatum</i>	2	500		HTE	
Shrub (SG)	<i>Exocarpos strictus</i>	2	30		N	
Forb (FG)	<i>Gonocarpus teucrioides</i>	0.1	100		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	20		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	0.5	10		N	
Grass & grasslike	<i>Austrostipa scabra</i> subsp. <i>falcata</i>	0.2	20		N	
	<i>Trifolium arvense</i>	0.1	2		E	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.1	10		N	
Forb (FG)	<i>Microtis unifolia</i>	0.1	20		N	
Forb (FG)	<i>Euchiton sphaericus</i>	0.1	20		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.2	50		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	20		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	10		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	20		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	10		N	
Grass & grasslike	<i>Poa</i> spp.	0.1	5		N	
	<i>Hypochaeris glabra</i>	0.1	1		E	
	<i>Linaria pelisseriana</i>	0.1	10		E	

BAM Site – Field Survey Form

Plot ID:	195	Date:	12-12-17	Survey Name:	Ravine early works	Recorders:	SD, EL
Zone:	55	Easting:	627135.8212	Plot dimensions:	20m x 50m	Midline bearing:	131
Datum:	GDA94	Northing:	6037799.615	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:		Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	1
	Forbs:	1
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	0.1
	Forbs:	0.1
	Ferns:	5
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	5	5	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	6					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loam	Soil Colour	Black	Soil Depth	Deep
Lithology (B)							
Slope	2	Aspect	NNE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Logged
Cultivation (inc. pasture):			No evidence
Soil erosion:	Moderate	greater than 10yo	
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Moderate	greater than 10yo	Native and exotic herbivores
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Ravine early works					
	Date:	12-12-17	Plot ID:	195	Recorders:	SD, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	20		N	
Fern (EG)	<i>Pteridium esculentum</i>	5	200		N	
	<i>Lysimachia arvensis</i>	0.1	10		E	
	<i>Rubus anglocandicans</i>	2	40		E	
	<i>Hypericum perforatum</i>	0.2	20		HTE	
	<i>Trifolium pratense</i>	0.2	20		E	
	<i>Cirsium vulgare</i>	0.2	20		E	
	<i>Conyza canadensis</i> var. <i>canadensis</i>	0.1	10		E	
	<i>Hypericum androsaemum</i>	0.1	5		E	
	<i>Prunella vulgaris</i>	0.1	10		E	
	<i>Trifolium repens</i>	0.1	10		E	
	<i>Bromus molliformis</i>	0.1	10		E	
	<i>Rosa rubiginosa</i>	0.1	5		HTE	
Forb (FG)	<i>Geranium neglectum</i>	0.1	5		N	
	<i>Medicago polymorpha</i>	0.1	10		E	

BAM Site – Field Survey Form

Plot ID:	197	Date:	12-12-17	Survey Name:	Lobs Hole Ravine	Recorders:	AM, SW
Zone:	55	Easting:	628192.3131	Plot dimensions:	20m x 50m	Midline bearing:	300
Datum:	GDA94	Northing:	6038948.161	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	17
	Grasses etc.:	11
	Forbs:	16
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	46
	Shrubs:	27.6
	Grasses etc.:	71
	Forbs:	4.9
	Ferns:	1
	Other:	0
High Threat Weed cover:		10.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	5	0	3
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	13	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	54		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	85	75	75	35	10	0	0	0	5	0	0	0	0	0	15	0	0	1	0
Average of the 5 subplots:	66					3					0					3.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam clay	Soil Colour	Dark brown	Soil Depth	Shallow
Lithology (B)							
Slope		Aspect	NW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Due to heavy rainfall
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light		Exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	12-12-17	Plot ID:	197	Recorders:	AM, SW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	30	7		N	
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	15	8		N	
Shrub (SG)	<i>Cassinia longifolia</i>	10	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	5	7		N	
Shrub (SG)	<i>Banksia canei</i>	1	3		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	5	10		N	
Shrub (SG)	<i>Grevillea arenaria</i> subsp. <i>canescens</i>	0.5	4		N	
Shrub (SG)	<i>Pomaderris subcapitata</i>	2	10		N	
Shrub (SG)	<i>Bursaria spinosa</i>	1	5		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	65	500		N	
	<i>Hypericum perforatum</i>	0.3	100		HTE	
Shrub (SG)	<i>Rubus parvifolius</i>	0.2	10		N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	10	50		HTE	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.2	20		N	
Grass & grasslike	<i>Themeda triandra</i>	1	30		N	
	<i>Lysimachia arvensis</i>	0.1	20		E	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	6		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	10		N	
Forb (FG)	<i>Stellaria pungens</i>	3	500		N	
	<i>Acetosella vulgaris</i>	0.2	450		HTE	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	0.2	10		N	
Grass & grasslike	<i>Lachnagrostis filiformis</i>	0.1	5		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.2	40		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	30		N	
	<i>Petrorhagia nanteuilii</i>	0.1	10		E	
Forb (FG)	<i>Daucus glochidiatus</i>	0.1	10		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
	<i>Centaurium erythraea</i>	0.1	30		E	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.3	30		N	
Forb (FG)	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	0.1	20		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	20		N	
Shrub (SG)	<i>Platylobium formosum</i>	0.1	3		N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	20		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	30		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.3	2		N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.2	1		N	
Grass & grasslike	<i>Anthosachne scabra</i>	3	200		N	
	<i>Briza minor</i>	0.1	5		E	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.2	100		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.2	4		N	
Shrub (SG)	<i>Gynatrix pulchella</i>	0.1	1		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	0.5	30		N	
Forb (FG)	<i>Wahlenbergia communis</i>	0.1	20		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.5	50		N	
Shrub (SG)	<i>Indigofera australis</i>	0.1	2		N	
Fern (EG)	<i>Pteridium esculentum</i>	1	10		N	

Shrub (SG)	<i>Acacia siculiformis</i>	0.7	2		N	
Forb (FG)	<i>Veronica derwentiana</i> subsp. <i>derwentiana</i>	0.1	1		N	
Shrub (SG)	<i>Exocarpos strictus</i>	1	2		N	
Forb (FG)	<i>Acaena agnipila</i>	0.1	5		N	
	<i>Aira elegantissima</i>	0.1	30		E	
Forb (FG)	<i>Dianella revoluta</i> var. <i>revoluta</i>	0.1	1		N	
Forb (FG)	<i>Dichondra repens</i>	0.2	50		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.1	3		N	
Tree (TG)	<i>Eucalyptus robertsonii</i> subsp. <i>robertsonii</i>	1	2		N	

BAM Site – Field Survey Form

Plot ID:	198	Date:	11-12-17	Survey Name:	Ravine early works	Recorders:	AM, EL
Zone:	55	Easting:	625880.4877	Plot dimensions:	20m x 50m	Midline bearing:	202
Datum:	GDA94	Northing:	6038913.824	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	4
	Grasses etc.:	7
	Forbs:	3
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	23
	Shrubs:	2
	Grasses etc.:	47.8
	Forbs:	0.3
	Ferns:	0
	Other:	0
High Threat Weed cover:		11.7

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	1
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	3		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	25	15	50	40	25	10	5	10	5	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	27					11					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historical
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	On river edge
Firewood / CWD removal:	Light	less than 3yo	Along river edge. Associated with evidence of camp fires nearby.
Grazing (identify native/stock):	Light		Native and exotic herbivores
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Ravine early works					
	Date:	11-12-17	Plot ID:	198	Recorders:	AM, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus camphora</i> subsp. <i>humeana</i>	20	9		N	
Shrub (SG)	<i>Acacia pravissima</i>	1	3		N	
	<i>Vulpia bromoides</i>	2	100		E	
Grass & grasslike	<i>Themeda triandra</i>	15	200		N	
	<i>Hypochaeris radicata</i>	0.2	50		E	
	<i>Poa pratensis</i>	30	500		E	
	<i>Hypericum perforatum</i>	1	30		HTE	
Grass & grasslike	<i>Poa helmsii</i>	25	100		N	
Grass & grasslike	<i>Phragmites australis</i>	5	200		N	
	<i>Cirsium vulgare</i>	0.1	20		E	
	<i>Bromus molliformis</i>	3	200		E	
Forb (FG)	<i>Rumex brownii</i>	0.1	5		N	
Grass & grasslike	<i>Carex appressa</i>	0.5	20		N	
	<i>Rubus fruticosus</i> sp. agg.	10	50		HTE	
	<i>Acetosella vulgaris</i>	0.3	300		HTE	
	<i>Bromus madritensis</i>	2	100		E	
	<i>Plantago lanceolata</i>	0.2	30		E	
Grass & grasslike	<i>Anthosachne scabra</i>	2	100		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	10		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.2	30		N	
Shrub (SG)	<i>Grevillea rosmarinifolia</i> subsp. <i>rosmarinifolia</i>	0.7	2		N	
Forb (FG)	<i>Microtis unifolia</i>	0.1	10		N	
	<i>Lysimachia arvensis</i>	0.1	10		E	
Grass & grasslike	<i>Juncus sarophorus</i>	0.1	5		N	
	<i>Holcus lanatus</i>	0.1	20		E	
	<i>Centaureum erythraea</i>	0.1	30		E	
	<i>Crataegus monogyna</i>	0.2	3		HTE	
	<i>Lotus corniculatus</i>	0.1	10		E	
Shrub (SG)	<i>Leptospermum grandifolium</i>	0.1	1		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.2	2		N	
	<i>Crepis capillaris</i>	0.1	10		E	
	<i>Dactylis glomerata</i>	0.1	2		E	
Tree (TG)	<i>Eucalyptus viminalis</i>	3	1		N	
	<i>Briza minor</i>	0.2	50		E	
	<i>Rosa rubiginosa</i>	0.2	2		HTE	
	<i>Aira elegantissima</i>	0.2	200		E	

BAM Site – Field Survey Form

Plot ID:	199	Date:	11-01-18	Survey Name:	Tantangara east	Recorders:	SD
Zone:	55	Easting:	651369.3807	Plot dimensions:	20m x 50m	Midline bearing:	0
Datum:	GDA94	Northing:	6036906.314	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	Yes	Confidence:
						Medium	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	1
	Grasses etc.:	6
	Forbs:	7
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	1
	Shrubs:	1
	Grasses etc.:	7.1
	Forbs:	1
	Ferns:	0
	Other:	0
High Threat Weed cover:		2.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	60	70	40	50	1	40	20	70	50	5	20	30	20	10	0	0	0	0	0
Average of the 5 subplots:	62					36.2					17					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Silty clay loam	Soil Colour	Brown	Soil Depth	Shallow
Lithology (B)							
Slope	5	Aspect	North	Site Drainage	Moderate	Distance to nearest water & type	50 creek

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Cleared, using earthworks
Cultivation (inc. pasture):	Light	greater than 10yo	Lots of pasture grasses
Soil erosion:	Severe	greater than 10yo	Eroded sections in steeper southern half of plot
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	greater than 10yo	Historic livestock grazibg plus ongoing rabbit and horse grazing.
Fire damage:			
Storm damage:			
Weediness:	Severe	greater than 10yo	Pasture grasses and forbs
Other:	Moderate	less than 3yo	Extensive rabbit burrowing

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara east					
	Date:	11-01-18	Plot ID:	199	Recorders:	SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	1	7		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	1	5		N	
	<i>Holcus lanatus</i>	2	300		E	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.5	10		N	
	<i>Dactylis glomerata</i>	0.2	20		E	
	<i>Verbascum virgatum</i>	0.1	10		E	
	<i>Centaureum erythraea</i>	0.8	200		E	
	<i>Holcus mollis</i>	0.5	100		E	
Grass & grasslike	<i>Carex appressa</i>	0.2	10		N	
	<i>Acetosella vulgaris</i>	2	1000		HTE	
	<i>Taraxacum officinale</i>	0.2	50		E	
Forb (FG)	<i>Acaena ovina</i>	0.1	10		N	
	<i>Trifolium arvense</i>	1	1000		E	
Forb (FG)	<i>Oxalis perennans</i>	0.2	50		N	
	<i>Cirsium vulgare</i>	0.2	10		E	
	<i>Aira elegantissima</i>	1	1000		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.3	50		N	
Forb (FG)	<i>Geranium neglectum</i>	0.1	10		N	
Forb (FG)	<i>Geranium solanderi</i>	0.1	10		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.2	30		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.2	50		N	
Grass & grasslike	<i>Rytidosperma caespitosum</i>	5	1000		N	
	<i>Hypericum perforatum</i>	0.2	20		HTE	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	10		N	
Grass & grasslike	<i>Themeda triandra</i>	1	200		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	10		N	
	<i>Briza maxima</i>	0.1	10		E	

BAM Site – Field Survey Form

Plot ID:	202	Date:	29-11-17	Survey Name:	Access Roads	Recorders:	AM, EL
Zone:	55	Easting:	643971.8395	Plot dimensions:	20m x 50m	Midline bearing:	129
Datum:	GDA94	Northing:	6048991.801	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	2
	Grasses etc.:	8
	Forbs:	8
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	45
	Shrubs:	0.7
	Grasses etc.:	8.2
	Forbs:	4.7
	Ferns:	0
	Other:	0
High Threat Weed cover:		1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	2	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	10	10	30	2	3	2	4	1	0	0	0	0	0	0	1	0	30	22	0
Average of the 5 subplots:	12.4					2					0					10.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historical
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		Access tracks and horses
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Moderate		Native and exotic herbivores
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light		
Other:			Adjacent to camp ground

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads						
		Date:	29-11-17	Plot ID:	202	Recorders:	AM, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	45	8		N	
Shrub (SG)	<i>Hakea microcarpa</i>	0.5	2		N	
	<i>Anthoxanthum odoratum</i>	60	1000		E	
	<i>Trifolium repens</i>	3	100		E	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Forb (FG)	<i>Craspedia variabilis</i>	0.1	20		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	5	50		N	
Grass & grasslike	<i>Themeda triandra</i>	0.3	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.2	20		N	
	<i>Vulpia bromoides</i>	1	100		E	
	<i>Myosotis discolor</i>	0.1	10		E	
Forb (FG)	<i>Geranium antrorsum</i>	1	200		N	
Forb (FG)	<i>Asperula scoparia</i>	3	500		N	
Forb (FG)	<i>Acaena agnipila</i>	0.1	20		N	
	<i>Holcus lanatus</i>	25	500		E	
	<i>Acetosella vulgaris</i>	1	200		HTE	
	<i>Trifolium arvense</i>	0.1	10		E	
	<i>Medicago lupulina</i>	0.1	50		E	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	10		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.2	20		N	
	<i>Poa annua</i>	1	50		E	
	<i>Cirsium vulgare</i>	0.1	2		E	
	<i>Plantago lanceolata</i>	0.1	10		E	
	<i>Cerastium glomeratum</i>	0.1	20		E	
Grass & grasslike	<i>Carex appressa</i>	0.2	5		N	
Forb (FG)	<i>Erigeron bellidioides</i>	0.1	20		N	
Grass & grasslike	<i>Poa costiniana</i>	2	50		N	
Grass & grasslike	<i>Empodisma minus</i>	0.3	10		N	
Shrub (SG)	<i>Epacris breviflora</i>	0.2	2		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	207	Date:	16-01-18	Survey Name:	Tantangara Road	Recorders:	SD, AR	
Zone:	55	Easting:	646746.161	Plot dimensions:	20m x 50m	Midline bearing:	80	
Datum:	GDA94	Northing:	6026381.379	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	639: Alpine Ash - Snow Gum shrubby tall open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Montane Wet Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	9
	Grasses etc.:	3
	Forbs:	19
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	21.5
	Shrubs:	4.1
	Grasses etc.:	25.6
	Forbs:	7.2
	Ferns:	0
	Other:	0.3
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	6	0	1
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	110		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	100					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Loamy clay	Soil Colour	Brown	Soil Depth	Deep
Lithology (B)							
Slope	5	Aspect	80	Site Drainage	Moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historic logging. Some old mountain gum remaining but only those with poor form. All alpine ash are relatively
Cultivation (inc. pasture):			
Soil erosion:	Light	greater than 10yo	Some evidence of earthworks associated with road and drain
Firewood / CWD removal:			
Grazing (identify native/stock):	Light	greater than 10yo	Historic
Fire damage:			
Storm damage:			
Weediness:	Light	3 to 10 yo	Pasture grasses downpipe of road and drain
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	16-01-18	Plot ID:	207	Recorders:	SD, AR

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dalrympleana</i>	10	4		N	
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>Delegatensis</i>	10	11		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	0.5	5		N	
Shrub (SG)	<i>Leptospermum lanigerum</i>	0.5	5		N	
Shrub (SG)	<i>Cassinia aculeata</i>	1	10		N	
Forb (FG)	<i>Arrhenechthites mixta</i>	0.2	40		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	30		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	200		N	
Forb (FG)	<i>Senecio gunnii</i>	0.2	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	25	1000		N	
Other (OG)	<i>Glycine tabacina</i>	0.2	40		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.2	30		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	1	10		N	
Shrub (SG)	<i>Podolobium alpestre</i>	1	10		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.5	100		N	
Forb (FG)	<i>Asperula scoparia</i>	1	200		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.5	20		N	
Forb (FG)	<i>Coronidium rutidolepis</i>	3	500		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	40		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	1	40		N	
	<i>Anthoxanthum odoratum</i>	0.2	50		E	
Grass & grasslike	<i>Luzula densiflora</i>	0.1	1		N	
Other (OG)	<i>Desmodium varians</i>	0.1	20		N	
	<i>Hypochaeris glabra</i>	0.1	5		E	
Forb (FG)	<i>Lagenophora stipitata</i>	0.5	80		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	60		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.3	50		N	
	<i>Holcus lanatus</i>	0.1	5		E	
Shrub (SG)	<i>Leucopogon lanceolatus</i> var. <i>lanceolatus</i>	0.2	10		N	
Shrub (SG)	<i>Olearia phlogopappa</i>	0.1	5		N	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.1	20		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.1	5		N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	10		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	40		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	5		N	
	<i>Hypericum perforatum</i>	0.1	10		HTE	
Forb (FG)	<i>Cotula australis</i>	0.1	40		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	2		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.1	2		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	10		N	
	<i>Sonchus oleraceus</i>	0.1	2		E	
	<i>Trifolium repens</i>	0.1	2		E	
Shrub (SG)	<i>Acacia obliquinervia</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	208	Date:	06-02-18	Survey Name:				Recorders:	SD, ACM
Zone:	55	Easting:	632676.8452	Plot dimensions:	20m x 50m			Midline bearing:	180
Datum:	GDA94	Northing:	6038494.46	IBRA region:	South Eastern Highlands (Bondo)			Zone ID:	
Plant Community Type:	639: Alpine Ash - Snow Gum shrubby tall open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion					Confidence:	Medium	Photo #:	
Vegetation Class:	Montane Wet Sclerophyll Forests					EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	11
	Grasses etc.:	3
	Forbs:	10
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	26.7
	Shrubs:	12.6
	Grasses etc.:	1.4
	Forbs:	1.8
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	165		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	90	90	30	60	10	15	10	70	40	0	0	1	1	1	0	0	1	0	0
Average of the 5 subplots:	72					29					0.6					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Loamy clay	Soil Colour	Brown	Soil Depth	> 10cm
Lithology (B)							
Slope	10	Aspect	South	Site Drainage	Moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Presumed logged
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	greater than 10yo	Presumed related to logging, grazing and fire
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	greater than 10yo	Presumed
Fire damage:	Moderate	3 to 10 yo	
Storm damage:	Moderate	3 to 10 yo	Lots of debris
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	06-02-18	Plot ID:	208	Recorders:	SD, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>Delegatensis</i>	25	40		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	1	6		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	5	80		N	
Shrub (SG)	<i>Daviesia latifolia</i>	2	40		N	
Shrub (SG)	<i>Lomatia myricoides</i>	0.2	1		N	
Shrub (SG)	<i>Platylobium montanum</i>	2	80		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.2	10		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.8	100		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.5	50		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.7	50		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	1	100		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.3	30		N	
Forb (FG)	<i>Brachyscome aculeata</i>	0.1	5		N	
Shrub (SG)	<i>Gompholobium huegelii</i>	0.5	40		N	
Forb (FG)	<i>Coronidium rutidolepis</i>	0.1	10		N	
Forb (FG)	<i>Asperula scoparia</i>	0.2	20		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.2	20		N	
Other (OG)	<i>Clematis glycinoides</i>	0.2	10		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	20		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.2	20		N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.1	2		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	1		N	
Shrub (SG)	<i>Polyscias sambucifolia</i>	1	90		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	2		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	1		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	0.7	5		N	
Shrub (SG)	<i>Olearia phlogopappa</i>	0.1	5		N	

BAM Site – Field Survey Form

Plot ID:	211	Date:	29-11-17	Survey Name:	Gooandra trail	Recorders:	SW, SD
Zone:	55	Easting:	638667.2543	Plot dimensions:	20m x 50m	Midline bearing:	256
Datum:	GDA94	Northing:	6037714.171	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						Low	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	4
	Forbs:	17
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	20.5
	Shrubs:	4.4
	Grasses etc.:	70.7
	Forbs:	4.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	75		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	35	25	25	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	21					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Loam clay	Soil Colour	Brown	Soil Depth	at least 50mm
Lithology (B)							
Slope	2	Aspect	Eastern	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Horses
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Pasture weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Gooandra trail					
	Date:	29-11-17	Plot ID:	211	Recorders:	SW, SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus lacrimans</i>	5	1		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	1	20		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	2	30		N	
Shrub (SG)	<i>Hovea montana</i>	1	30		N	
Forb (FG)	<i>Plantago euryphylla</i>	0.5	100		N	
Grass & grasslike	<i>Poa sieberiana</i>	70	1000		N	
Forb (FG)	<i>Senecio pinnatifolius</i> var. <i>alpinus</i>	0.1	5		N	
Forb (FG)	<i>Craspedia canens</i>	0.5	80		N	
	<i>Ranunculus repens</i>	0.2	50		HTE	
Forb (FG)	<i>Bulbine bulbosa</i>	2	200		N	
Grass & grasslike	<i>Poa meionectes</i>	0.5	100		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	10		N	
Forb (FG)	<i>Sonchus</i> spp.	0.1	10		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.2	50		N	
Forb (FG)	<i>Leptorhynchus squamatus</i>	0.3	200		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	200		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	20		N	
	<i>Taraxacum officinale</i>	0.1	20		E	
Forb (FG)	<i>Microseris lanceolata</i>	0.1	30		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	15.5	24		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	30		N	
Forb (FG)	<i>Stellaria</i> spp.	0.1	50		N	
	<i>Trifolium repens</i>	0.1	10		E	
Forb (FG)	<i>Acaena ovina</i>	0.1	20		N	
Forb (FG)	<i>Geranium retrorsum</i>	0.1	30		N	
Grass & grasslike	<i>Poa costiniana</i>	0.1	20		N	
Forb (FG)	<i>Scleranthus fasciculatus</i>	0.1	30		N	
	<i>Cerastium glomeratum</i>	0.1	5		E	
	<i>Anthoxanthum odoratum</i>	0.3	50		E	
	<i>Gomphocarpus physocarpus</i>	0.1	20		E	
Forb (FG)	<i>Geranium neglectum</i>	0.1	20		N	
Shrub (SG)	<i>Olearia phlogopappa</i>	0.1	2		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.3	5		N	
	<i>Acetosella vulgaris</i>	0.1	2		HTE	
Forb (FG)	<i>Craspedia costiniana</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	212	Date:	12-01-18	Survey Name:	Tantangara east	Recorders:	SD
Zone:	55	Easting:	648509.2846	Plot dimensions:	20m x 50m	Midline bearing:	110
Datum:	GDA94	Northing:	6038412.135	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	8
	Grasses etc.:	2
	Forbs:	24
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	2.8
	Shrubs:	2.2
	Grasses etc.:	20.2
	Forbs:	9.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.6

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	202		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	80	60	80	70	30	5	40	20	5	70	20	5	5	10	5	0	0	0	0	0
Average of the 5 subplots:	64					28					9					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Silty clay loam	Soil Colour	Brown	Soil Depth	Medium
Lithology (B)							
Slope	7	Aspect	110	Site Drainage	Moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	less than 3yo	Historic grazing but current horse and rabbit grazing
Fire damage:	Severe	3 to 10 yo	All adult trees dead
Storm damage:	Moderate	less than 3yo	Most dead trees felled
Weediness:	Light	3 to 10 yo	Sweet vernal grass extensive but cover mostly native
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara east						
		Date:	12-01-18	Plot ID:	212	Recorders:	SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	2	30		N	
	<i>Anthoxanthum odoratum</i>	5	1000		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	20	1000		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	1	300		N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.5	50		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	5	500		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	10		N	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.1	50		N	
	<i>Trifolium repens</i>	0.1	10		E	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	1		N	
	<i>Acetosella vulgaris</i>	0.6	100		HTE	
	<i>Centaurium erythraea</i>	0.1	10		E	
Shrub (SG)	<i>Grevillea lanigera</i>	1	30		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	40		N	
Forb (FG)	<i>Solenogyne gunnii</i>	0.4	50		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	20		N	
Forb (FG)	<i>Dichondra repens</i>	0.1	50		N	
	<i>Medicago lupulina</i>	0.1	20		E	
	<i>Holcus lanatus</i>	0.2	40		E	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	10		N	
	<i>Taraxacum officinale</i>	0.6	500		E	
Forb (FG)	<i>Asperula scoparia</i>	0.5	100		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.5	100		N	
Forb (FG)	<i>Geranium solanderi</i>	0.2	40		N	
	<i>Cirsium vulgare</i>	0.1	5		E	
Grass & grasslike	<i>Themeda triandra</i>	0.2	50		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.1	10		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.2	10		N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.3	1		N	
Tree (TG)	<i>Eucalyptus rubida</i>	0.3	1		N	
Forb (FG)	<i>Xerochrysum subundulatum</i>	0.1	10		N	
Forb (FG)	<i>Plantago gaudichaudii</i>	0.1	3		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.2	10		N	
Shrub (SG)	<i>Hakea microcarpa</i>	0.2	2		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.1	20		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	20		N	
	<i>Cerastium vulgare</i>	0.1	1		E	
Forb (FG)	<i>Myosotis australis</i>	0.1	1		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	0.5	3		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	20		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Forb (FG)	<i>Calotis glandulosa</i>	0.1	1		N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	1		N	
Shrub (SG)	<i>Discaria pubescens</i>	0.1	1		N	
Forb (FG)	<i>Calotis scabiosifolia</i> var. <i>integrifolia</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	216	Date:	12-12-17	Survey Name:	Access Roads	Recorders:	SD, EL
Zone:	55	Easting:	627032.6318	Plot dimensions:	20m x 50m	Midline bearing:	211
Datum:	GDA94	Northing:	6033444.058	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	953: Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	6
	Shrubs:	7
	Grasses etc.:	5
	Forbs:	18
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	22.3
	Shrubs:	6.9
	Grasses etc.:	72.3
	Forbs:	4
	Ferns:	0
	Other:	0.3
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	1
50 – 79 cm:	3	0	3
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	43		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	45	25	50	10	2	20	0	20	5	0	0	0	0	0	0	4	0	4	0
Average of the 5 subplots:	28					9.4					0					1.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Metamorphic rock (unidentified)	Soil Surface Texture	Clay loam	Soil Colour	Brown	Soil Depth	Shallow
Lithology (B)							
Slope	28	Aspect	NW	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		Associated with access track adjacent
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	greater than 10yo	Native and exotic herbivores
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads						
		Date:	12-12-17	Plot ID:	216	Recorders:	SD, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	10	10		N	
Tree (TG)	<i>Eucalyptus rubida</i> x <i>dalrympleana</i>	5	5		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	2	1		N	
Tree (TG)	<i>Acacia melanoxylon</i>	5	40		N	
Shrub (SG)	<i>Cassinia longifolia</i>	5	60		N	
Shrub (SG)	<i>Mirbelia platylobioides</i>	0.3	30		N	
Forb (FG)	<i>Plantago gaudichaudii</i>	0.7	200		N	
Grass & grasslike	<i>Poa sieberiana</i>	70	1000		N	
	<i>Crepis capillaris</i>	0.1	20		E	
Forb (FG)	<i>Gonocarpus teucrioides</i>	0.5	80		N	
Forb (FG)	<i>Cullen microcephalum</i>	0.3	30		N	
Forb (FG)	<i>Stackhousia monogyna</i>	0.1	20		N	
Shrub (SG)	<i>Exocarpos strictus</i>	1	20		N	
Other (OG)	<i>Desmodium varians</i>	0.2	40		N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.3	100		N	
	<i>Trifolium arvense</i>	0.1	20		E	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.1	20		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>subalpina</i>	0.2	3		N	
Forb (FG)	<i>Asperula conferta</i>	0.5	100		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	20		N	
Grass & grasslike	<i>Themeda triandra</i>	2	100		N	
Forb (FG)	<i>Lotus australis</i>	0.4	30		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.2	20		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	10		N	
	<i>Centaurium erythraea</i>	0.1	5		E	
Tree (TG)	<i>Eucalyptus robertsonii</i>	0.1	10		N	
Forb (FG)	<i>Chrysocephalum apiculatum</i>	0.1	5		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	10		N	
	<i>Hypericum perforatum</i>	0.2	50		HTE	
Forb (FG)	<i>Rumex brownii</i>	0.1	1		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.1	10		N	
Forb (FG)	<i>Galium gaudichaudii</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra micrantha</i> subsp. <i>tuberculata</i>	0.1	10		N	
Forb (FG)	<i>Podolepis</i> spp.	0.1	1		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	0.2	1		N	
Other (OG)	<i>Glycine tabacina</i>	0.1	10		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	20		N	
Grass & grasslike	<i>Dichelachne</i> spp.	0.1	10		N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.1	2		N	
Shrub (SG)	<i>Coprosma hirtella</i>	0.1	1		N	
Shrub (SG)	<i>Mirbelia oxyllobioides</i>	0.2	1		N	
Forb (FG)	<i>Leptorhynchus squamatus</i>	0.1	30		N	

BAM Site – Field Survey Form

Plot ID:	218	Date:	12-12-17	Survey Name:	Access Roads	Recorders:	SD, EL
Zone:	55	Easting:	625998.1173	Plot dimensions:	20m x 50m	Midline bearing:	318
Datum:	GDA94	Northing:	6038194.426	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	14
	Grasses etc.:	5
	Forbs:	9
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	0.2
	Shrubs:	85.6
	Grasses etc.:	3.6
	Forbs:	3.3
	Ferns:	0.2
	Other:	1
High Threat Weed cover:		0.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	10	10	10	30	25	25	35	10	15	0	0	0	20	4	10	10	4	4	4
Average of the 5 subplots:	20					22					4.8					6.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Silty clay	Soil Colour	Red	Soil Depth	Shallow
Lithology (B)							
Slope	20	Aspect	ENE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Historical. Single age class no old trees in adjacent community.
Cultivation (inc. pasture):			No evidence
Soil erosion:	Moderate	3 to 10 yo	Associated with removal of overstorey and also access road adjacent.
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Native and exotic herbivores
Fire damage:	Light	3 to 10 yo	Burnt logs
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Roadside weeds
Other:	Moderate	3 to 10 yo	Clearing associated with power line corridor.

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Access Roads						
		Date:	12-12-17	Plot ID:	218	Recorders:	SD, EL

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Acacia buxifolia</i>	1	20		N	
Shrub (SG)	<i>Calytrix tetragona</i>	70	1000		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	1	30		N	
Shrub (SG)	<i>Acacia pravissima</i>	2	20		N	
Shrub (SG)	<i>Banksia canei</i>	0.1	3		N	
Other (OG)	<i>Cassytha glabella</i>	1	50		N	
	<i>Hypericum perforatum</i>	0.5	30		HTE	
Tree (TG)	<i>Eucalyptus nortonii</i>	0.1	1		N	
Grass & grasslike	<i>Rytidosperma caespitosum</i>	1	200		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.5	100		N	
	<i>Rubus anglocandicans</i>	0.5	10		E	
Tree (TG)	<i>Eucalyptus dives</i>	0.1	1		N	
Shrub (SG)	<i>Cassinia longifolia</i>	0.5	5		N	
	<i>Centaurium erythraea</i>	0.5	100		E	
Shrub (SG)	<i>Brachyloma daphnoides</i>	5	100		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	2	50		N	
Grass & grasslike	<i>Poa</i> spp.	0.2	20		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.2	30		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.2	30		N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	10		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	3	30		N	
	<i>Conyza canadensis</i> var. <i>canadensis</i>	0.1	2		E	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	1	200		N	
Forb (FG)	<i>Euchiton sphaericus</i>	0.1	10		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	5		N	
	<i>Aira elegantissima</i>	0.2	50		E	
Shrub (SG)	<i>Monotoca scoparia</i>	0.5	2		N	
Grass & grasslike	<i>Lomandra bracteata</i>	0.2	20		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	10		N	
Forb (FG)	<i>Gonocarpus teucrioides</i>	0.2	20		N	
Fern (EG)	<i>Cheilanthes sieberi</i>	0.2	20		N	
Shrub (SG)	<i>Bursaria spinosa</i>	2	10		N	
Forb (FG)	<i>Dianella revoluta</i>	1	30		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10		N	
Forb (FG)	<i>Microtis unifolia</i>	0.1	1		N	
Shrub (SG)	<i>Podolobium alpestre</i>	0.1	2		N	
	<i>Hypochaeris radicata</i>	0.1	2		E	
Shrub (SG)	<i>Pimelea glauca</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	224	Date:	27-11-17	Survey Name:	Bullocks Hill trail plateau area	Recorders:	SW, SD	
Zone:	55	Easting:	636364.0075	Plot dimensions:	20m x 50m	Midline bearing:	124	
Datum:	GDA94	Northing:	6037742.753	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Low	Photo #:	
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	2
	Grasses etc.:	5
	Forbs:	14
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	1
	Shrubs:	1.7
	Grasses etc.:	71.2
	Forbs:	3.4
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	5		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	5	5	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	9					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Brown	Soil Depth	at least 100mm
Lithology (B)							
Slope	Gentle	Aspect	NW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Historically sheep and cattle, present day ferals
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Moderate	less than 3yo	Small exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Bullocks Hill trail plateau area						
		Date:	27-11-17	Plot ID:	224	Recorders:	SW, SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	1	3		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	1	20		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.7	4		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	1	10		N	
	<i>Taraxacum officinale</i>	1	100		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	20	200		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.3	30		N	
	<i>Trifolium repens</i>	0.2	30		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	50	500		N	
Forb (FG)	<i>Microseris lanceolata</i>	0.5	50		N	
Forb (FG)	<i>Geranium neglectum</i>	0.1	10		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	10		N	
	<i>Acetosella vulgaris</i>	0.2	30		HTE	
Forb (FG)	<i>Celmisia costiniana</i>	0.1	10		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	20		N	
Forb (FG)	<i>Asperula scoparia</i>	0.5	20		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
Forb (FG)	<i>Craspedia</i> spp.	0.1	10		N	
	<i>Viola arvensis</i>	0.1	10		E	
Forb (FG)	<i>Bulbine bulbosa</i>	1	100		N	
	<i>Anthoxanthum odoratum</i>	0.1	20		E	
Forb (FG)	<i>Diuris behrii</i>	0.1	10		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	10		N	
	<i>Myosotis discolor</i>	0.1	10		E	
	<i>Sonchus oleraceus</i>	0.2	20		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	10		N	
Forb (FG)	<i>Swainsona</i> spp.	0.1	2		N	
Forb (FG)	<i>Hypoxis hygrometrica</i>	0.1	1		N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	1006	Date:	19-03-18	Survey Name:	Lobs Hole	Recorders:	AM, CK
Zone:	55	Easting:	626686.1433	Plot dimensions:	20m x 50m	Midline bearing:	310
Datum:	GDA94	Northing:	6038254.269	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	5
	Forbs:	0
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	3.5
	Forbs:	0
	Ferns:	0
	Other:	0
High Threat Weed cover:		35

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	40	70	5	10	70	15	5	15	3	2	40	15	65	0	0	5	0	5	0
Average of the 5 subplots:	28					21.6					24.4					2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Clay loam	Soil Colour		Soil Depth	
Lithology (B)							
Slope	3	Aspect	NW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:	Moderate		Large areas of bare ground
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Severe		Macropods
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Severe		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole					
			Date:	19-03-18	Plot ID:	1006
			Recorders:		AM, CK	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Acetosella vulgaris</i>	5	500		HTE	
	<i>Hypericum perforatum</i>	5	300		HTE	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.3	100		N	
	<i>Agrostis capillaris</i>	25	500		HTE	
Grass & grasslike	<i>Panicum effusum</i>	1	50		N	
Grass & grasslike	<i>Poa spp.</i>	1	40		N	
	<i>Centaurium erythraea</i>	0.1	30		E	
Grass & grasslike	<i>Eragrostis brownii</i>	0.2	50		N	
	<i>Aira elegantissima</i>	0.1	100		E	
Grass & grasslike	<i>Cynodon dactylon</i>	1	50		N	

BAM Site – Field Survey Form

Plot ID:	1009	Date:	16-03-18	Survey Name:	X9	Recorders:	JA, ACM
Zone:	55	Easting:	625222.4455	Plot dimensions:	20m x 20m	Midline bearing:	140
Datum:	GDA94	Northing:	6039993.9	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion				Confidence:		Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	4
	Grasses etc.:	5
	Forbs:	1
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	2.7
	Grasses etc.:	31.5
	Forbs:	0.1
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		20.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	80	30	30	10	5	20	20	25	30	30	10	60	50	60	0	0	0	0	0
Average of the 5 subplots:	44					20					42					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Clay	Soil Surface Texture	Fine gravelly-clay in grassed area	Soil Colour	Light brown-orange	Soil Depth	shallow
Lithology (B)							
Slope	Slight slope, midline perpendicular to downslope area	Aspect	140°SE	Site Drainage	Downslope	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Cleared area adjacent to unsealed track
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Moderate	3 to 10 yo	Blackberry, briar rose.
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	X9					
			Date:	16-03-18	Plot ID:	1009
			Recorders:		JA, ACM	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Grevillea arenaria</i>	0.5	3		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	2	60		N	
	<i>Conyza</i> spp.	0.1	15		E	
Grass & grasslike	<i>Aristida ramosa</i>	0.1	15		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	30	6000		N	
Shrub (SG)	<i>Dillwynia sericea</i>	0.1	1		N	
	<i>Crepis capillaris</i>	0.1	10		E	
	<i>Centaureum erythraea</i>	0.1	50		E	
	<i>Hypericum perforatum</i>	20	5000		HTE	
	<i>Verbascum virgatum</i>	0.1	40		E	
Grass & grasslike	<i>Carex inomitata</i>	1	20		N	
	<i>Rosa rubiginosa</i>	0.1	3		HTE	
	<i>Aira elegantissima</i>	1	100		E	
Forb (FG)	<i>Wahlenbergia</i> spp.	0.1	20		N	
Fern (EG)	<i>Cheilanthes</i> spp.	0.1	5		N	
Shrub (SG)	<i>Banksia canei</i>	0.1	1		N	
	<i>Acetosella vulgaris</i>	0.1	1		HTE	
Grass & grasslike	<i>Poa sieberiana</i>	0.2	50		N	
	<i>Petrorhagia nanteuillii</i>	0.1	30		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	20		N	

BAM Site – Field Survey Form

Plot ID:	1011	Date:	21-03-18	Survey Name:	Plot 1022 (re-named X11)	Recorders:	JA, ACM	
Zone:	55	Easting:	626148.7204	Plot dimensions:	20m x 20m	Midline bearing:	103	
Datum:	GDA94	Northing:	6038222.519	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:		Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	7
	Grasses etc.:	9
	Forbs:	2
	Ferns:	0
	Other:	5
Sum of Cover of native vascular plants by growth form group	Trees:	61.2
	Shrubs:	77.8
	Grasses etc.:	6.6
	Forbs:	0.2
	Ferns:	0
	Other:	0.5
High Threat Weed cover:		3.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	2	0	4
50 – 79 cm:	1	0	1
30 – 49 cm:	5	0	1
20 – 29 cm:	6	0	0
10 – 19 cm:	8	0	0
5 – 9 cm:	9	0	0
< 5 cm:	7	6	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	44		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	50	80	70	60	70	40	0	5	5	20	0	0	20	0	0	0	0	0	0	0
Average of the 5 subplots:	66					14					4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Clay	Soil Surface Texture	Grassed covered	Soil Colour	Brown	Soil Depth	moderate
Lithology (B)							
Slope	>30° midline perpendicular to downslope	Aspect	103°E	Site Drainage	Creek line at approx 25m from midline	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Moderate	3 to 10 yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Plot 1022 (re-named X11)					
	Date:	21-03-18	Plot ID:	1011	Recorders:	JA, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus nortonii</i>	60	16		N	
Shrub (SG)	<i>Acacia pravissima</i>	70	400		N	
Shrub (SG)	<i>Bursaria spinosa</i>	5	20		N	
Tree (TG)	<i>Acacia dealbata</i>	0.2	5		N	
Shrub (SG)	<i>Cassinia longifolia</i>	2	10		N	
Grass & grasslike	<i>Lomandra spp.</i>	0.1	10		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.1	50		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	300		N	
	<i>Rubus fruticosus sp. agg.</i>	3	10		HTE	
	<i>Rosa rubiginosa</i>	0.1	2		HTE	
Other (OG)	<i>Clematis aristata</i>	0.1	3		N	
	<i>Centaurium erythraea</i>	0.1	50		E	
Tree (TG)	<i>Eucalyptus dives</i>	1	2		N	
Other (OG)	<i>Cassytha spp.</i>	0.1	3		N	
Grass & grasslike	<i>Lomandra spp.</i>	0.5	3		N	
Grass & grasslike	<i>Poa sieberiana</i>	0.5	30		N	
Grass & grasslike	<i>Echinopogon ovatus</i>	0.1	10		N	
Grass & grasslike	<i>Lepidosperma laterale</i>	0.1	5		N	
Grass & grasslike	<i>Dichelachne spp.</i>	0.1	10		N	
Grass & grasslike	<i>Anthosachne scabra</i>	5	200		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.1	2		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	1		N	
Shrub (SG)	<i>Banksia canei</i>	0.1	1		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	1		N	
Forb (FG)	<i>Dianella spp.</i>	0.1	1		N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	1		N	
Grass & grasslike	<i>Themeda triandra</i>	0.1	5		N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	1		N	
Shrub (SG)	<i>Dodonaea spp.</i>	0.5	4		N	

BAM Site – Field Survey Form									
Plot ID:	1013	Date:	19-03-18	Survey Name:	X13 = 1013			Recorders:	JA, ACM
Zone:	55	Easting:	626380.1097	Plot dimensions:	20m x 20m			Midline bearing:	118
Datum:	GDA94	Northing:	6038571.489	IBRA region:	South Eastern Highlands (Bondo)			Zone ID:	
Plant Community Type:		285: Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:		Photo #:	
Vegetation Class:		Upper Riverina Dry Sclerophyll Forests				EEC:	Yes	Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)			Sum values
Count of Native Richness	Trees:		3
	Shrubs:		7
	Grasses etc.:		4
	Forbs:		2
	Ferns:		0
	Other:		0
Sum of Cover of native vascular plants by growth form group	Trees:		39
	Shrubs:		37.6
	Grasses etc.:		62.1
	Forbs:		0.2
	Ferns:		0
	Other:		0
High Threat Weed cover:			21.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	2	0	0
20 – 29 cm:	5	0	0
10 – 19 cm:	7	0	0
5 – 9 cm:	13	0	0
< 5 cm:	17	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	2		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	95	80	80	80	60	2	10	15	20	30	0	2	2	5	5	0	0	0	0	0
Average of the 5 subplots:	79					15.4					2.8					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Clay	Soil Surface Texture	Grassed covered	Soil Colour	Brown	Soil Depth	low
Lithology (B)							
Slope	<5° upslope along midline	Aspect	118°SE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Moderate	3 to 10 yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	X13 = 1013					
	Date:	19-03-18	Plot ID:	1013	Recorders:	JA, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus camphora</i>	25	25		N	
Tree (TG)	<i>Eucalyptus dives</i>	10	7		N	
Shrub (SG)	<i>Acacia pravissima</i>	30	40		N	
Shrub (SG)	<i>Exocarpos strictus</i>	1	30		N	
Grass & grasslike	<i>Lomandra</i> spp.	1	20		N	
	<i>Rubus fruticosus</i> sp. agg.	20	10		HTE	
Shrub (SG)	<i>Cassinia aculeata</i>	1	15		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	5	60		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	0.2	5		N	
Shrub (SG)	<i>Dillwynia sericea</i>	0.1	5		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.3	10		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	1	15		N	
Grass & grasslike	<i>Themeda triandra</i>	60	2600		N	
	<i>Aira elegantissima</i>	1	100		E	
	<i>Hypericum perforatum</i>	1	800		HTE	
	<i>Rosa rubiginosa</i>	0.1	2		HTE	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	50		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	5		N	
Grass & grasslike	<i>Lomandra</i> spp.	0.1	10		N	
Tree (TG)	<i>Eucalyptus viminalis</i>	4	1		N	

BAM Site – Field Survey Form

Plot ID:	1015	Date:	15-03-18	Survey Name:	Lobs Hole Ravine	Recorders:	AM, CK
Zone:	55	Easting:	628253.5021	Plot dimensions:	20m x 50m	Midline bearing:	105
Datum:	GDA94	Northing:	6038816.712	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	311: Red Stringybark - Broad-leaved Peppermint - Nortons Box heath open forest of the upper slopes subregion in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	15
	Grasses etc.:	6
	Forbs:	3
	Ferns:	0
	Other:	4
Sum of Cover of native vascular plants by growth form group	Trees:	32
	Shrubs:	94.3
	Grasses etc.:	9.2
	Forbs:	0.4
	Ferns:	0
	Other:	0.4
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	10	0	0
20 – 29 cm:	1	0	1
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	31		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	95	90	90	95	65	1	2	5	1	30	0	0	0	0	0	1	0	0	0	0
Average of the 5 subplots:	87					7.8					0					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Silty clay	Soil Colour	Light brown	Soil Depth	
Lithology (B)							
Slope	5	Aspect	NE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Moderate	greater than 10yo	
Storm damage:			No evidence
Weediness:			no weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	15-03-18	Plot ID:	1015	Recorders:	AM, CK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	15	10		N	
Tree (TG)	<i>Eucalyptus nortonii</i>	7	5		N	
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	10	8		N	
Shrub (SG)	<i>Banksia canei</i>	30	200		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	35	200		N	
Shrub (SG)	<i>Platylobium formosum</i>	22	80		N	
Shrub (SG)	<i>Pomaderris subcapitata</i>	0.5	10		N	
Shrub (SG)	<i>Podolobium procumbens</i>	1	30		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	2	100		N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	5		N	
Forb (FG)	<i>Dianella revoluta</i> var. <i>revoluta</i>	0.2	30		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	10		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	1	30		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	1	50		N	
Grass & grasslike	<i>Lomandra longifolia</i>	1	20		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	20		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	5		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.1	5		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	10		N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.3	5		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.1	10		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	5	100		N	
Shrub (SG)	<i>Acacia pravissima</i>	3	20		N	
Shrub (SG)	<i>Cassinia longifolia</i>	0.5	5		N	
Shrub (SG)	<i>Choretrum pauciflorum</i>	0.2	3		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	0.2	5		N	
Shrub (SG)	<i>Correa lawrenceana</i> var. <i>rosea</i>	0.2	5		N	
Grass & grasslike	<i>Lepidosperma laterale</i>	0.1	2		N	
Other (OG)	<i>Cassytha pubescens</i>	0.1	10		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	3		N	

BAM Site – Field Survey Form

Plot ID:	1016	Date:	15-03-18	Survey Name:	X16	Recorders:	JA, ACM
Zone:	55	Easting:	625417.7897	Plot dimensions:	20m x 20m	Midline bearing:	86
Datum:	GDA94	Northing:	6039230.934	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:		Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	16
	Grasses etc.:	6
	Forbs:	7
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	30.2
	Shrubs:	41.5
	Grasses etc.:	42.5
	Forbs:	0.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.6

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	3	0	2
20 – 29 cm:	8	0	0
10 – 19 cm:	13	0	0
5 – 9 cm:	8	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	32		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	80	80	85	90	85	30	25	15	10	15	0	0	0	5	0	0	0	0	1	0
Average of the 5 subplots:	84					19					1					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Clay	Soil Surface Texture	Smooth soil covered by grass	Soil Colour	Brown	Soil Depth	moderate
Lithology (B)							
Slope	Slight (5 degrees) upslope along midline	Aspect	86°E	Site Drainage		Distance to nearest water & type	50m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	3 to 10 yo	
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	X16						
		Date:	15-03-18	Plot ID:	1016	Recorders:	JA, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	20	6		N	
Tree (TG)	<i>Eucalyptus dives</i>	10	6		N	
Tree (TG)	<i>Eucalyptus camphora</i> subsp. <i>humeana</i>	0.2	1		N	
Shrub (SG)	<i>Acacia pravissima</i>	5	55		N	
Shrub (SG)	<i>Banksia canei</i>	8	15		N	
Shrub (SG)	<i>Grevillea rosmarinifolia</i> subsp. <i>rosmarinifolia</i>	2	4		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	1	4		N	
Shrub (SG)	<i>Calytrix tetragona</i>	1.5	46		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	2	25		N	
Shrub (SG)	<i>Bursaria spinosa</i>	0.3	3		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.1	1		N	
	<i>Rosa rubiginosa</i>	0.5	4		HTE	
Shrub (SG)	<i>Cassinia longifolia</i>	0.1	1		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	10		N	
Shrub (SG)	<i>Bossiaea buxifolia</i>	20	500		N	
Shrub (SG)	<i>Daviesia leptophylla</i>	0.1	10		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	10		N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.5	2		N	
Grass & grasslike	<i>Themeda triandra</i>	40	2000		N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.1	50		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	10		N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	0.5	10		N	
	<i>Hypericum perforatum</i>	0.1	1000		HTE	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.1	10		N	
	<i>Centaurium erythraea</i>	0.1	50		E	
Grass & grasslike	<i>Lomandra</i> spp.	2	400		N	
Grass & grasslike	<i>Poa sieberiana</i>	0.1	10		N	
Shrub (SG)	<i>Acrotriche serrulata</i>	0.1	10		N	
Shrub (SG)	<i>Dillwynia sericea</i>	0.2	10		N	
	<i>Aira elegantissima</i>	0.1	50		E	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	20		N	
Forb (FG)	<i>Boronia nana</i> var. <i>hyssopifolia</i>	0.2	10		N	
Forb (FG)	<i>Wahlenbergia</i> spp.	0.1	10		N	
Grass & grasslike	<i>Agrostis</i> spp.	0.1	50		N	
Grass & grasslike	<i>Rytidosperma</i> spp.	0.2	100		N	
Grass & grasslike	<i>Dichelachne</i> spp.	0.1	20		N	

BAM Site – Field Survey Form

Plot ID:	1020	Date:	21-03-18	Survey Name:	Lobs Hole	Recorders:	AM, CK
Zone:	55	Easting:	626930.792	Plot dimensions:	20m x 50m	Midline bearing:	319
Datum:	GDA94	Northing:	6036665.897	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:		Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	7
	Forbs:	6
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	45
	Shrubs:	22.3
	Grasses etc.:	40.2
	Forbs:	0.6
	Ferns:	0
	Other:	0
High Threat Weed cover:		46.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	95	95	98	95	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0
Average of the 5 subplots:	94.6					0.6					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	5	Aspect	NE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Severe		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole					
			Date:	21-03-18	Plot ID:	1020
			Recorders:		AM, CK	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	30	10		N	
Tree (TG)	<i>Acacia dealbata</i>	15	40		N	
Shrub (SG)	<i>Cassinia longifolia</i>	7	20		N	
Shrub (SG)	<i>Exocarpos strictus</i>	10	30		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	3	10		N	
	<i>Rubus fruticosus</i> sp. agg.	40	300		HTE	
	<i>Rosa rubiginosa</i>	1	40		HTE	
	<i>Hypericum perforatum</i>	5	500		HTE	
Grass & grasslike	<i>Anthosachne scabra</i>	15	1000		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	5	1000		N	
Grass & grasslike	<i>Echinopogon ovatus</i>	10	500		N	
Shrub (SG)	<i>Cassinia aculeata</i>	2	10		N	
	<i>Potentilla recta</i>	0.1	10		E	
Forb (FG)	<i>Acaena ovina</i>	0.1	30		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	20		N	
Grass & grasslike	<i>Dichelachne micrantha</i>	5	500		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.1	5		N	
	<i>Crataegus monogyna</i>	0.3	2		HTE	
	<i>Centaurium erythraea</i>	0.1	50		E	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	5	100		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	10		N	
	<i>Conyza</i> spp.	0.1	2		E	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	10		N	
	<i>Aira elegantissima</i>	0.5	500		E	
	<i>Vulpia bromoides</i>	5	1000		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	10		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	5		N	
Shrub (SG)	<i>Acacia pravissima</i>	0.3	2		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	1021	Date:	20-03-18	Survey Name:	Lobs Hole	Recorders:	AM, CK
Zone:	55	Easting:	626180.3163	Plot dimensions:	20m x 50m	Midline bearing:	105
Datum:	GDA94	Northing:	6037290.999	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:		Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	8
	Forbs:	2
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	25
	Shrubs:	56.2
	Grasses etc.:	7.9
	Forbs:	0.2
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	2	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	16		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	85	95	88	95	90	0	0	0	0	5	0	0	3	0	0	5	0	5	0	0
Average of the 5 subplots:	90.6					1					0.6					2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Clay loam	Soil Colour		Soil Depth	
Lithology (B)							
Slope	10	Aspect	NE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate		Historical
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Moderate		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole						
		Date:	20-03-18	Plot ID:	1021	Recorders:	AM, CK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	20	8		N	
Shrub (SG)	<i>Cassinia longifolia</i>	40	100		N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	10	50		N	
Shrub (SG)	<i>Exocarpos strictus</i>	3	20		N	
Shrub (SG)	<i>Bursaria spinosa</i>	3	20		N	
	<i>Rubus fruticosus</i> sp. agg.	2	10		HTE	
Tree (TG)	<i>Acacia dealbata</i>	5	20		N	
	<i>Hypericum perforatum</i>	2	200		HTE	
	<i>Rosa rubiginosa</i>	1	30		HTE	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	2	300		N	
	<i>Centaurium erythraea</i>	0.1	50		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	40		N	
Grass & grasslike	<i>Microlaena stipoides</i> var. <i>stipoides</i>	0.2	50		N	
Grass & grasslike	<i>Anthosachne scabra</i>	3	300		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	10		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.1	10		N	
Grass & grasslike	<i>Rytidosperma caespitosum</i>	2	200		N	
Grass & grasslike	<i>Lachnagrostis filiformis</i>	0.2	20		N	
	<i>Conyza</i> spp.	0.1	1		E	
Shrub (SG)	<i>Rubus parvifolius</i>	0.2	3		N	
	<i>Plantago lanceolata</i>	0.1	5		E	
Fern (EG)	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	0.1	30		N	
	<i>Petrorhagia nanteuillii</i>	0.1	20		E	
	<i>Vulpia bromoides</i>	0.4	100		E	
	<i>Aira elegantissima</i>	0.2	200		E	
Grass & grasslike	<i>Dichelachne micrantha</i>	0.1	30		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	0.2	10		N	

BAM Site – Field Survey Form

Plot ID:	1024	Date:	21-03-18	Survey Name:	Lobs Hole	Recorders:	AM, CK	
Zone:	55	Easting:	626891.999	Plot dimensions:	20m x 50m	Midline bearing:	315	
Datum:	GDA94	Northing:	6033322.126	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	953: Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	9
	Grasses etc.:	10
	Forbs:	18
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	5
	Shrubs:	20.3
	Grasses etc.:	71.6
	Forbs:	2.3
	Ferns:	25
	Other:	0.1
High Threat Weed cover:		1.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	8		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	30	35	45	15	40	0	0	0	20	0	0	0	0	0	0	0	3	0	5	0
Average of the 5 subplots:	33					4					0					1.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	15	Aspect	NW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Managed shurbland /grassland for powerlines
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole					
	Date:	21-03-18	Plot ID:	1024	Recorders:	AM, CK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Cassinia longifolia</i>	15	20		N	
Tree (TG)	<i>Acacia dealbata</i>	5	10		N	
Shrub (SG)	<i>Exocarpos strictus</i>	2	20		N	
Shrub (SG)	<i>Daviesia latifolia</i>	0.5	10		N	
Shrub (SG)	<i>Platylobium formosum</i>	0.2	20		N	
Fern (EG)	<i>Pteridium esculentum</i>	25	500		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	60	1000		N	
Grass & grasslike	<i>Themeda triandra</i>	10	200		N	
Forb (FG)	<i>Veronica derwentiana</i>	0.5	20		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	10		N	
Forb (FG)	<i>Asperula scoparia</i>	0.2	300		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	50		N	
	<i>Hypericum perforatum</i>	0.1	20		HTE	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	30		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	50		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	20		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.4	100		N	
Grass & grasslike	<i>Dichelachne crinita</i>	0.2	50		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.2	30		N	
Forb (FG)	<i>Hydrocotyle sibthorpioides</i>	0.1	20		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	50		N	
Shrub (SG)	<i>Rubus parvifolius</i>	0.1	10		N	
Grass & grasslike	<i>Carex inomitata</i>	0.2	40		N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.2	30		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	20		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.1	10		N	
	<i>Centaureum erythraea</i>	0.1	50		E	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	10		N	
Forb (FG)	<i>Dichondra repens</i>	0.1	200		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.2	50		N	
Forb (FG)	<i>Picris angustifolia</i>	0.1	5		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	3		N	
	<i>Cerastium glomeratum</i>	0.1	10		E	
	<i>Rubus fruticosus</i> sp. agg.	1	20		HTE	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	50		N	
	<i>Petrorrhagia nanteuillii</i>	0.1	20		E	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	2	10		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	10		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	50		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10		N	
Forb (FG)	<i>Wahlenbergia</i> spp.	0.1	20		N	
Shrub (SG)	<i>Derwentia perfoliata</i>	0.2	2		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	30		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	0.1	20		N	
Forb (FG)	<i>Galium gaudichaudii</i>	0.1	20		N	

	<i>Conyza spp.</i>	0.1	2		E	

BAM Site – Field Survey Form

Plot ID:	1029	Date:	20-03-18	Survey Name:	Talbingo	Recorders:	AM, CK
Zone:	55	Easting:	616779.6763	Plot dimensions:	20m x 50m	Midline bearing:	335
Datum:	GDA94	Northing:	6056976.82	IBRA region:	NSW South Western Slopes (Inland Slopes)	Zone ID:	
Plant Community Type:	311: Red Stringybark - Broad-leaved Peppermint - Nortons Box heath open forest of the upper slopes subregion in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:		Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	8
	Grasses etc.:	9
	Forbs:	3
	Ferns:	1
	Other:	3
Sum of Cover of native vascular plants by growth form group	Trees:	45
	Shrubs:	13.1
	Grasses etc.:	21.5
	Forbs:	0.3
	Ferns:	0.2
	Other:	0.4
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	106		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	97	70	98	98	0	0	0	0	0	0	0	0	2	0	0	0	10	0	0
Average of the 5 subplots:	90.6					0					0.4					2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	12	Aspect	SW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Moderate		Erosion bankment
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo					
	Date:	20-03-18	Plot ID:	1029	Recorders:	AM, CK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	35	10		N	
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	5	3		N	
Tree (TG)	<i>Eucalyptus nortonii</i>	3	5		N	
Shrub (SG)	<i>Cassinia longifolia</i>	10	30		N	
Shrub (SG)	<i>Leucopogon lanceolatus</i>	1	10		N	
Tree (TG)	<i>Acacia melanoxylon</i>	2	3		N	
Shrub (SG)	<i>Platylobium formosum</i>	0.2	10		N	
Grass & grasslike	<i>Poa sieberiana</i>	20	300		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	30		N	
Other (OG)	<i>Desmodium varians</i>	0.2	30		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	20		N	
Forb (FG)	<i>Galium gaudichaudii</i>	0.1	3		N	
Fern (EG)	<i>Pteridium esculentum</i>	0.2	10		N	
	<i>Centaurium erythraea</i>	0.1	50		E	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.4	100		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	30		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	10		N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	10		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	5		N	
Grass & grasslike	<i>Echinopogon ovatus</i>	0.3	40		N	
Other (OG)	<i>Billardiera scandens</i>	0.1	10		N	
	<i>Hypericum perforatum</i>	0.1	20		HTE	
Shrub (SG)	<i>Leptospermum brevipes</i>	1	3		N	
Grass & grasslike	<i>Dichelachne hirtella</i>	0.2	50		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10		N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.1	1		HTE	
Shrub (SG)	<i>Indigofera australis</i>	0.1	2		N	
Shrub (SG)	<i>Acrotriche serrulata</i>	0.5	10		N	
	<i>Hypochaeris radicata</i>	0.1	5		E	
Grass & grasslike	<i>Lepidosperma laterale</i>	0.1	2		N	
Grass & grasslike	<i>Carex inomitata</i>	0.1	5		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.2	50		N	

BAM Site – Field Survey Form

Plot ID:	1037	Date:	16-03-18	Survey Name:	Lobs Hole Ravine	Recorders:	AM, CK
Zone:	55	Easting:	628074.5961	Plot dimensions:	20m x 50m	Midline bearing:	210
Datum:	GDA94	Northing:	6038425.106	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	14
	Grasses etc.:	5
	Forbs:	3
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	30.2
	Shrubs:	54.3
	Grasses etc.:	25.4
	Forbs:	0.5
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	1
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	42		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	65	20	85	70	85	10	2	3	5	5	0	10	1	0	2	0	10	0	5	1
Average of the 5 subplots:	65					5					2.6					3.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour		Soil Depth	
Lithology (B)							
Slope	5-10	Aspect	NW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		Small areas of bare soil
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Moderate	greater than 10yo	
Storm damage:			No evidence
Weediness:			no weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	16-03-18	Plot ID:	1037	Recorders:	AM, CK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus nortonii</i>	15	10		N	
Tree (TG)	<i>Eucalyptus dives</i>	15	15		N	
Shrub (SG)	<i>Banksia canei</i>	7	20		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	5	30		N	
Shrub (SG)	<i>Monotoca scoparia</i>	2	10		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	25	100		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	15	200		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	2	40		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.3	20		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	2	30		N	
Grass & grasslike	<i>Lomandra filiformis subsp. coriacea</i>	0.2	30		N	
Grass & grasslike	<i>Poa sieberiana var. sieberiana</i>	10	200		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.2	50		N	
Other (OG)	<i>Cassytha pubescens</i>	0.1	10		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.2	30		N	
Shrub (SG)	<i>Calytrix tetragona</i>	8	40		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.2	20		N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	10		N	
Shrub (SG)	<i>Grevillea arenaria subsp. canescens</i>	0.2	5		N	
Shrub (SG)	<i>Dillwynia phylloides</i>	2	20		N	
Forb (FG)	<i>Dianella revoluta var. revoluta</i>	0.2	20		N	
Grass & grasslike	<i>Lepidosperma laterale</i>	0.1	5		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	0.2			N	
Shrub (SG)	<i>Podolobium procumbens</i>	0.2	5		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	10		N	
Shrub (SG)	<i>Dillwynia sericea</i>	0.2	7		N	

BAM Site – Field Survey Form

Plot ID:	1039	Date:	20-03-18	Survey Name:	X39=Plot 1039	Recorders:	JA, ACM	
Zone:	55	Easting:	627147.242	Plot dimensions:	20m x 20m	Midline bearing:	33	
Datum:	GDA94	Northing:	6029463.149	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	Yes	Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	5
	Forbs:	5
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	5.2
	Shrubs:	3.3
	Grasses etc.:	97.2
	Forbs:	0.5
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		0.4

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	20	80	10	70	5	60	5	70	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	50					28					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Clay	Soil Surface Texture	Grassed covered	Soil Colour	Orange-brown	Soil Depth	moderate
Lithology (B)							
Slope	<20° along midline. Transect is perpendicular to downslope hillslope	Aspect	33°NE	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Underneath power lines
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	X39=Plot 1039					
	Date:	20-03-18	Plot ID:	1039	Recorders:	JA, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Acacia dealbata</i>	5	30		N	
Shrub (SG)	<i>Exocarpos strictus</i>	1	10		N	
Grass & grasslike	<i>Poa sieberiana</i>	85	3000		N	
Grass & grasslike	<i>Lomandra</i> spp.	2	100		N	
Grass & grasslike	<i>Dichelachne crinita</i>	0.1	1		N	
Grass & grasslike	<i>Themeda triandra</i>	10	200		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	50		N	
Forb (FG)	<i>Asperula conferta</i>	0.1	80		N	
	<i>Acetosella vulgaris</i>	0.1	50		HTE	
	<i>Hypochaeris radicata</i>	0.1	50		E	
	<i>Hypericum perforatum</i>	0.2	200		HTE	
Other (OG)	<i>Clematis aristata</i>	0.1	1		N	
	<i>Centaureum erythraea</i>	0.1	100		E	
Shrub (SG)	<i>Platylobium montanum</i> subsp. <i>montanum</i>	0.2	20		N	
Shrub (SG)	<i>Podolobium alpestre</i>	1	2		N	
	<i>Trifolium arvense</i>	0.1	50		E	
	<i>Rosa rubiginosa</i>	0.1	3		HTE	
Tree (TG)	<i>Eucalyptus pauciflora</i>	0.2	4		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	5		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	1	15		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.1	20		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	5		N	
Forb (FG)	<i>Dipodium</i> spp.	0.1	1		N	
Shrub (SG)	<i>Olearia</i> spp.	0.1	1		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	1042	Date:	19-03-18	Survey Name:	X42=Plot 1042	Recorders:	JA, ACM	
Zone:	55	Easting:	627546.8273	Plot dimensions:	20m x 20m	Midline bearing:	105	
Datum:	GDA94	Northing:	6028038.672	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	11
	Grasses etc.:	4
	Forbs:	8
	Ferns:	1
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	60.5
	Shrubs:	14.3
	Grasses etc.:	70.3
	Forbs:	2.3
	Ferns:	0.5
	Other:	0.2
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	3	0	2
30 – 49 cm:	6	0	2
20 – 29 cm:	6	0	0
10 – 19 cm:	5	0	0
5 – 9 cm:	4	0	0
< 5 cm:	5	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	28		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	70	80	30	20	5	0	5	0	0	0	5	0	30	20	0	10	10	70	80
Average of the 5 subplots:	54					2					11					34				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Skeletal	Soil Colour	Dark brown	Soil Depth	Shallow
Lithology (B)							
Slope	Pronounced (45°) downslope along midline	Aspect	105°E	Site Drainage		Distance to nearest water & type	50m of midline on a creek line

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light	3 to 10 yo	Some snow gums had burnt trunk
Storm damage:			
Weediness:	Moderate	3 to 10 yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	X42=Plot 1042					
	Date:	19-03-18	Plot ID:	1042	Recorders:	JA, ACM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	60	10		N	
Shrub (SG)	<i>Hovea asperifolia</i>	2	8		N	
Shrub (SG)	<i>Daviesia latifolia</i>	2	4		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	1	2		N	
Shrub (SG)	<i>Coprosma hirtella</i>	2	40		N	
Shrub (SG)	<i>Lomatia myricoides</i>	1	14		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.5	10		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	0.5	10		N	
Grass & grasslike	<i>Poa sieberiana</i>	70	2000		N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.5	10		N	
Shrub (SG)	<i>Rubus parvifolius</i>	4	50		N	
Fern (EG)	<i>Polystichum proliferum</i>	0.5	5		N	
	<i>Hypochaeris radicata</i>	0.1	60		E	
Forb (FG)	<i>Hackelia suaveolens</i>	0.2	60		N	
Forb (FG)	<i>Asperula spp.</i>	0.1	100		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	300		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	20		N	
Other (OG)	<i>Clematis aristata</i>	0.1	10		N	
Forb (FG)	<i>Senecio spp.</i>	1	10		N	
	<i>Cirsium vulgare</i>	0.1	1		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	20		N	
	<i>Acetosella vulgaris</i>	0.1	30		HTE	
Grass & grasslike	<i>Dichelachne spp.</i>	0.1	40		N	
Forb (FG)	<i>Arthropodium spp.</i>	0.1	20		N	
Grass & grasslike	<i>Rytidosperma spp.</i>	0.1	20		N	
Shrub (SG)	<i>Cassinia aculeata</i>	1	2		N	
Shrub (SG)	<i>Daviesia ulicifolia</i> subsp. <i>ruscifolia</i>	0.2	9		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	1		N	
Shrub (SG)	<i>Ozothamnus secundiflorus</i>	0.5	1		N	
Shrub (SG)	<i>Olearia spp.</i>	0.1	2		N	
Forb (FG)	<i>Gonocarpus montanus</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	1043	Date:	15-03-18	Survey Name:	Talbingo	Recorders:	AMu, AMo	
Zone:	55	Easting:	625081.4636	Plot dimensions:	20m x 50m	Midline bearing:	59	
Datum:	GDA94	Northing:	6039931.079	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	7
	Grasses etc.:	8
	Forbs:	10
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	21
	Shrubs:	54.3
	Grasses etc.:	11.8
	Forbs:	1
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		3.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	4	0	0
10 – 19 cm:	8	0	0
5 – 9 cm:	1	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	7		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	95	25	60	5	70	5	2	40	2	15	5	99	5	95	20	0	0	0	0	0
Average of the 5 subplots:	51					12.8					44.8					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Silty clay	Soil Colour	Light brown	Soil Depth	
Lithology (B)							
Slope	5-10 degrees	Aspect	North-east	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Relatively young regenerating trees
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Small areas of bare soil
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence
Weediness:	Moderate		Exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo					
	Date:	15-03-18	Plot ID:	1043	Recorders:	AMu, AMo

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus rubida</i>	6	10		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	15	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	50	100		N	
Shrub (SG)	<i>Cryptandra amara</i>	1	20		N	
Shrub (SG)	<i>Exocarpos strictus</i>	2	10		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	5	500		N	
Shrub (SG)	<i>Gompholobium huegelii</i>	0.5	10		N	
	<i>Hypericum perforatum</i>	3	300		HTE	
	<i>Trifolium arvense</i>	0.1	50		E	
Forb (FG)	<i>Veronica calycina</i>	0.1	50		N	
	<i>Petrorhagia nanteuillii</i>	0.1	50		E	
	<i>Centaurium erythraea</i>	0.1	100		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	50		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	30		N	
	<i>Aira elegantissima</i>	1	1000		E	
Grass & grasslike	<i>Dichelachne rara</i>	0.3	100		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	30		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.5	200		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	5	500		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.2	40		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	100		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	5		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	30		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>hirtella</i>	0.5	50		N	
Forb (FG)	<i>Dichondra repens</i>	0.1	100		N	
Forb (FG)	<i>Daucus glochidiatus</i>	0.1	10		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	10		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	5		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	3		N	
Shrub (SG)	<i>Grevillea arenaria</i> subsp. <i>canescens</i>	0.4	5		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.2	5		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	2		N	
	<i>Vulpia bromoides</i>	5	1000		E	
	<i>Rosa rubiginosa</i>	0.1	1		HTE	

BAM Site – Field Survey Form

Plot ID:	1045	Date:	14-03-18	Survey Name:	Talbingo	Recorders:	JA, CW	
Zone:	55	Easting:	626051.1843	Plot dimensions:	20m x 20m	Midline bearing:		
Datum:	GDA94	Northing:	6039332.197	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	2
	Grasses etc.:	3
	Forbs:	1
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	1.1
	Grasses etc.:	70.2
	Forbs:	0.1
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0.8

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	30	20	20	30	3	30	25	5	5	0	0	0	0	0	0	2	0	0	0
Average of the 5 subplots:	21					13.6					0					0.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loamy	Soil Colour	Grey-brown	Soil Depth	Shallow
Lithology (B)							
Slope		Aspect		Site Drainage	Poor	Distance to nearest water & type	50m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Moderate	greater than 10yo	Historical grazing
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo					
	Date:	14-03-18	Plot ID:	1045	Recorders:	JA, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	70	8000		N	
	<i>Centaurium spp.</i>	0.2	20		E	
	<i>Hypericum perforatum</i>	0.5	1200		HTE	
Shrub (SG)	<i>Brachyloma daphnoides</i>	1	25		N	
	<i>Acetosella vulgaris</i>	0.2	400		HTE	
Forb (FG)	<i>Pimelea curviflora</i> var. <i>sericea</i>	0.1	1		N	
	<i>Chondrilla juncea</i>	0.1	5		E	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Shrub (SG)	<i>Melichrus urceolatus</i>	0.1	1		N	
Grass & grasslike	<i>Agrostis spp.</i>	0.1	5		N	
Other (OG)	<i>Convolvulus erubescens</i>	0.1	1		N	
Grass & grasslike	<i>Dichelachne spp.</i>	0.1	10		N	
	<i>Rosa rubiginosa</i>	0.1	1		HTE	

BAM Site – Field Survey Form

Plot ID:	1046	Date:	14-03-18	Survey Name:	Talbingo	Recorders:	JA, CW
Zone:	55	Easting:	625822.7811	Plot dimensions:	20m x 20m	Midline bearing:	0
Datum:	GDA94	Northing:	6039177.971	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	285: Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	3
	Grasses etc.:	4
	Forbs:	2
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	70
	Shrubs:	20.2
	Grasses etc.:	8.4
	Forbs:	0.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		35.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	3	0	0
10 – 19 cm:	35	0	0
5 – 9 cm:	24	0	0
< 5 cm:	45	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	25		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	95	80	70	70	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	77					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Gully	Lf Pattern (A)	Plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Conglomerate	Soil Surface Texture	Loamy	Soil Colour	Grey-brown	Soil Depth	Shallow
Lithology (B)							
Slope		Aspect		Site Drainage	Poor	Distance to nearest water & type	150m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Moderate	greater than 10yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Talbingo					
			Date:	14-03-18	Plot ID:	1046
			Recorders:		JA, CW	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus camphora</i> subsp. <i>humeana</i>	70	75		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	20	30		N	
	<i>Hypericum perforatum</i>	10	4000		HTE	
	<i>Centaurium erythraea</i>	0.1	50		E	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	25	10		HTE	
	<i>Crepis capillaris</i>	0.1	10		E	
Shrub (SG)	<i>Exocarpos strictus</i>	0.1	3		N	
Forb (FG)	<i>Geranium solanderi</i>	0.1	20		N	
	<i>Acetosella vulgaris</i>	0.1	200		HTE	
Grass & grasslike	<i>Carex inomitata</i>	0.1	10		N	
	<i>Rosa rubiginosa</i>	0.1	3		HTE	
Forb (FG)	<i>Acaena ovina</i>	0.1	50		N	
Grass & grasslike	<i>Microlaena stipoides</i>	0.1	50		N	
Grass & grasslike	<i>Themeda triandra</i>	8	600		N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.2	50		N	
	<i>Cirsium vulgare</i>	0.1	5		E	
	<i>Hypochaeris radicata</i>	0.1	30		E	
Shrub (SG)	<i>Cassinia</i> spp.	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	1048	Date:	22-11-17	Survey Name:	Lobs Hole Ravine extra plot 302 cleared	Recorders:	ED, LH	
Zone:	55	Easting:	627677.2859	Plot dimensions:	20m x 50m	Midline bearing:	105	
Datum:	GDA94	Northing:	6038085.806	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	Yes	Confidence:	Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	7
	Forbs:	4
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	9
	Shrubs:	1.4
	Grasses etc.:	5.8
	Forbs:	0.4
	Ferns:	0
	Other:	0
High Threat Weed cover:		37.6

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	5		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	30	5	15	15	5	0	0	0	0	0	0	0	0	0	0	0	0	10	10	5
Average of the 5 subplots:	14					0					0					5				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Fine loam	Soil Colour	Dark brown	Soil Depth	Deep
Lithology (B)							
Slope	None	Aspect		Site Drainage		Distance to nearest water & type	15m to creek

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Majority of canopy removed. High prevalence of grassy weeds
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No
Grazing (identify native/stock):			No
Fire damage:			No
Storm damage:			No
Weediness:	Moderate	greater than 10yo	Great prevalence of weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine extra plot 302 cleared					
	Date:	22-11-17	Plot ID:	1048	Recorders:	ED, LH

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Anthoxanthum odoratum</i>	15	1000		E	
	<i>Holcus lanatus</i>	5	400		E	
	<i>Plantago lanceolata</i>	1	60		E	
	<i>Trifolium repens</i>	0.8	40		E	
	<i>Hypericum perforatum</i>	2	300		HTE	
Shrub (SG)	<i>Exocarpos strictus</i>	0.5	6		N	
Tree (TG)	<i>Acacia melanoxylon</i>	1	4		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.3	1		N	
Grass & grasslike	<i>Poa helmsii</i>	2	20		N	
Shrub (SG)	<i>Acacia pravissima</i>	0.4	2		N	
	<i>Rubus fruticosus</i> sp. agg.	0.2	3		HTE	
Tree (TG)	<i>Eucalyptus viminalis</i>	8	10		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	3		N	
	<i>Hypochaeris radicata</i>	1	100		E	
Grass & grasslike	<i>Carex appressa</i>	0.1	1		N	
	<i>Bromus diandrus</i>	5	200		HTE	
	<i>Bromus molliformis</i>	10	400		E	
	<i>Bromus madritensis</i>	20	500		E	
	<i>Lolium</i> spp.	10	1000		E	
	<i>Centaurium erythraea</i>	0.2	20		E	
	<i>Agrostis capillaris</i>	30	1000		HTE	
Grass & grasslike	<i>Themeda triandra</i>	0.4	10		N	
Forb (FG)	<i>Acaena agnipila</i>	0.1	2		N	
Grass & grasslike	<i>Cynodon dactylon</i>	3	100		N	
	<i>Trifolium campestre</i>	0.2	20		E	
	<i>Medicago polymorpha</i>	0.1	3		E	
	<i>Vulpia bromoides</i>	10	100		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	1		N	
	<i>Agrostis capillaris</i>	0.4	10		HTE	
Shrub (SG)	<i>Rubus parvifolius</i>	0.1	5		N	
	<i>Trifolium arvense</i>	0.1	20		E	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
Grass & grasslike	<i>Juncus sarophorus</i>	0.1	5		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	3		N	
Shrub (SG)	<i>Atriplex</i> spp.	0.1	3		N	
Forb (FG)	<i>Ajuga australis</i>	0.1	2		N	

BAM Site – Field Survey Form

Plot ID:	1050	Date:	19-11-17	Survey Name:	Lobs Hole Ravine access extra plot 1	Recorders:	SW, AM	
Zone:	55	Easting:	629133.7465	Plot dimensions:	20m x 50m	Midline bearing:	20	
Datum:	GDA94	Northing:	6027980.99	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	638: Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Montane Wet Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	6
	Grasses etc.:	4
	Forbs:	14
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	46
	Shrubs:	39.3
	Grasses etc.:	45.3
	Forbs:	2.8
	Ferns:	0
	Other:	0.3
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	4	0	3
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	130		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	40	90	75	60	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	65					0.2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Other	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)	Midslope	Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Dark brown	Soil Depth	At least 100mm
Lithology (B)							
Slope	Gentle	Aspect	West facing	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence of recent logging or clearing
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence such as cut stumps/limbs
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	
Storm damage:			No evidence of recently fallen trees or foliage
Weediness:	Light		Some smaller weeds present
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine access extra plot 1					
	Date:	19-11-17	Plot ID:	1050	Recorders:	SW, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>Delegatensis</i>	45	20		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	1	5		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	3	20		N	
Other (OG)	<i>Clematis aristata</i>	0.2	20		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	10		N	
Shrub (SG)	<i>Daviesia mimosoides</i> subsp. <i>mimosoides</i>	20	50		N	
Forb (FG)	<i>Asperula conferta</i>	0.5	100		N	
	<i>Hypochaeris radicata</i>	0.2	50		E	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.2	5		HTE	
Shrub (SG)	<i>Podolobium alpestre</i>	15	50		N	
Forb (FG)	<i>Stellaria pungens</i>	1	200		N	
Other (OG)	<i>Glycine clandestina</i>	0.1	50		N	
Forb (FG)	<i>Chiloglottis valida</i>	0.2	100		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	1	10		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	20		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	20		N	
Forb (FG)	<i>Caladenia alpina</i>	0.1	20		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	5		N	
Forb (FG)	<i>Gonocarpus montanus</i>	0.1	10		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	5		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	40	500		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	0.1	4		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	10		N	
	<i>Anthoxanthum odoratum</i>	10	500		E	
	<i>Trifolium repens</i>	0.1	20		E	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.2	5		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.2	10		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	10		N	
	<i>Dactylis glomerata</i>	1	20		E	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	5	50		N	
Forb (FG)	<i>Geranium solanderi</i>	0.1	3		N	
Forb (FG)	<i>Veronica calycina</i>	0.1	10		N	
Forb (FG)	<i>Coronidium monticola</i>	0.1	50		N	

BAM Site – Field Survey Form

Plot ID:	1051	Date:	23-11-17	Survey Name:	Lobs Hole Ravine extra plot 3	Recorders:	SW, AM	
Zone:	55	Easting:	625962.6444	Plot dimensions:	20m x 50m	Midline bearing:	121	
Datum:	GDA94	Northing:	6038949.714	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	302: Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	4
	Forbs:	1
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	5.3
	Forbs:	0.1
	Ferns:	0
	Other:	0
High Threat Weed cover:		2.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	5	15	5	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	6.2					0.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Alluvial plain	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Clay loam	Soil Colour	Light brown	Soil Depth	At least 100mm
Lithology (B)							
Slope		Aspect	WNW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			Historical clearing. Site used for camping
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Native herbivores (eastern grey kangaroo)
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Severe		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine extra plot 3					
	Date:	23-11-17	Plot ID:	1051	Recorders:	SW, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Vulpia bromoides</i>	85	1000		E	
Grass & grasslike	<i>Themeda triandra</i>	5	100		N	
	<i>Centaureum erythraea</i>	0.5	200		E	
	<i>Hypochaeris radicata</i>	0.2	50		E	
Forb (FG)	<i>Dichondra repens</i>	0.1	100		N	
	<i>Bromus molliformis</i>	1	100		E	
Grass & grasslike	<i>Carex appressa</i>	0.1	5		N	
	<i>Hypericum perforatum</i>	1	50		HTE	
Grass & grasslike	<i>Panicum effusum</i>	0.1	10		N	
	<i>Acetosella vulgaris</i>	0.2	50		HTE	
	<i>Agrostis capillaris</i>	1	100		HTE	
	<i>Briza minor</i>	0.3	50		E	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	10		N	
	<i>Aira elegantissima</i>	0.5	500		E	
	<i>Potentilla recta</i>	0.1	2		E	

BAM Site – Field Survey Form

Plot ID:	1054	Date:	18-12-17	Survey Name:	Lobs Hole Ravine Access Road	Recorders:	AM, SD
Zone:	55	Easting:	629062.0232	Plot dimensions:	20m x 50m	Midline bearing:	70
Datum:	GDA94	Northing:	6051288.064	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	952: Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
							Low

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	1
	Grasses etc.:	9
	Forbs:	12
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0.3
	Shrubs:	0.5
	Grasses etc.:	82.4
	Forbs:	4.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	30	25	50	20	20	10	5	0	2	1	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	29					3.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Plateau	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Sedimentary rock (unidentified)	Soil Surface Texture	Clay loam	Soil Colour	Light brown	Soil Depth	Medium
Lithology (B)							
Slope	1	Aspect	East	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Derived grassland
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate		Exotic grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine Access Road					
	Date:	18-12-17	Plot ID:	1054	Recorders:	AM, SD

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	70	1000		N	
	<i>Hypericum perforatum</i>	0.5	30		HTE	
Forb (FG)	<i>Geranium antrorsum</i>	0.5	100		N	
Forb (FG)	<i>Dichondra repens</i>	2	500		N	
	<i>Acetosella vulgaris</i>	0.5	500		HTE	
	<i>Medicago lupulina</i>	1	200		E	
	<i>Taraxacum officinale</i>	1	200		E	
	<i>Centaureum erythraea</i>	0.3	100		E	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	10	1000		N	
	<i>Sonchus oleraceus</i>	0.3	30		E	
	<i>Holcus lanatus</i>	0.5	50		E	
Forb (FG)	<i>Hydrocotyle algida</i>	0.5	100		N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	20		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.3	40		N	
Grass & grasslike	<i>Dichelachne rara</i>	0.2	40		N	
Grass & grasslike	<i>Carex appressa</i>	0.3	10		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.5	20		N	
Forb (FG)	<i>Asperula scoparia</i>	0.5	100		N	
	<i>Conyza canadensis</i> var. <i>canadensis</i>	0.1	2		E	
	<i>Cirsium vulgare</i>	0.1	5		E	
Forb (FG)	<i>Acaena ovina</i>	0.2	20		N	
Forb (FG)	<i>Epilobium billardierianum</i> subsp. <i>Cinereum</i>	0.1	10		N	
	<i>Trifolium repens</i>	0.2	10		E	
Tree (TG)	<i>Eucalyptus camphora</i>	0.2	2		N	
Forb (FG)	<i>Cymbonotus lawsonianus</i>	0.1	10		N	
Forb (FG)	<i>Dipodium</i> spp.	0.2	20		N	
	<i>Malus</i> spp.	0.1	1		E	
Forb (FG)	<i>Geranium solanderi</i>	0.3	20		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	20		N	
Grass & grasslike	<i>Panicum effusum</i>	0.5	100		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.5	100		N	
Forb (FG)	<i>Senecio quadridentatus</i>	0.1	10		N	
	<i>Hypochaeris radicata</i>	0.1	30		E	
	<i>Potentilla recta</i>	0.1	5		E	
Tree (TG)	<i>Eucalyptus rubida</i>	0.1	1		N	
Grass & grasslike	<i>Rytidosperma laeve</i>	0.5	50		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.1	2		N	

BAM Site – Field Survey Form

Plot ID:	2020	Date:	01-02-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM
Zone:	55	Easting:	628379.6665	Plot dimensions:	20m x 50m	Midline bearing:	355
Datum:	GDA94	Northing:	6038220.567	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	11
	Grasses etc.:	4
	Forbs:	3
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	70
	Shrubs:	245
	Grasses etc.:	31
	Forbs:	11
	Ferns:	0
	Other:	4
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	5	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	20		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	35	30	20	30	5	50	5	10	15	0	0	0	1	1	0	0	0	2	2
Average of the 5 subplots:	35					17					0.4					0.8				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Medium grained	Soil Colour	Pale brown	Soil Depth	At least 30cm
Lithology (B)							
Slope	50	Aspect	W	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	Some trunks show burn marks, burnt stumps present in plot
Storm damage:			No evidence
Weediness:			No evidence
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine						
		Date:	01-02-19	Plot ID:	2020	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	70	40		N	
Shrub (SG)	<i>Banksia canei</i>	60	80		N	
Shrub (SG)	<i>Calytrix tetragona</i>	75	200		N	
Shrub (SG)	<i>Leucopogon ericoides</i>	40	75		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	30	50		N	
Shrub (SG)	<i>Podolobium procumbens</i>	25	30		N	
Shrub (SG)	<i>Acacia gunnii</i>	1	10		N	
Grass & grasslike	<i>Poa sieberiana</i>	15	250		N	
Other (OG)	<i>Cassytha pubescens</i>	3	50		N	
Grass & grasslike	<i>Lomandra longifolia</i>	5	50		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	2	100		N	
Shrub (SG)	<i>Pimelea linifolia</i>	7	100		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	5	200		N	
Forb (FG)	<i>Hovea heterophylla</i>	1	50		N	
Shrub (SG)	<i>Tetradlea thymifolia</i>	2	30		N	
Other (OG)	<i>Hardenbergia violacea</i>	1	30		N	
Grass & grasslike	<i>Poa spp.</i>	10	100		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	1	1		N	
Forb (FG)	<i>Dianella revoluta</i>	5	5		N	
Shrub (SG)	<i>Exocarpos cupressiformis</i>	2	20		N	
Grass & grasslike	<i>Lomandra filiformis</i>	1	30		N	

BAM Site – Field Survey Form

Plot ID:	2026	Date:	17-11-18	Survey Name:	Schofields Trail	Recorders:	JA, AM
Zone:	55	Easting:	647486.1851	Plot dimensions:	20m x 50m	Midline bearing:	38
Datum:	GDA94	Northing:	6029395.922	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	8
	Grasses etc.:	7
	Forbs:	19
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	39
	Shrubs:	1.3
	Grasses etc.:	40.6
	Forbs:	2
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	2
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	109		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	85	95	90	85	0	0	0	3	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	89					0.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods and horse scats
Fire damage:	Light	greater than 10yo	minor fire scarring
Storm damage:	Light	less than 3yo	A few large broken branches from e.dalrympleana in plot
Weediness:	Light	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Schofields Trail						
		Date:	17-11-18	Plot ID:	2026	Recorders:	JA, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	40	500		N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.2	20		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.1	20		N	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	3		N	
Forb (FG)	<i>Chiloglottis valida</i>	0.1	20		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	1		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.5	30		N	
Forb (FG)	<i>Gonocarpus montanus</i>	0.1	10		N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	5		N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.1	5		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	20		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.1	10		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	5		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	35	22		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	4	7		N	
	<i>Anthoxanthum odoratum</i>	0.1	50		E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	20		N	
Forb (FG)	<i>Coronidium monticola</i>	0.1	20		N	
Grass & grasslike	<i>Themeda triandra</i>	0.1	30		N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	10		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	5		N	
Grass & grasslike	<i>Rytidosperma</i> spp.	0.1	2		N	
Shrub (SG)	<i>Ozothamnus secundiflorus</i>	0.1	1		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	1		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.1	12		N	
Shrub (SG)	<i>Hakea microcarpa</i>	0.2	3		N	
Forb (FG)	<i>Podolepis</i> spp.	0.1	5		N	
Shrub (SG)	<i>Leucopogon fraseri</i>	0.1	1		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	5		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	10		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.1	2		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	0.1	1		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	5		N	
Forb (FG)	<i>Linum marginale</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	2038	Date:	14-01-19	Survey Name:		Recorders:	RP, MP	
Zone:	55	Easting:	629026.183	Plot dimensions:	20m x 50m	Midline bearing:	51	
Datum:	GDA94	Northing:	6028263.466	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	638: Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Montane Wet Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	7
	Grasses etc.:	5
	Forbs:	12
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	52
	Shrubs:	81.7
	Grasses etc.:	38.2
	Forbs:	3.4
	Ferns:	0
	Other:	2.5
High Threat Weed cover:		1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	3	0	1
50 – 79 cm:	2	0	0
30 – 49 cm:	4	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	34		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	66	25	25	33	0	0	0	0	0	0	1	0	0	10	0	0	0	0	0
Average of the 5 subplots:	43.8					0					2.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	-11	Aspect	NE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	greater than 10yo	2003 bushfires
Storm damage:			No evidence
Weediness:	Light	greater than 10yo	Hypochaeris radicata
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	14-01-19	Plot ID:	2038	Recorders:	RP, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dalrympleana</i>	12	19		N	
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>Delegatensis</i>	30	11		N	
Shrub (SG)	<i>Cassinia longifolia</i>	10	50		N	
Shrub (SG)	<i>Podolobium alpestre</i>	55	100		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	30	250		N	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
	<i>Agrostis capillaris</i>	1	50		HTE	
Grass & grasslike	<i>Agrostis venusta</i>	3	150		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.2	200		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	60		N	
Forb (FG)	<i>Asperula scoparia</i>	0.3	150		N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	14		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	10	19		N	
Forb (FG)	<i>Brachyscome spathulata</i>	1	40		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	12	80		N	
Other (OG)	<i>Clematis aristata</i>	2	40		N	
Shrub (SG)	<i>Pimelea linifolia</i>	1	100		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	5	40		N	
Shrub (SG)	<i>Platylobium formosum</i>	3	60		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	4		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	25		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.2	6		N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.1	4		N	
Forb (FG)	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	0.1	20		N	
Other (OG)	<i>Glycine clandestina</i>	0.5	50		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	1	80		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	0.5	2		N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	14		N	
Forb (FG)	<i>Thelymitra</i> spp.	0.2	50		N	
	<i>Orchidaceae</i> indeterminate	0.1	5		E	
Grass & grasslike	<i>Luzula densiflora</i>	0.1	8		N	

BAM Site – Field Survey Form

Plot ID:	2050	Date:	18-11-18	Survey Name:	Tantangara	Recorders:	JA, AM
Zone:	55	Easting:	649045.2622	Plot dimensions:	20m x 50m	Midline bearing:	68
Datum:	GDA94	Northing:	6040549.681	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	4
	Forbs:	6
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	82.1
	Forbs:	0.6
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	30	20	5	40	20	20	50	70	15	25	0	0	0	0	0	0	0	0	2	0
Average of the 5 subplots:	23					36					0					0.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Light brown	Soil Depth	
Lithology (B)							
Slope	5	Aspect	SW	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			Modified grassland from periodic flooding and heavy grazing
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light		Patches of bare soil from heavy grazing
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Severe		Rabbits and horses
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara					
	Date:	18-11-18	Plot ID:	2050	Recorders:	JA, AM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Forb (FG)	<i>Veronica subtilis</i>	0.1	20		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	10		N	
Grass & grasslike	<i>Carex spp.</i>	60	1000	Yes	N	
	<i>Hypericum perforatum</i>	0.1	6		HTE	
Grass & grasslike	<i>Juncus spp.</i>	0.1	10		N	
	<i>Holcus lanatus</i>	0.1	10		E	
Grass & grasslike	<i>Poaceae spp.</i>	20	1000		N	
Forb (FG)	<i>Persicaria prostrata</i>	0.1	40		N	
Forb (FG)	<i>Centipeda elatinoidea</i>	0.1	50		N	
	<i>Aira elegantissima</i>	0.1	100		E	
Forb (FG)	<i>Oxalis spp.</i>	0.1	20		N	
Grass & grasslike	<i>Hemarthra uncinata</i> var. <i>uncinata</i>	2	300		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	5		N	

BAM Site – Field Survey Form

Plot ID:	2063	Date:	14-11-18	Survey Name:	Tantangara Road	Recorders:	AM, EM
Zone:	55	Easting:	646706.0574	Plot dimensions:	20m x 50m	Midline bearing:	205
Datum:	GDA94	Northing:	6025473.233	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	No	Confidence:
							Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	6
	Grasses etc.:	9
	Forbs:	19
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	25
	Shrubs:	6.4
	Grasses etc.:	47.2
	Forbs:	2.1
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	1
50 – 79 cm:	1	0	1
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	74		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	60	50	70	60	50	0	0	0	0	0	15	0	0	1	2	0	0	0	0	0
Average of the 5 subplots:	58					0					3.6					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Primarily macropods
Fire damage:	Moderate	greater than 10yo	Fire scarring
Storm damage:			No evidence
Weediness:	Severe	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	14-11-18	Plot ID:	2063	Recorders:	AM, EM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	25	30		N	
Shrub (SG)	<i>Pimelea pauciflora</i>	0.2	3		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	2	10		N	
Shrub (SG)	<i>Hakea microcarpa</i>	1	8		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	45	1000		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	3	30		N	
	<i>Anthoxanthum odoratum</i>	50	1000		E	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	100		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	20		N	
Forb (FG)	<i>Dichondra repens</i>	0.2	500		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	50		N	
Forb (FG)	<i>Asperula gunnii</i>	0.2	500		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	10		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	40		N	
	<i>Acetosella vulgaris</i>	0.2	100		HTE	
	<i>Hypericum perforatum</i>	0.1	30		HTE	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	20		N	
Grass & grasslike	<i>Themeda triandra</i>	0.5	50		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	100		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	30		N	
Grass & grasslike	<i>Carex inomitata</i>	1	40		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	50		N	
	<i>Trifolium repens</i>	0.3	300		E	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	5		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	5		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.1	10		N	
Forb (FG)	<i>Aciphylla simplicifolia</i>	0.1	2		N	
Forb (FG)	<i>Leptorhynchus squamatus</i> subsp. <i>alpinus</i>	0.1	20		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	30		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	0.1	2		N	
Forb (FG)	<i>Hackelia suaveolens</i>	0.1	5		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	30		N	
Forb (FG)	<i>Craspedia</i> spp.	0.1	20		N	
	<i>Holcus lanatus</i>	2	100		E	
Grass & grasslike	<i>Poa helmsii</i>	0.1	1		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	20		N	
	<i>Cirsium vulgare</i>	0.1	2		E	
Grass & grasslike	<i>Empodisma minus</i>	0.1	5		N	
Forb (FG)	<i>Chiloglottis valida</i>	0.1	10		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.1	10		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	20		N	

BAM Site – Field Survey Form

Plot ID:	2068	Date:	10-01-19	Survey Name:		Recorders:	RP, MP
Zone:	55	Easting:	630055.3254	Plot dimensions:	20m x 50m	Midline bearing:	180
Datum:	GDA94	Northing:	6024218.044	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	7
	Grasses etc.:	5
	Forbs:	24
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	21
	Grasses etc.:	32.6
	Forbs:	18.3
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.4

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	2	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	2	0	0
5 – 9 cm:	3	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	18		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	75	75	45	50	0	10	5	25	0	0	0	0	0	0	80	0	0	0	0
Average of the 5 subplots:	51					8					0					16				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	Gradual	Aspect	SWW	Site Drainage	Moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	No evidence but likely given lack of trees
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light	greater than 10yo	2003 bushfires
Storm damage:	Light	greater than 10yo	No storm damage detected
Weediness:	Moderate	greater than 10yo	High density of Hypochaeris radicata
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	10-01-19	Plot ID:	2068	Recorders:	RP, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Hovea asperifolia</i>	12	60		N	
	<i>Hypochaeris radicata</i>	15	500		E	
	<i>Taraxacum officinale</i>	0.5	30		E	
Forb (FG)	<i>Prasophyllum sphacelatum</i>	0.2	52		N	
Forb (FG)	<i>Craspedia variabilis</i>	1	50		N	
Forb (FG)	<i>Ranunculus graniticola</i>	3	600		N	
Forb (FG)	<i>Aciphylla simplicifolia</i>	1	50		N	
	<i>Dactylis glomerata</i>	3	24		E	
Forb (FG)	<i>Acaena ovina</i>	0.8	35		N	
Forb (FG)	<i>Celmisia costiniana</i>	0.2	64		N	
Forb (FG)	<i>Stylidium graminifolium</i>	5	4000		N	
Forb (FG)	<i>Geranium spp.</i>	0.5	35		N	
Forb (FG)	<i>Brachyscome spathulata</i>	1	50		N	
	<i>Acetosella vulgaris</i>	0.4	40		HTE	
Forb (FG)	<i>Wahlenbergia spp.</i>	0.1	60		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.2	50		N	
	<i>Trifolium repens</i>	1	150		E	
Forb (FG)	<i>Euchiton spp.</i>	0.1	50		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.2	6		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	40		N	
Forb (FG)	<i>Thelymitra spp.</i>	0.2	80		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	20		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	40		N	
Shrub (SG)	<i>Podolobium alpestre</i>	6	27		N	
Forb (FG)	<i>Brachyscome rigidula</i>	0.1	25		N	
Grass & grasslike	<i>Carex spp.</i>	0.4	70		N	
Grass & grasslike	<i>Poa phillipsiana</i>	30	750		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	2	30		N	
Grass & grasslike	<i>Rytidosperma erianthum</i>	2	100		N	
Forb (FG)	<i>Microtis unifolia</i>	0.1	6		N	
Forb (FG)	<i>Microseris lanceolata</i>	2	450		N	
	<i>Cerastium glomeratum</i>	0.1	12		E	
Forb (FG)	<i>Scleranthus spp.</i>	0.2	250		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	10		N	
Forb (FG)	<i>Coronidium spp.</i>	0.1	12		N	
Grass & grasslike	<i>Carex appressa</i>	0.1	20		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	20		N	
Forb (FG)	<i>Euphrasia collina</i>	2	100		N	
Shrub (SG)	<i>Rhytidosporum alpinum</i>	0.1	20		N	
Shrub (SG)	<i>Phebalium squamulosum</i>	0.5	6		N	
Forb (FG)	<i>Senecio spp.</i>	0.2	8		N	
Grass & grasslike	<i>Luzula spp.</i>	0.1	12		N	

BAM Site – Field Survey Form

Plot ID:	2079	Date:	24-11-18	Survey Name:	Maruca	Recorders:	MP, JB	
Zone:	55	Easting:	631497.9373	Plot dimensions:	20m x 50m	Midline bearing:	143	
Datum:	GDA94	Northing:	6039435.781	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	Medium	Photo #:	
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	12
	Grasses etc.:	7
	Forbs:	20
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	75
	Shrubs:	101.4
	Grasses etc.:	63
	Forbs:	4.2
	Ferns:	0
	Other:	2.1
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	5
50 – 79 cm:	4	0	3
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	58		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	45	15	15	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	19					0.2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)		Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No
Cultivation (inc. pasture):			No
Soil erosion:			No
Firewood / CWD removal:			No
Grazing (identify native/stock):			No
Fire damage:	Light	greater than 10yo	
Storm damage:			No
Weediness:			No
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Maruca					
	Date:	24-11-18	Plot ID:	2079	Recorders:	MP, JB

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus robertsonii</i>	70	23	No	N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	5	5	No	N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	4	50	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.5	25	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	50	400	No	N	
Shrub (SG)	<i>Cassinia longifolia</i>	65	100	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	1	50	No	N	
Shrub (SG)	<i>Daviesia latifolia</i>	2.5	60	No	N	
Shrub (SG)	<i>Acacia pravissima</i>	2	40	No	N	
Shrub (SG)	<i>Tetratheca bauerifolia</i>	1	100	No	N	
Other (OG)	<i>Glycine tabacina</i>	2	1000	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	10	80	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	50	No	N	
Forb (FG)	<i>Asperula scoparia</i>	0.8	350	No	N	
Forb (FG)	<i>Stackhousia monogyna</i>	0.1	60	No	N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.2	50	No	N	
Forb (FG)	<i>Brachyscome</i> spp.	0.1	60	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	40	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	10	100	No	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	100	No	N	
Forb (FG)	<i>Stellaria pungens</i>	0.4	250	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	2	50	No	N	
Forb (FG)	<i>Ranunculus</i> spp.	0.1	30	No	N	
Shrub (SG)	<i>Olearia phlogopappa</i> var. <i>flavescens</i>	0.1	15	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.2	150	No	N	
Forb (FG)	<i>Chiloglottis</i> spp.	0.1	1	No	N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	0.2	80	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.2	80	No	N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	10	90	No	N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	15	No	N	
Forb (FG)	<i>Veronica calycina</i>	0.5	250	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	3	250	No	N	
Forb (FG)	<i>Craspedia jamesii</i>	0.5	100	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	100	No	N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.1	40	No	N	
Grass & grasslike	<i>Luzula</i> spp.	0.1	50	No	N	
Grass & grasslike	<i>Anthosachne scabra</i>	2	150	No	N	
	<i>Centaurium erythraea</i>	0.2	25	No	E	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.2	30	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	8	No	N	
Forb (FG)	<i>Euphrasia collina</i>	0.1	4	No	N	
Forb (FG)	<i>Dianella longifolia</i>	0.2	15	No	N	
Shrub (SG)	<i>Coprosma hirtella</i>	0.8	4	No	N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	2082	Date:	15-11-18	Survey Name:	Kiandra	Recorders:	DK, IM	
Zone:	55	Easting:	636649.1144	Plot dimensions:	20m x 50m	Midline bearing:	243	
Datum:	GDA94	Northing:	6027770.925	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	765: Carex - Juncus sedgeland/wet grassland of the South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Montane Bogs and Fens				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	3
	Grasses etc.:	8
	Forbs:	4
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	3.2
	Grasses etc.:	116.5
	Forbs:	2.5
	Ferns:	0.5
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	60	25	20	45	20	3	40	30	2	10	1	0	0	0	0	35	0	0	2
Average of the 5 subplots:	35					19					2.2					7.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour	Dark brown	Soil Depth	
Lithology (B)							
Slope	Nil	Aspect	Nil	Site Drainage	Poor	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:	Moderate		4wd track running adjacent to site with some rutting present
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Light		Non native mint and sweet vernal in plot
Other:			Rubbish from adjacent highway in plot

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Kiandra					
	Date:	15-11-18	Plot ID:	2082	Recorders:	DK, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Carex appressa</i>	20	150		N	
Grass & grasslike	<i>Carex gaudichaudiana</i>	80	1000		N	
Shrub (SG)	<i>Epacris paludosa</i>	3	20		N	
Forb (FG)	<i>Myriophyllum pedunculatum</i>	2	100		N	
Fern (EG)	<i>Selaginella uliginosa</i>	0.5	100		N	
	<i>Sphagnum cristatum</i>	3	6		N	
Shrub (SG)	<i>Epacris microphylla</i>	0.1	3		N	
Forb (FG)	<i>Mentha spp.</i>	0.2	10		N	
	<i>Anthoxanthum odoratum</i>	5	200		E	
Grass & grasslike	<i>Juncus usitatus</i>	0.2	15		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	5	20		N	
Forb (FG)	<i>Ranunculus pimpinellifolius</i>	0.2	20		N	
Grass & grasslike	<i>Schoenus apogon</i>	0.1	3		N	
Forb (FG)	<i>Acaena spp.</i>	0.1	20		N	
Grass & grasslike	<i>Juncus spp.</i>	3	30		N	
Grass & grasslike	<i>Luzula modesta</i>	0.2	30		N	
Grass & grasslike	<i>Poa costiniana</i>	8	50		N	
Shrub (SG)	<i>Hakea spp.</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	2084	Date:	31-01-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM	
Zone:	55	Easting:	625304.0394	Plot dimensions:	20m x 50m	Midline bearing:	155	
Datum:	GDA94	Northing:	6039603.223	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	8
	Grasses etc.:	8
	Forbs:	2
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	50
	Shrubs:	146
	Grasses etc.:	24
	Forbs:	3
	Ferns:	1
	Other:	0
High Threat Weed cover:		5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	2	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	111		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	15	5	20	70	10	10	10	5	5	15	1	1	1	0	5	2	3	3	1
Average of the 5 subplots:	27					8					3.6					2.8				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Medium grained	Soil Colour	Dark orange-brown	Soil Depth	At least 30cm
Lithology (B)							
Slope	10	Aspect	W	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Moderate	3 to 10 yo	Eucalyptus trunks show old burn marks, some conifers completely burnt
Storm damage:	Light	less than 3yo	Broken Eucalyptus branch, high winds recorded during previous two days
Weediness:	Moderate	less than 3yo	St Johns Wort present in plot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine						
		Date:	31-01-19	Plot ID:	2084	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus rubida</i>	20	4		N	
Tree (TG)	<i>Eucalyptus dives</i>	25	8		N	
Shrub (SG)	<i>Bursaria spinosa</i>	2	3		N	
Shrub (SG)	<i>Grevillea arenaria</i> subsp. <i>canescens</i>	30	60		N	
Shrub (SG)	<i>Calytrix tetragona</i>	40	100		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	10	20		N	
Grass & grasslike	<i>Themeda triandra</i>	5	50		N	
	<i>Hypericum perforatum</i>	5	100		HTE	
Grass & grasslike	<i>Lomandra filiformis</i>	4	150		N	
Grass & grasslike	<i>Dichelachne micrantha</i>	4	50		N	
Forb (FG)	<i>Oxalis perennans</i>	1	10		N	
	<i>Centaurium erythraea</i>	1	20		E	
Shrub (SG)	<i>Tetratheca thymifolia</i>	1	30		N	
Grass & grasslike	<i>Poa sieberiana</i>	1	50		N	
Grass & grasslike	<i>Lomandra longifolia</i>	5	10		N	
Shrub (SG)	<i>Dillwynia sericea</i>	1	15		N	
Grass & grasslike	<i>Carex appressa</i>	1	5		N	
Grass & grasslike	<i>Rytidosperma</i> spp.	2	50		N	
Grass & grasslike	<i>Dichelachne hirtella</i>	2	10		N	
Fern (EG)	<i>Cheilanthes sieberi</i>	1	30		N	
Forb (FG)	<i>Galium gaudichaudii</i>	2	30		N	
	<i>Trifolium arvense</i>	1	1		E	
Shrub (SG)	<i>Leucopogon attenuatus</i>	60	1000		N	
Tree (TG)	<i>Eucalyptus mannifera</i>	5	1		N	
Shrub (SG)	<i>Acacia saliciformis</i>	2	1		N	

BAM Site – Field Survey Form

Plot ID:	2099	Date:	14-11-18	Survey Name:	Kiandra	Recorders:	DK, IM
Zone:	55	Easting:	637065.4773	Plot dimensions:	20m x 50m	Midline bearing:	114
Datum:	GDA94	Northing:	6027773.656	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1225: Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	3
	Grasses etc.:	6
	Forbs:	10
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	10.6
	Grasses etc.:	88.8
	Forbs:	2.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	45	70	45	55	50	1	0	2	1	2	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	53					1.2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour	Dark brown	Soil Depth	
Lithology (B)							
Slope	0	Aspect	Nil	Site Drainage	Poor	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light		Horses seen in the area. no horse dung in the plot
Fire damage:			
Storm damage:			
Weediness:			
Other:	Light		A bit boggy due to the runoff from the adjacent road. there is also some rubbish that has been thrown from car

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Kiandra					
	Date:	14-11-18	Plot ID:	2099	Recorders:	DK, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	0.5	10		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	3	30		N	
Shrub (SG)	<i>Epacris microphylla</i>	0.5	4		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	10		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.3	30		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.2	30		N	
Grass & grasslike	<i>Poa costiniana</i>	85	1000		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	2		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	4		N	
Forb (FG)	<i>Asperula gunnii</i>	0.1	3		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	5		N	
Forb (FG)	<i>Craspedia</i> spp.	0.1	8		N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.1	3		N	
Grass & grasslike	<i>Luzula modesta</i>	0.1	2		N	
Shrub (SG)	<i>Ozothamnus cupressoides</i>	10	50		N	
Grass & grasslike	<i>Juncus falcatus</i>	0.1	3		N	
Shrub (SG)	<i>Pultenaea fasciculata</i>	0.1	2		N	
Forb (FG)	<i>Bulbine bulbosa</i>	1	20		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
Forb (FG)	<i>Senecio</i> spp.	0.1	3		N	

BAM Site – Field Survey Form

Plot ID:	2102	Date:	14-11-18	Survey Name:	Kiandra	Recorders:	DK, IM
Zone:	55	Easting:	637856.3385	Plot dimensions:	20m x 50m	Midline bearing:	109
Datum:	GDA94	Northing:	6028039.153	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	4
	Grasses etc.:	2
	Forbs:	10
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	6.5
	Grasses etc.:	70.2
	Forbs:	6
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	40	25	20	10	25	3	2	0	1	2	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	24					1.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour	Dark brown	Soil Depth	
Lithology (B)							
Slope	3	Aspect	275	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light		Horse dung and previous sightings of horse within the area in the past month
Fire damage:			
Storm damage:			
Weediness:	Light		Hypochaeris weeds and sweet vernal
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Kiandra						
		Date:	14-11-18	Plot ID:	2102	Recorders:	DK, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	70	300		N	
Grass & grasslike	<i>Poaceae</i> spp.	0.2	3		N	
Shrub (SG)	<i>Hovea montana</i>	5	50		N	
Forb (FG)	<i>Craspedia variabilis</i>	3	200		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	1	20		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.3	10		N	
Forb (FG)	<i>Oreomyrrhis argentea</i>	0.2	30		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	150		N	
Forb (FG)	<i>Asperula scoparia</i>	0.3	30		N	
	<i>Anthoxanthum odoratum</i>	3	100		E	
Forb (FG)	<i>Stellaria pungens</i>	0.1	4		N	
	<i>Trifolium</i> spp.	0.1	30		E	
Forb (FG)	<i>Cardamine astoniae</i>	0.1	4		N	
Shrub (SG)	<i>Ozothamnus secundiflorus</i>	0.2	30		N	
	<i>Acetosella vulgaris</i>	0.1	10		HTE	
Forb (FG)	<i>Ranunculus graniticola</i>	1	30		N	
Forb (FG)	<i>Bulbine bulbosa</i>	1	20		N	
Forb (FG)	<i>Senecio</i> spp.	0.1	4		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	2		N	

BAM Site – Field Survey Form

Plot ID:	2119	Date:	31-01-19	Survey Name:	Lower Lobs Hole Ravine Road	Recorders:	SW, KM
Zone:	55	Easting:	626681.907	Plot dimensions:	20m x 50m	Midline bearing:	350
Datum:	GDA94	Northing:	6036779.516	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
						Medium	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	3
	Grasses etc.:	6
	Forbs:	8
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	65
	Shrubs:	41
	Grasses etc.:	107
	Forbs:	16
	Ferns:	0
	Other:	0
High Threat Weed cover:		15

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	3		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	2	80	15	20	10	1	2	20	10	0	0	1	1	0	0	0	1	2	3	0
Average of the 5 subplots:	25.4					6.6					0.4					1.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Fine grained	Soil Colour	Pale light brown	Soil Depth	At least 50cm
Lithology (B)							
Slope	30	Aspect	N	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Moderate	greater than 10yo	Some burnt trunks
Storm damage:			No evidence
Weediness:	Severe	less than 3yo	St Johns Wort and Blackberry present within plot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lower Lobs Hole Ravine Road						
		Date:	31-01-19	Plot ID:	2119	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	10	5		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	55	60		N	
Shrub (SG)	<i>Exocarpos strictus</i>	35	100		N	
	<i>Rubus anglocandicans</i>	25	30		E	
	<i>Rosa rubiginosa</i>	10	15		HTE	
Shrub (SG)	<i>Pultenaea fasciculata</i>	5	50		N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	2	200		N	
	<i>Hypericum perforatum</i>	5	500		HTE	
Grass & grasslike	<i>Rytidosperma erianthum</i>	60	3000		N	
Forb (FG)	<i>Wahlenbergia communis</i>	2	100		N	
Forb (FG)	<i>Picris angustifolia</i>	1	20		N	
Grass & grasslike	<i>Dichelachne rara</i>	30	1000		N	
	<i>Verbascum virgatum</i>	1	30		E	
Forb (FG)	<i>Geranium solanderi</i>	5	100		N	
	<i>Tragopogon dubius</i>	3	10		E	
	<i>Centaureum erythraea</i>	4	100		E	
Forb (FG)	<i>Oxalis</i> spp.	1	200		N	
	<i>Trifolium arvense</i>	5	50		E	
	<i>Conyza</i> spp.	2	10		E	
	<i>Petrorhagia nanteuilii</i>	1	20		E	
Grass & grasslike	<i>Themeda triandra</i>	4	100		N	
Forb (FG)	<i>Oxalis perennans</i>	2	200		N	
Forb (FG)	<i>Acaena ovina</i>	2	50		N	
Grass & grasslike	<i>Microlaena stipoides</i>	5	300		N	
Forb (FG)	<i>Galium gaudichaudii</i>	1	50		N	
Grass & grasslike	<i>Panicum effusum</i>	3	100		N	
Shrub (SG)	<i>Cassinia aculeata</i>	1	1		N	
Grass & grasslike	<i>Poa induta</i>	5	20		N	

BAM Site – Field Survey Form

Plot ID:	2127	Date:	18-11-18	Survey Name:	Tantangara Reservoir	Recorders:	SW, MP
Zone:	55	Easting:	649027.4422	Plot dimensions:	20m x 50m	Midline bearing:	287
Datum:	GDA94	Northing:	6040183.754	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
				High			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	2
	Forbs:	5
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	30.1
	Forbs:	6.4
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	1	1	1	1	1	85	60	80	90	90	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	1					81					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Lake	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loamy	Soil Colour	Brown	Soil Depth	At least 100mm
Lithology (B)							
Slope	0	Aspect	0	Site Drainage	Damp	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Moderate	less than 3yo	Brumbies and rabbits
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Small forbs
Other:	Severe	less than 3yo	Area ephemeral, continually inundated when reservoir water level rises

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Reservoir					
	Date:	18-11-18	Plot ID:	2127	Recorders:	SW, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Juncus spp.</i>	0.1	6		N	
Grass & grasslike	<i>Carex chlorantha</i>	30	1000		N	
Forb (FG)	<i>Hydrocotyle algida</i>	4	4000		N	
Forb (FG)	<i>Persicaria prostrata</i>	2	70		N	
	<i>Bacopa caroliniana</i>	1	150		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	200		N	
Forb (FG)	<i>Centipeda elatinoidea</i>	0.2	200		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	140		N	
	<i>Poaceae indeterminate</i>	0.1	20		E	
	<i>Acetosella vulgaris</i>	0.1	15		HTE	

BAM Site – Field Survey Form

Plot ID:	2144	Date:	20-11-18	Survey Name:	Kings Cross Road	Recorders:	SW, MP	
Zone:	55	Easting:	631478.8278	Plot dimensions:	20m x 50m	Midline bearing:	210	
Datum:	GDA94	Northing:	6027383.032	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	8
	Grasses etc.:	4
	Forbs:	22
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	80
	Shrubs:	29
	Grasses etc.:	24.5
	Forbs:	7.1
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		1.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	143		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	65	55	35	75	30	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	52					2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Dark brown	Soil Depth	At least 100mm
Lithology (B)							
Slope	10	Aspect	ESE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Light	less than 3yo	Around wombat burrows
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	Some evidence of fire
Storm damage:	Light	less than 3yo	Dead trees over
Weediness:	Light	less than 3yo	Some grasses and forbs
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Kings Cross Road					
	Date:	20-11-18	Plot ID:	2144	Recorders:	SW, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus debeuzevillei</i>	80	100		N	
Shrub (SG)	<i>Tasmannia lanceolata</i>	3	4		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	5	40		N	
Shrub (SG)	<i>Hovea montana</i>	10	80		N	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	10		N	
	<i>Acetosella vulgaris</i>	1	500		HTE	
	<i>Hypochaeris radicata</i>	3	350		E	
Forb (FG)	<i>Asperula gunnii</i>	0.4	500		N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	300		N	
Forb (FG)	<i>Celmisia</i> spp.	0.1	150		N	
Forb (FG)	<i>Senecio gunnii</i>	3	200		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.2	500		N	
Grass & grasslike	<i>Poa</i> spp.	20	150		N	
Grass & grasslike	<i>Poa</i> spp.	4	80		N	
Forb (FG)	<i>Caladenia alpina</i>	0.1	43		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	30		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	15		N	
Grass & grasslike	<i>Luzula</i> spp.	0.1	300		N	
Forb (FG)	<i>Geranium</i> spp.	0.1	20		N	
Forb (FG)	<i>Chiloglottis valida</i>	0.1	500		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.2	200		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.1	40		N	
Forb (FG)	<i>Podolepis</i> spp.	0.2	80		N	
Fern (EG)	<i>Polystichum proliferum</i>	0.1	1		N	
Forb (FG)	<i>Coronidium monticola</i>	0.2	250		N	
	<i>Anthoxanthum odoratum</i>	3	150		E	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	100		N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.1	1		HTE	
	<i>Cirsium vulgare</i>	0.1	1		E	
	<i>Taraxacum officinale</i>	0.2	50		E	
Forb (FG)	<i>Epilobium</i> spp.	0.4	6		N	
Shrub (SG)	<i>Polyscias sambucifolia</i>	0.3	4		N	
Forb (FG)	<i>Gonocarpus montanus</i>	1	50		N	
	<i>Trifolium</i> spp.	0.1	6		E	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	6		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	10		N	
Shrub (SG)	<i>Podolobium alpestre</i>	10	8		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	8		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.5	4		N	
Forb (FG)	<i>Scleranthus singuliflorus</i>	0.1	1		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	45		N	
	<i>Orchidaceae</i> indeterminate	0.1	1		E	
Grass & grasslike	<i>Carex breviculmis</i>	0.4	50		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	30		N	

BAM Site – Field Survey Form

Plot ID:	2145	Date:	15-11-18	Survey Name:	Tantangara Road	Recorders:	AM, EM
Zone:	55	Easting:	647073.0611	Plot dimensions:	20m x 50m	Midline bearing:	220
Datum:	GDA94	Northing:	6029349.808	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	No	Confidence:
							Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	3
	Forbs:	14
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	30
	Shrubs:	15.5
	Grasses etc.:	47.1
	Forbs:	1.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		1.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	2	0	2
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	10		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	80	70	60	75	80	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
Average of the 5 subplots:	73					0					0					2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	Historic
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:	Light		Possible fallen timber removal, very little present
Grazing (identify native/stock):	Light	less than 3yo	Horse and macropod scats
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Severe		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	15-11-18	Plot ID:	2145	Recorders:	AM, EM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	25	6		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	5	4		N	
Shrub (SG)	<i>Hakea microcarpa</i>	10	50		N	
Shrub (SG)	<i>Dillwynia prostrata</i>	5	100		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	45	500		N	
	<i>Anthoxanthum odoratum</i>	25	1000		E	
	<i>Dactylis glomerata</i>	5	200		E	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	30		N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	20		N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	20		N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	30		N	
Forb (FG)	<i>Microseris lanceolata</i>	0.1	10		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	200		N	
Forb (FG)	<i>Asperula scoparia</i>	0.2	200		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	10		N	
Forb (FG)	<i>Podolepis laciniata</i>	0.1	30		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	3		N	
Forb (FG)	<i>Aciphylla simplicifolia</i>	0.1	5		N	
Shrub (SG)	<i>Olearia</i> spp.	0.1	20		N	
Forb (FG)	<i>Acaena ovina</i>	0.2	200		N	
	<i>Hypochaeris radicata</i>	0.1	30		E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.2	100		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	20		N	
Grass & grasslike	<i>Themeda triandra</i>	2	80		N	
	<i>Acetosella vulgaris</i>	0.1	100		HTE	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.3	5		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	20		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	30		N	
	<i>Agrostis capillaris</i>	1	40		HTE	

BAM Site – Field Survey Form

Plot ID:	2150	Date:	19-02-19	Survey Name:	Wallaces Creek Trail	Recorders:	MP, JB	
Zone:	55	Easting:	633684.6449	Plot dimensions:	20m x 50m	Midline bearing:	111	
Datum:	GDA94	Northing:	6037823.543	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	7
	Grasses etc.:	4
	Forbs:	28
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	70
	Shrubs:	41.1
	Grasses etc.:	70.5
	Forbs:	29.1
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	4	0	5
30 – 49 cm:	7	0	1
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	73		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	10	5	10	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	9					0					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)		Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No
Cultivation (inc. pasture):			No
Soil erosion:			No
Firewood / CWD removal:			No
Grazing (identify native/stock):	Light	less than 3yo	Horse grazing
Fire damage:	Light	greater than 10yo	Burnt trunks
Storm damage:			No
Weediness:			No
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Wallaces Creek Trail					
	Date:	19-02-19	Plot ID:	2150	Recorders:	MP, JB

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	70	18	No	N	
Shrub (SG)	<i>Gompholobium huegelii</i>	5	40	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	30	150	No	N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	30	No	N	
Grass & grasslike	<i>Poa spp.</i>	30	300	No	N	
Forb (FG)	<i>Galium spp.</i>	0.4	1000	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	2	1000	No	N	
	<i>Trifolium spp.</i>	0.1	50	No	E	
Forb (FG)	<i>Geranium spp.</i>	0.1	30	No	N	
Forb (FG)	<i>Caladenia alpina</i>	0.2	200	No	N	
Forb (FG)	<i>Craspedia variabilis</i>	0.5	60	No	N	
Forb (FG)	<i>Asperula scoparia</i>	0.2	250	No	N	
Forb (FG)	<i>Podolepis robusta</i>	0.1	25	No	N	
Forb (FG)	<i>Coronidium monticola</i>	0.8	150	No	N	
	<i>Trifolium repens</i>	0.1	70	No	E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	1	150	No	N	
Forb (FG)	<i>Brachyscome decipiens</i>	1	80	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	3	40	No	N	
Fern (EG)	<i>Botrychium lunaria</i>	0.1	5	No	N	
Grass & grasslike	<i>Carex breviculmis</i>	0.4	30	No	N	
Grass & grasslike	<i>Luzula densiflora</i>	0.1	50	No	N	
Forb (FG)	<i>Xerochrysum spp.</i>	20	1000	No	N	
Shrub (SG)	<i>Grevillea parviflora</i>	1	20	Yes	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	40	500	No	N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	10	No	N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.5	15	No	N	
Forb (FG)	<i>Celmisia spp.</i>	0.1	30	No	N	
	<i>Hypochaeris radicata</i>	0.1	10	No	E	
Forb (FG)	<i>Stellaria pungens</i>	0.1	30	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	50	No	N	
	<i>Acetosella vulgaris</i>	0.1	6	No	HTE	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	2	No	N	
Shrub (SG)	<i>Podolobium alpestre</i>	1.5	5	No	N	
Forb (FG)	<i>Chiloglottis spp.</i>	0.1	15	No	N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.8	8	No	N	
Forb (FG)	<i>Epilobium spp.</i>	0.1	12	No	N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	15	No	N	
Forb (FG)	<i>Acaena echinata</i>	0.1	10	No	N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	1	No	N	
Forb (FG)	<i>Craspedia spp.</i>	0.1	6	No	N	
Forb (FG)	<i>Wahlenbergia spp.</i>	0.1	10	No	N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	5	No	N	
Forb (FG)	<i>Microseris lanceolata</i>	0.4	50	No	N	
Forb (FG)	<i>Euchiton spp.</i>	0.2	150	No	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	2	No	N	

BAM Site – Field Survey Form

Plot ID:	2161	Date:	31-01-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM
Zone:	55	Easting:	625815.4398	Plot dimensions:	20m x 50m	Midline bearing:	277
Datum:	GDA94	Northing:	6039431.51	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
							Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	12
	Grasses etc.:	4
	Forbs:	2
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	100
	Shrubs:	188
	Grasses etc.:	5
	Forbs:	4
	Ferns:	0
	Other:	5
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	2	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	8		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	70	90	80	25	1	1	5	1	0	0	1	1	0	0	0	0	1	0	1
Average of the 5 subplots:	67					1.6					0.4					0.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Course grained	Soil Colour	Orange-brown	Soil Depth	At least 30cm
Lithology (B)							
Slope	10	Aspect	W	Site Drainage	Moderate drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	Burnt trunks on some Eucalypts
Storm damage:			No evidence
Weediness:			No evidence in plot, surrounding areas have high levels of Blackberry and St Johns Wort
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	31-01-19	Plot ID:	2161	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	60	24		N	
Tree (TG)	<i>Eucalyptus mannifera</i>	40	15		N	
Shrub (SG)	<i>Banksia canei</i>	80	200		N	
Shrub (SG)	<i>Acacia pravissima</i>	40	150		N	
Shrub (SG)	<i>Calytrix tetragona</i>	30	100		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	13	50		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	15	30		N	
Grass & grasslike	<i>Lomandra longifolia</i>	2	15		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	1	50		N	
Grass & grasslike	<i>Lomandra filiformis</i>	1	50		N	
Other (OG)	<i>Desmodium varians</i>	2	20		N	
Forb (FG)	<i>Stellaria pungens</i>	1	200		N	
Other (OG)	<i>Cassytha pubescens</i>	3	5		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	1	30		N	
Forb (FG)	<i>Galium ciliare</i>	3	75		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	4	100		N	
Shrub (SG)	<i>Tetradlea thymifolia</i>	1	20		N	
Shrub (SG)	<i>Hovea montana</i>	1	10		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	1	10		N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	1	5		N	
Grass & grasslike	<i>Poa sieberiana</i>	1	100		N	
Shrub (SG)	<i>Acacia siculiformis</i>	1	5		N	

BAM Site – Field Survey Form

Plot ID:	2170	Date:	18-11-18	Survey Name:	Tantangara Reservoir	Recorders:	SW, MP
Zone:	55	Easting:	648892.1143	Plot dimensions:	20m x 50m	Midline bearing:	160
Datum:	GDA94	Northing:	6040407.736	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
				High			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	5
	Forbs:	10
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	9.2
	Forbs:	1.9
	Ferns:	0
	Other:	0
High Threat Weed cover:		1.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	25	2	10	2	1	1	20	1	15	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	8.8					7.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Brown	Soil Depth	Up to 100mm
Lithology (B)							
Slope	10	Aspect	Eastern	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:	Moderate	less than 3yo	Due to rabbit burrowing
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Moderate	less than 3yo	Brumbies and rabbits
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate	less than 3yo	Grasses and small forbs
Other:	Moderate	less than 3yo	Discarded campers rubbish

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Reservoir					
	Date:	18-11-18	Plot ID:	2170	Recorders:	SW, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Anthoxanthum odoratum</i>	90	1000		E	
	<i>Hypericum perforatum</i>	1	500		HTE	
Forb (FG)	<i>Coronidium monticola</i>	1	1000		N	
Grass & grasslike	<i>Carex spp.</i>	2	300		N	
	<i>Holcus lanatus</i>	0.1	5		E	
Forb (FG)	<i>Oxalis perennans</i>	0.1	60		N	
	<i>Acetosella vulgaris</i>	0.1	700		HTE	
Grass & grasslike	<i>Juncus spp.</i>	0.1	6		N	
Grass & grasslike	<i>Poa meionectes</i>	2	30		N	
Grass & grasslike	<i>Luzula spp.</i>	0.1	20		N	
Grass & grasslike	<i>Themeda triandra</i>	5	60		N	
Forb (FG)	<i>Solenogyne gunnii</i>	0.1	15		N	
	<i>Myosotis discolor</i>	1	20		E	
Forb (FG)	<i>Acaena ovina</i>	0.1	20		N	
	<i>Cirsium vulgare</i>	0.1	3		E	
Forb (FG)	<i>Hydrocotyle algida</i>	0.1	1		N	
Forb (FG)	<i>Euchiton spp.</i>	0.1	500		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	5		N	
Forb (FG)	<i>Geranium spp.</i>	0.1	20		N	
Forb (FG)	<i>Veronica subtilis</i>	0.1	4		N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	2		N	

BAM Site – Field Survey Form

Plot ID:	2186	Date:	14-11-18	Survey Name:	Tantangara Road	Recorders:	AM, EM	
Zone:	55	Easting:	646198.6065	Plot dimensions:	20m x 50m	Midline bearing:	135	
Datum:	GDA94	Northing:	6023741.04	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	5
	Grasses etc.:	5
	Forbs:	8
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	40.3
	Shrubs:	41.4
	Grasses etc.:	43.4
	Forbs:	5.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	1
50 – 79 cm:	2	0	1
30 – 49 cm:	1	0	1
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	145		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	95	90	96	90	97	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	93.6					0.2					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Macropods
Fire damage:	Moderate	greater than 10yo	Fire scarring and dense post fire regeneration
Storm damage:			No evidence
Weediness:			Nil
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	14-11-18	Plot ID:	2186	Recorders:	AM, EM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	35	20		N	
Tree (TG)	<i>Eucalyptus rubida</i>	5	3		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	0.3	2		N	
Shrub (SG)	<i>Daviesia mimosoides</i>	35	300		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	5	500		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	40	1000		N	
Grass & grasslike	<i>Lomandra longifolia</i>	3	40		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	1	10		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	300		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	50		N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	5		N	
Shrub (SG)	<i>Ozothamnus thyrsoides</i>	5	20		N	
Grass & grasslike	<i>Carex breviculmis</i>	0.2	30		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	10		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.2	5		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	3		N	
Shrub (SG)	<i>Podolobium alpestre</i>	0.2	3		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.1	10		N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	5		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	10		N	

BAM Site – Field Survey Form

Plot ID:	2220	Date:	17-11-18	Survey Name:	Link Road	Recorders:	DK, IM
Zone:	55	Easting:	634649.5623	Plot dimensions:	20m x 50m	Midline bearing:	71
Datum:	GDA94	Northing:	6029626.033	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1224: Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Temperate Montane Grasslands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	3
	Forbs:	5
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	50.2
	Forbs:	0.9
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	45	35	30	20	55	30	4	2	1	2	0	0	0	0	0	0	1	0	0	0
Average of the 5 subplots:	37					7.8					0					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour	Light brown	Soil Depth	
Lithology (B)							
Slope	0-5	Aspect	154	Site Drainage	Poor to moderate	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Severe		Severe grazing from rabbits
Fire damage:			
Storm damage:			
Weediness:	Severe		Sweet vernal at least 50 percent of plot
Other:	Light	greater than 10yo	Rocky/gravelly soil might indicate a site where mine spoil was dropped

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Link Road					
			Date:	17-11-18	Plot ID:	2220
			Recorders:		DK, IM	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	30	200		N	
Grass & grasslike	<i>Poa labillardierei</i> var. <i>labillardierei</i>	20	30		N	
	<i>Anthoxanthum odoratum</i>	50	500		E	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.3	50		N	
Forb (FG)	<i>Senecio</i> spp.	0.2	50		N	
Forb (FG)	<i>Oreomyrrhis ciliata</i>	0.1	2		N	
Grass & grasslike	<i>Carex</i> spp.	0.2	20		N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	4		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
Forb (FG)	<i>Coronidium scorpioides</i>	0.2	30		N	

BAM Site – Field Survey Form

Plot ID:	2230	Date:	12-01-19	Survey Name:				Recorders:	RP, MP
Zone:	55	Easting:	628805.0187	Plot dimensions:	20m x 50m			Midline bearing:	264
Datum:	GDA94	Northing:	6028612.434	IBRA region:	Australian Alps (Snowy Mountains)			Zone ID:	
Plant Community Type:	638: Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:		
Vegetation Class:	Montane Wet Sclerophyll Forests				EEC:	No	Confidence:	High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	8
	Grasses etc.:	10
	Forbs:	18
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	80
	Shrubs:	92.1
	Grasses etc.:	26.3
	Forbs:	17.2
	Ferns:	0
	Other:	5
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	3	0	0
30 – 49 cm:	2	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	52		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	50	25	45	15	15	0	0	0	0	0	2	3	0	0	7	0	0	0	0	0
Average of the 5 subplots:	30					0					2.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect	N	Site Drainage	Very low (almost flat)	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light	greater than 10yo	2003 bushfires. 2 dead stumps, otherwise appears unaffected.
Storm damage:			
Weediness:	Light	3 to 10 yo	Very few weeds. Holcus lanatus, Dactylus glomeratus, Acetosella vulgaris.
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	12-01-19	Plot ID:	2230	Recorders:	RP, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>Delegatensis</i>	20	0		N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	30	8		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	30	20		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	0.5	4		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	15	150		N	
Shrub (SG)	<i>Podolobium alpestre</i>	70	200		N	
Shrub (SG)	<i>Cassinia aculeata</i>	5	3		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	15	80		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	4	80		N	
Forb (FG)	<i>Asperula scoparia</i>	8	3000		N	
Shrub (SG)	<i>Lomatia myricoides</i>	0.5	1		N	
Forb (FG)	<i>Leptinella filicula</i>	0.1	4		N	
Forb (FG)	<i>Senecio gunnii</i>	1	30		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	20		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.8	200		N	
	<i>Dactylis glomerata</i>	0.1	1		E	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	6		N	
Other (OG)	<i>Clematis aristata</i>	2	45		N	
Forb (FG)	<i>Pterostylis monticola</i>	0.1	12		N	
	<i>Anthoxanthum odoratum</i>	0.5	35		E	
Grass & grasslike	<i>Agrostis venusta</i>	1	90		N	
	<i>Acetosella vulgaris</i>	0.1	10		HTE	
Forb (FG)	<i>Stellaria palustris</i>	2	500		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	8		N	
Other (OG)	<i>Glycine clandestina</i>	3	150		N	
Forb (FG)	<i>Coronidium</i> spp.	0.1	8		N	
Forb (FG)	<i>Geranium potentilloides</i> var. <i>potentilloides</i>	0.1	4		N	
Grass & grasslike	<i>Lomandra longifolia</i>	1	26		N	
Shrub (SG)	<i>Pimelea</i> spp.	0.3	40		N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.1	6		N	
Forb (FG)	<i>Gonocarpus montanus</i>	0.1	20		N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	2		N	
Forb (FG)	<i>Picris angustifolia</i> subsp. <i>merxmulleri</i>	0.1	6		N	
Forb (FG)	<i>Microseris lanceolata</i>	0.1	4		N	
Grass & grasslike	<i>Anthosachne scabra</i>	2	400		N	
Shrub (SG)	<i>Hakea microcarpa</i>	0.5	2		N	
Forb (FG)	<i>Lagenifera stipitata</i>	0.1	1		N	
Grass & grasslike	<i>Luzula densiflora</i>	0.1	8		N	
Grass & grasslike	<i>Microlaena stipoides</i>	5	250		N	
Grass & grasslike	<i>Dichelachne rara</i>	1	50		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.3	1		N	
Forb (FG)	<i>Chiloglottis valida</i>	0.1	3		N	
Grass & grasslike	<i>Carex</i> spp.	0.1	4		N	
Grass & grasslike	<i>Poa ensiformis</i>	1	10		N	

BAM Site – Field Survey Form

Plot ID:	2236	Date:	12-11-18	Survey Name:	Tantangara Road	Recorders:	AM, JS	
Zone:	55	Easting:	645981.9044	Plot dimensions:	20m x 50m	Midline bearing:	290	
Datum:	GDA94	Northing:	6022839.526	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	637: Alpine and sub-alpine peatlands, damp herbfields and fens, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Alpine Bogs and Fens				EEC:	Yes	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	7
	Grasses etc.:	11
	Forbs:	13
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0.1
	Shrubs:	58.7
	Grasses etc.:	40.9
	Forbs:	1.5
	Ferns:	0.1
	Other:	0
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	9		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	15	15	15	20	0	0	0	0	0	70	30	60	2	50	0	0	0	0	0
Average of the 5 subplots:	15					0					42.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Swamp	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	Some minor clearing for powerline
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Light	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	12-11-18	Plot ID:	2236	Recorders:	AM, JS

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Epacris breviflora</i>	40	300		N	
Grass & grasslike	<i>Empodisma minus</i>	20	1000		N	
Grass & grasslike	<i>Poa ensiformis</i>	5	100		N	
Grass & grasslike	<i>Carex appressa</i>	3	200		N	
Grass & grasslike	<i>Poa costiniana</i>	5	200		N	
	<i>Sphagnum cristatum</i>	10	50		N	
Shrub (SG)	<i>Baeckea utilis</i>	5	100		N	
	<i>Anthoxanthum odoratum</i>	1	100		E	
Forb (FG)	<i>Asperula gunnii</i>	0.2	300		N	
Forb (FG)	<i>Hydrocotyle algida</i>	0.2	1000		N	
Grass & grasslike	<i>Luzula modesta</i>	0.3	200		N	
	<i>Trifolium repens</i>	0.1	50		E	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	50		N	
Shrub (SG)	<i>Hakea microcarpa</i>	2	20		N	
Forb (FG)	<i>Oreomyrrhis ciliata</i>	0.1	50		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	0.5	5		N	
Grass & grasslike	<i>Poa helmsii</i>	0.1	1		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	2	50		N	
	<i>Holcus lanatus</i>	0.1	10		E	
	<i>Hypochaeris radicata</i>	0.1	20		E	
Grass & grasslike	<i>Deyeuxia brachyathera</i>	0.1	20		N	
Forb (FG)	<i>Cardamine astoniae</i>	0.1	100		N	
	<i>Hypericum perforatum</i>	0.1	10		HTE	
Forb (FG)	<i>Senecio gunnii</i>	0.1	20		N	
Grass & grasslike	<i>Baloskion australe</i>	5	300		N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	50		N	
	<i>Taraxacum officinale</i>	0.1	30		E	
Shrub (SG)	<i>Pimelea bracteata</i>	0.2	5		N	
Shrub (SG)	<i>Callistemon pityoides</i>	1	10		N	
Fern (EG)	<i>Blechnum penna-marina</i> subsp. <i>alpina</i>	0.1	50		N	
Grass & grasslike	<i>Carex gaudichaudiana</i>	0.2	30		N	
Forb (FG)	<i>Epilobium gunnianum</i>	0.1	100		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	20		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	40		N	
Forb (FG)	<i>Aciphylla glacialis</i>	0.1	10		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	0.1	1		N	
Shrub (SG)	<i>Epacris paludosa</i>	10	100		N	
Forb (FG)	<i>Plantago</i> spp.	0.1	20		N	
Forb (FG)	<i>Ranunculus pimpinellifolius</i>	0.1	30		N	
Grass & grasslike	<i>Juncus sarophorus</i>	0.2	20		N	

BAM Site – Field Survey Form

Plot ID:	2240	Date:	14-11-18	Survey Name:	Tantangara Road	Recorders:	AM, EM
Zone:	55	Easting:	646714.4051	Plot dimensions:	20m x 50m	Midline bearing:	2
Datum:	GDA94	Northing:	6027069.256	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	4
	Grasses etc.:	5
	Forbs:	15
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	5.4
	Grasses etc.:	62.7
	Forbs:	1.7
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	18		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	75	80	80	50	60	0	1	0	20	10	0	1	0	0	1	0	0	0	1	0
Average of the 5 subplots:	69					6.2					0.4					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Cleared for powerline
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropods
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate	less than 3yo	
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	14-11-18	Plot ID:	2240	Recorders:	AM, EM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	60	1000		N	
	<i>Anthoxanthum odoratum</i>	30	1000		E	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	50		N	
	<i>Hypericum perforatum</i>	0.2	80		HTE	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	50		N	
Shrub (SG)	<i>Podolobium alpestre</i>	0.2	10		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	5	200		N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	50		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.2	300		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.1	20		N	
Forb (FG)	<i>Ajuga australis</i>	0.1	50		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	40		N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	2	70		N	
	<i>Acetosella vulgaris</i>	0.1	200		HTE	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	100		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.5	50		N	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	2		N	
Forb (FG)	<i>Chiloglottis valida</i>	0.1	5		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	20		N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	30		N	
Forb (FG)	<i>Podolepis laciniata</i>	0.2	200		N	
Forb (FG)	<i>Coronidium monticola</i>	0.1	50		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	20		N	
	<i>Hypochaeris radicata</i>	0.1	40		E	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	20		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	30		N	
Forb (FG)	<i>Craspedia</i> spp.	0.1	20		N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.1	30		N	

BAM Site – Field Survey Form

Plot ID:	2244	Date:	19-11-18	Survey Name:	Tantangara Rd powerline easement	Recorders:	SW, MP	
Zone:	55	Easting:	648953.984	Plot dimensions:	20m x 50m	Midline bearing:	178	
Datum:	GDA94	Northing:	6035098.574	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	2
	Grasses etc.:	8
	Forbs:	17
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0.1
	Shrubs:	0.2
	Grasses etc.:	79.6
	Forbs:	4.6
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	16		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	15	10	2	1	15	5	5	85	95	0	0	0	0	0	0	0	0	1	0
Average of the 5 subplots:	9.6					41					0					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loamy clay	Soil Colour	Light brown/orange	Soil Depth	At least 100mm
Lithology (B)							
Slope	15	Aspect	Western	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	less than 3yo	Maintained powerline
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Brumbies and rabbits
Fire damage:	Light	greater than 10yo	Some evidence on stumps and trunks in adjacent woodland
Storm damage:			No evidence
Weediness:	Light	less than 3yo	Some grasses and small forbs
Other:	Light	less than 3yo	Easement access track in plot

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Rd powerline easement					
	Date:	19-11-18	Plot ID:	2244	Recorders:	SW, MP

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i>	25	150		N	
Grass & grasslike	<i>Themeda triandra</i>	35	200		N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.3	500		N	
Shrub (SG)	<i>Leucopogon fraseri</i>	0.1	1		N	
Grass & grasslike	<i>Poa</i> spp.	0.1	3		N	
	<i>Acetosella vulgaris</i>	0.1	200		HTE	
Tree (TG)	<i>Eucalyptus pauciflora</i>	0.1	1		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	9		N	
Forb (FG)	<i>Brachyscome decipiens</i>	1	200		N	
Forb (FG)	<i>Senecio lageniformis</i>	0.2	200		N	
Forb (FG)	<i>Senecio gunnii</i>	0.2	150		N	
Grass & grasslike	<i>Carex breviculmis</i>	2	300		N	
Grass & grasslike	<i>Poa clivicola</i>	10	200		N	
Grass & grasslike	<i>Luzula</i> spp.	0.5	500		N	
	<i>Vulpia bromoides</i>	50	2000		E	
Grass & grasslike	<i>Carex inversa</i>	5	300		N	
	<i>Leucanthemum vulgare</i>	0.4	20		HTE	
Forb (FG)	<i>Craspedia variabilis</i>	0.1	6		N	
	<i>Taraxacum officinale</i>	0.1	5		E	
	<i>Hypochaeris radicata</i>	0.1	13		E	
Forb (FG)	<i>Euchiton traversii</i>	0.1	50		N	
Forb (FG)	<i>Solenogyne gunnii</i>	0.1	6		N	
Forb (FG)	<i>Ajuga australis</i>	0.2	30		N	
	<i>Trifolium dubium</i>	0.1	6		E	
Forb (FG)	<i>Dichondra repens</i>	0.1	500		N	
Forb (FG)	<i>Podolepis jaceoides</i>	1.5	30		N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	15		N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	30		N	
Forb (FG)	<i>Leptorhynchus squamatus</i>	0.2	40		N	
Shrub (SG)	<i>Hakea microcarpa</i>	0.1	1		N	
Forb (FG)	<i>Epilobium</i> spp.	0.1	15		N	
Forb (FG)	<i>Scleranthus</i> spp.	0.1	6		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	3		N	
Grass & grasslike	<i>Anthosachne scabra</i>	2	150		N	
	<i>Anthoxanthum odoratum</i>	0.1	4		E	

BAM Site – Field Survey Form

Plot ID:	2250	Date:	14-11-18	Survey Name:	Tantangara Road	Recorders:	AM, EM	
Zone:	55	Easting:	646399.874	Plot dimensions:	20m x 50m	Midline bearing:	15	
Datum:	GDA94	Northing:	6025212.207	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	4
	Grasses etc.:	5
	Forbs:	13
	Ferns:	1
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	1.5
	Grasses etc.:	45.4
	Forbs:	1.3
	Ferns:	0.2
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	50	30	25	30	10	30	10	15	45	15	5	40	30	5	0	0	0	0	0
Average of the 5 subplots:	31					22					19					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Historical clearing for powerline
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light		Macropod scats
Fire damage:			No evidence
Storm damage:			No evidence
Weediness:	Moderate		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara Road					
	Date:	14-11-18	Plot ID:	2250	Recorders:	AM, EM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	40	500		N	
	<i>Anthoxanthum odoratum</i>	40	1000		E	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	50		N	
Shrub (SG)	<i>Podolobium alpestre</i>	1	5		N	
Forb (FG)	<i>Calotis glandulosa</i>	0.1	40		N	
Forb (FG)	<i>Ajuga australis</i>	0.1	100		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	30		N	
Fern (EG)	<i>Ophioglossum lusitanicum</i>	0.2	500		N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	20		N	
	<i>Hypericum perforatum</i>	0.2	40		HTE	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	0.2	5		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	5	200		N	
Grass & grasslike	<i>Luzula flaccida</i>	0.1	30		N	
	<i>Acetosella vulgaris</i>	0.1	20		HTE	
Grass & grasslike	<i>Carex breviculmis</i>	0.1	10		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.1	20		N	
Forb (FG)	<i>Veronica subtilis</i>	0.1	10		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.2	5		N	
Forb (FG)	<i>Geranium antrorsum</i>	0.1	20		N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	100		N	
Forb (FG)	<i>Acaena ovina</i>	0.1	40		N	
Forb (FG)	<i>Veronica calycina</i>	0.1	30		N	
Grass & grasslike	<i>Carex hebes</i>	0.2	100		N	
Shrub (SG)	<i>Ozothamnus thyrsoides</i>	0.1	1		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	20		N	
	<i>Verbascum thapsus</i> subsp. <i>Thapsus</i>	0.1	2		E	

BAM Site – Field Survey Form

Plot ID:	2256	Date:	14-11-18	Survey Name:	Tantangera	Recorders:	DK, IM	
Zone:	55	Easting:	645736.3055	Plot dimensions:	20m x 50m	Midline bearing:	92	
Datum:	GDA94	Northing:	6022859.332	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	Yes	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	7
	Grasses etc.:	9
	Forbs:	9
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	48.3
	Grasses etc.:	57.4
	Forbs:	0.9
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	2		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	10	20	25	35	0	0	0	0	2	25	30	10	10	0	0	0	0	0	
Average of the 5 subplots:	23					0.4					15					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Swamp	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour	Dark brown	Soil Depth	
Lithology (B)							
Slope	3	Aspect	90	Site Drainage	Poor	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	Evidence of clearing for power line easement
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:			Site occurs underneath powerlines within the easement

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangera					
	Date:	14-11-18	Plot ID:	2256	Recorders:	DK, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Epacris paludosa</i>	5	30		N	
Shrub (SG)	<i>Epacris breviflora</i>	20	300		N	
Shrub (SG)	<i>Baeckea utilis</i>	10	150		N	
Shrub (SG)	<i>Grevillea lanigera</i>	2	6		N	
Shrub (SG)	<i>Hakea microcarpa</i>	6	30		N	
Grass & grasslike	<i>Empodisma minus</i>	30	200		N	
	<i>Sphagnum cristatum</i>	10	200		N	
Grass & grasslike	<i>Poa costiniana</i>	10	200		N	
Forb (FG)	<i>Patersonia sericea</i>	0.1	2		N	
Forb (FG)	<i>Ranunculus graniticola</i>	0.1	3		N	
Forb (FG)	<i>Ranunculus pimpinellifolius</i>	0.1	2		N	
Grass & grasslike	<i>Carex gaudichaudiana</i>	1	5		N	
Shrub (SG)	<i>Leptospermum myrtifolium</i>	0.3	2		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	2		N	
Grass & grasslike	<i>Luzula modesta</i>	0.1	6		N	
Forb (FG)	<i>Acaena</i> spp.	0.1	10		N	
Grass & grasslike	<i>Poa ensiformis</i>	8	150		N	
Grass & grasslike	<i>Baloskion australe</i>	0.1	4		N	
Grass & grasslike	<i>Schoenus apogon</i>	0.1	2		N	
Shrub (SG)	<i>Callistemon ptyoides</i>	5	20		N	
Forb (FG)	<i>Asperula gunnii</i>	0.1	3		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	2		N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	2		N	
Grass & grasslike	<i>Carex appressa</i>	8	150		N	
Forb (FG)	<i>Cardamine astoniae</i>	0.1	10		N	
Grass & grasslike	<i>Juncus falcatus</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	2264	Date:	01-04-19	Survey Name:	Lobbs hole- across old bridge at the end of mines trail	Recorders:	JA, KS
Zone:	55	Easting:	628695.62	Plot dimensions:	20m x 50m	Midline bearing:	132
Datum:	GDA94	Northing:	6039087.438	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	299: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:		Confidence:

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	19
	Grasses etc.:	6
	Forbs:	8
	Ferns:	1
	Other:	3
Sum of Cover of native vascular plants by growth form group	Trees:	50
	Shrubs:	15.3
	Grasses etc.:	50.9
	Forbs:	1
	Ferns:	0.1
	Other:	0.3
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	42		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	40	30	25	60	4	0	0	5	3	20	20	25	50	0	3	2	7	5	1
Average of the 5 subplots:	34					2.4					23					3.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)		Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobbs hole- across old bridge at the end of mines trail				
	Date:	01-04-19	Plot ID:	2264	Recorders: JA, KS

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	45	9	No	N	
Tree (TG)	<i>Eucalyptus dives</i>	2	2	No	N	
Tree (TG)	<i>Eucalyptus nortonii</i>	3	1	No	N	
Shrub (SG)	<i>Cassinia longifolia</i>	5	30	No	N	
Shrub (SG)	<i>Grevillea arenaria</i>	2	10	No	N	
Shrub (SG)	<i>Bursaria spinosa</i>	1	10	No	N	
Shrub (SG)	<i>Exocarpos cupressiformis</i>	2	7	No	N	
Shrub (SG)	<i>Olearia myrsinoides</i>	1	25	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	1	20	No	N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	100	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.3	40	No	N	
Shrub (SG)	<i>Dodonaea viscosa</i>	0.5	20	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	50	1500	No	N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	5	No	N	
Shrub (SG)	<i>Indigofera australis</i>	0.1	5	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	50	No	N	
Forb (FG)	<i>Asperula spp.</i>	0.1	100	No	N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	1	10	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.5	50	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	10	No	N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.5	5	No	N	
Shrub (SG)	<i>Acacia obliquinervia</i>	0.1	1	No	N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.1	1	No	N	
Grass & grasslike	<i>Dichelachne spp.</i>	0.1	1	No	N	
Forb (FG)	<i>Cynoglossum spp.</i>	0.1	1	No	N	
	<i>Hypericum perforatum</i>	0.1	20	No	HTE	
Other (OG)	<i>Glycine clandestina</i>	0.1	50	No	N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	0.2	15	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	5	No	N	
Shrub (SG)	<i>Rubus parvifolius</i>	0.1	1	No	N	
Grass & grasslike	<i>Themeda triandra</i>	0.1	10	No	N	
Shrub (SG)	<i>Rubus spp.</i>	0.1	5	No	N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	1	No	N	
Shrub (SG)	<i>Daviesia leptophylla</i>	0.2	2	No	N	
Forb (FG)	<i>Dianella spp.</i>	0.1	10	No	N	
Shrub (SG)	<i>Omphacomeria acerba</i>	0.1	1	No	N	
Forb (FG)	<i>Senecio spp.</i>	0.1	1	No	N	
	<i>Hypochaeris radicata</i>	0.1	10	No	E	
Grass & grasslike	<i>Carex spp.</i>	0.1	1	No	N	
Other (OG)	<i>Clematis aristata</i>	0.1	1	No	N	
Fern (EG)	<i>Asplenium flabellifolium</i>	0.1	1	No	N	
Shrub (SG)	<i>Acacia siculiformis</i>	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	2265	Date:	02-04-19	Survey Name:	Snowy 2.0	Recorders:	JA, KS	
Zone:	55	Easting:	626599.2543	Plot dimensions:	20m x 50m	Midline bearing:	30	
Datum:	GDA94	Northing:	6038069.537	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	285: Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:		Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	8
	Grasses etc.:	4
	Forbs:	2
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	62.3
	Shrubs:	37.1
	Grasses etc.:	5.5
	Forbs:	0.3
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	6
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	32		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	100	92	80	95	60	0	1	0	0	5	0	1	0	0	0	0	0	0	0	0
Average of the 5 subplots:	85.4					1.2					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)		Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Light	greater than 10yo	Sapling density
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Snowy 2.0					
	Date:	02-04-19	Plot ID:	2265	Recorders:	JA, KS

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus mannifera</i>	60	30	No	N	
Shrub (SG)	<i>Acacia pravissima</i>	30	40	No	N	
Shrub (SG)	<i>Calytrix tetragona</i>	4	25	No	N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	2	17	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.2	10	No	N	
Shrub (SG)	<i>Pimelea</i> spp.	0.1	100	No	N	
Forb (FG)	<i>Dianella revoluta</i>	0.2	50	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	5	45	No	N	
Tree (TG)	<i>Acacia melanoxylon</i>	0.3	6	No	N	
Shrub (SG)	<i>Cassinia</i> spp.	0.5	5	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	0.1	15	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.3	10	No	N	
Other (OG)	<i>Cassytha glabella</i>	0.1	30	No	N	
Forb (FG)	<i>Senecio</i> spp.	0.1	2	No	N	
Shrub (SG)	<i>Podolobium procumbens</i>	0.2	3	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	5	No	N	
Tree (TG)	<i>Eucalyptus rubida</i>	2	1	No	N	
Shrub (SG)	<i>Dillwynia sericea</i>	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	2266	Date:	09-04-19	Survey Name:	Kings Cross rd	Recorders:	MP, IM
Zone:	55	Easting:	627795.1908	Plot dimensions:	20m x 50m	Midline bearing:	332
Datum:	GDA94	Northing:	6022450.726	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	679: Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	12
	Grasses etc.:	4
	Forbs:	16
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	45
	Shrubs:	72.5
	Grasses etc.:	6.2
	Forbs:	2.6
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	70	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	11		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	95	80	99	20	80	1	0	0	0	5	1	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	74.8					1.2					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Loam	Soil Colour	Dark Brown	Soil Depth	
Lithology (B)							
Slope		Aspect	Nw	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Severe	greater than 10yo	Charred and dead standing timber
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Kings Cross rd						
		Date:	09-04-19	Plot ID:	2266	Recorders:	MP, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus debeuzevillei</i>	30	60		N	
Tree (TG)	<i>Eucalyptus stellulata</i>	15	12		N	
Shrub (SG)	<i>Asterolasia asteriscophora</i>	15	200		N	
Shrub (SG)	<i>Podolobium alpestre</i>	30	500		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	1	20		N	
Shrub (SG)	<i>Acacia alpina</i>	15	300		N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	3	100		N	
Grass & grasslike	<i>Microlaena stipoides</i>	3	100		N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.2	30		N	
Forb (FG)	<i>Asperula conferta</i>	0.1	8		N	
Forb (FG)	<i>Hydrocotyle</i> spp.	0.1	3		N	
Forb (FG)	<i>Dianella tasmanica</i>	0.1	1		N	
Forb (FG)	<i>Paranthera microphylla</i>	0.1	2		N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	2		N	
Forb (FG)	<i>Arthropodium</i> spp.	0.1	2		N	
Forb (FG)	<i>Geranium</i> spp.	0.1	2		N	
	<i>Hypochaeris radicata</i>	0.1	2		E	
Forb (FG)	<i>Senecio</i> spp.	0.1	2		N	
Shrub (SG)	<i>Bossiaea foliosa</i>	10	200		N	
Forb (FG)	<i>Cynoglossum australe</i>	0.1	2		N	
Shrub (SG)	<i>Polyscias sambucifolia</i> subsp. <i>leptophylla</i>	0.1	1		N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	30		N	
	<i>Rubus fruticosus</i> sp. agg.	0.2	2		HTE	
Shrub (SG)	<i>Tasmannia xerophila</i>	0.2	2		N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.2	20		N	
Forb (FG)	<i>Stylidium graminifolium</i>	1	30		N	
Shrub (SG)	<i>Leucopogon gelidus</i>	0.3	5		N	
Grass & grasslike	<i>Themeda triandra</i>	0.1	2		N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	3		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.1	2		N	
	<i>Acetosella vulgaris</i>	0.1	2		HTE	
Shrub (SG)	<i>Rubus parvifolius</i>	0.1	1		N	
Grass & grasslike	<i>Dichelachne</i> spp.	0.1	2		N	
Shrub (SG)	<i>Acacia obliquinervia</i>	0.5	3		N	
Forb (FG)	<i>Lobelia pedunculata</i>	0.1	3		N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	2		N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	2269	Date:	10-04-19	Survey Name:		Recorders:	MP, IM
Zone:	55	Easting:	624596.6415	Plot dimensions:	20m x 50m	Midline bearing:	180
Datum:	GDA94	Northing:	6040798.222	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	18
	Grasses etc.:	7
	Forbs:	11
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	40
	Shrubs:	58
	Grasses etc.:	25
	Forbs:	3.3
	Ferns:	0
	Other:	1
High Threat Weed cover:		2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	12		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	15	20	10	40	0	0	0	5	0	85	85	80	80	55	0	0	0	5	5
Average of the 5 subplots:	20					1					77					2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Silty clay	Soil Colour	Red brown	Soil Depth	
Lithology (B)							
Slope		Aspect	180	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:	Moderate	3 to 10 yo	Walking track through plot

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	10-04-19	Plot ID:	2269	Recorders:	MP, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Forb (FG)	<i>Eriochilus cucullatus</i>	0.1	2	No	N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	25	35	No	N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>angustifolia</i>	35	100	No	N	
Grass & grasslike	<i>Rytidosperma</i> spp.	0.2	50	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	20	400	No	N	
Other (OG)	<i>Cassytha pubescens</i>	1	40	No	N	
	<i>Hypericum perforatum</i>	2	100	No	HTE	
Shrub (SG)	<i>Cryptandra amara</i>	6	150	No	N	
Grass & grasslike	<i>Dichelachne rara</i>	4	100	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	3	30	No	N	
Forb (FG)	<i>Hovea heterophylla</i>	1	100	No	N	
Shrub (SG)	<i>Banksia canei</i>	5	15	No	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.5	20	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	15	No	N	
Shrub (SG)	<i>Acacia pravissima</i>	6	100	No	N	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.5	40	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.2	150	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	60	No	N	
	<i>Centaurium</i> spp.	1.5	800	No	E	
Forb (FG)	<i>Stellaria pungens</i>	0.8	300	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	50	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.1	25	No	N	
Shrub (SG)	<i>Dillwynia rudis</i>	0.2	10	No	N	
Forb (FG)	<i>Orchidaceae indeterminate</i>	0.1	10	No	N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.1	20	No	N	
Tree (TG)	<i>Eucalyptus mannifera</i>	15	4	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.6	80	No	N	
Forb (FG)	<i>Euchiton involucrat</i>	0.1	4	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	50	No	N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	30	No	N	
Shrub (SG)	<i>Grevillea arenaria</i>	0.3	5	No	N	
Grass & grasslike	<i>Luzula</i> spp.	0.1	10	No	N	
	<i>Trifolium</i> spp.	0.1	4	No	E	
	<i>Vulpia</i> spp.	0.1	4	No	E	
Forb (FG)	<i>Asteraceae indeterminate</i>	0.1	2	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	0.5	100	No	N	
Shrub (SG)	<i>Indigofera australis</i>	0.1	4	No	N	
Shrub (SG)	<i>Bursaria spinosa</i>	0.3	3	No	N	
	<i>Verbascum virgatum</i>	0.1	1	No	E	
Shrub (SG)	<i>Acrotriche serrulata</i>	0.2	2	No	N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.1	4	No	N	
Shrub (SG)	<i>Melichrus urceolatus</i>	0.1	4	No	N	
Shrub (SG)	<i>Acacia gunnii</i>	0.1	5	No	N	
Shrub (SG)	<i>Leucopogon ericoides</i>	0.4	15	No	N	

BAM Site – Field Survey Form

Plot ID:	2274	Date:	12-04-19	Survey Name:		Recorders:	IM, DK
Zone:	55	Easting:	650897.3207	Plot dimensions:	20m x 50m	Midline bearing:	151
Datum:	GDA94	Northing:	6021044.847	IBRA region:	South Eastern Highlands (Monaro)	Zone ID:	
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	2
	Grasses etc.:	7
	Forbs:	11
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0.2
	Shrubs:	40.5
	Grasses etc.:	91.5
	Forbs:	1.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	2	4	3	5	8	20	8	1	1	0	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	4.4					6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	1	Aspect	SSE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Pasture
Cultivation (inc. pasture):	Severe	greater than 10yo	Pasture
Soil erosion:	Light	greater than 10yo	Not limiting native regen
Firewood / CWD removal:			
Grazing (identify native/stock):	Severe	greater than 10yo	Cattle and sheep
Fire damage:			
Storm damage:			
Weediness:	Light		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	12-04-19	Plot ID:	2274	Recorders:	IM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Shrub (SG)	<i>Pimelea pauciflora</i>	0.5	3	No	N	
Shrub (SG)	<i>Pultenaea polifolia</i>	40	200	No	N	
Grass & grasslike	<i>Themeda triandra</i>	50	1000	No	N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.2	100	No	N	
Grass & grasslike	<i>Microlaena stipoides</i>	0.1	20	No	N	
Forb (FG)	<i>Chrysocephalum apiculatum</i>	0.1	30	No	N	
	<i>Acetosella vulgaris</i>	0.2	300	No	HTE	
	<i>Centaureum spp.</i>	0.1	30	No	E	
	<i>Hypochaeris radicata</i>	0.2	30	No	E	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	10	No	N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.2	8	No	N	
Grass & grasslike	<i>Cynodon dactylon</i>	0.1	3	No	N	
Forb (FG)	<i>Veronica calycina</i>	0.1	2	No	N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	4	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	2	No	N	
Grass & grasslike	<i>Rytidosperma spp.</i>	40	1500	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	1	20	No	N	
Tree (TG)	<i>Eucalyptus rubida</i>	0.1	4	No	N	
Forb (FG)	<i>Senecio spp.</i>	0.1	20	No	N	
Forb (FG)	<i>Ranunculus spp.</i>	0.1	10	No	N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	0.1	2	No	N	
Forb (FG)	<i>Solenogyne gunnii</i>	0.1	8	No	N	
Forb (FG)	<i>Plantago spp.</i>	0.1	1	No	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	4	No	N	
	<i>Anthoxanthum odoratum</i>	0.1	10	No	E	
Grass & grasslike	<i>Aristida ramosa</i>	0.1	2	No	N	

BAM Site – Field Survey Form

Plot ID:	2275	Date:	13-04-19	Survey Name:				Recorders:	IM, DK
Zone:	55	Easting:	650061.4356	Plot dimensions:	20m x 50m			Midline bearing:	45
Datum:	GDA94	Northing:	6021751.309	IBRA region:	South Eastern Highlands (Monaro)			Zone ID:	
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:		
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	6
	Grasses etc.:	7
	Forbs:	14
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	8
	Shrubs:	4.6
	Grasses etc.:	64.4
	Forbs:	1.6
	Ferns:	0
	Other:	0
High Threat Weed cover:		5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	45	35	65	30	5	5	8	5	7	4	3	0	0	0	1	17	0	5	1	1
Average of the 5 subplots:	36					5.8					0.8					4.8				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	0	Aspect	0	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	Pasture
Cultivation (inc. pasture):	Severe	greater than 10yo	Pasture
Soil erosion:	Light		Grazing and hooves
Firewood / CWD removal:			
Grazing (identify native/stock):	Severe	greater than 10yo	Sheep and cattle
Fire damage:			
Storm damage:			
Weediness:	Severe		Sweet vernal and cocks foot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:						
	Date:	13-04-19	Plot ID:	2275	Recorders:	IM, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	8	1	No	N	
Shrub (SG)	<i>Pimelea pauciflora</i>	2	3	No	N	
Grass & grasslike	<i>Themeda triandra</i>	30	500	No	N	
Grass & grasslike	<i>Anthosachne scabra</i>	1	50	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	3	50	No	N	
Grass & grasslike	<i>Microlaena stipoides</i>	0.2	20	No	N	
Grass & grasslike	<i>Rytidosperma</i> spp.	30	500	No	N	
	<i>Acetosella vulgaris</i>	5	1000	No	HTE	
Shrub (SG)	<i>Daviesia ulicifolia</i>	2	3	No	N	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.2	30	No	N	
	<i>Hypochaeris radicata</i>	0.2	100	No	E	
Forb (FG)	<i>Senecio</i> spp.	0.1	30	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	2	No	N	
	<i>Anthoxanthum odoratum</i>	0.3	50	No	E	
	<i>Dactylis glomerata</i>	0.1	20	No	E	
Forb (FG)	<i>Solenogyne gunnii</i>	0.2	50	No	N	
	<i>Centaureum</i> spp.	0.1	18	No	E	
Forb (FG)	<i>Paranthera microphylla</i>	0.1	2	No	N	
Forb (FG)	<i>Ranunculus</i> spp.	0.1	2	No	N	
Shrub (SG)	<i>Pultenaea polifolia</i>	0.2	3	No	N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	10	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	0.2	1	No	N	
Shrub (SG)	<i>Pultenaea procumbens</i>	0.1	1	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	5	No	N	
	<i>Trifolium</i> spp.	0.1	20	No	E	
Forb (FG)	<i>Einadia</i> spp.	0.1	5	No	N	
Forb (FG)	<i>Wahlenbergia</i> spp.	0.1	3	No	N	
Forb (FG)	<i>Acaena</i> spp.	0.1	20	No	N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	6	No	N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	4	No	N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	6	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	2	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	2	No	N	
	<i>Aira</i> spp.	0.1	3	No	E	
Grass & grasslike	<i>Aristida ramosa</i>	0.1	2	No	N	

BAM Site – Field Survey Form

Plot ID:	2276	Date:	14-04-19	Survey Name:	2276	Recorders:	MP, CE	
Zone:	55	Easting:	624563.6143	Plot dimensions:	20m x 50m	Midline bearing:	154	
Datum:	GDA94	Northing:	6041770.869	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	5
	Shrubs:	12
	Grasses etc.:	8
	Forbs:	14
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	15.9
	Shrubs:	46.6
	Grasses etc.:	61.2
	Forbs:	1.7
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		6.3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	2	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	33		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	20	70	50	60	45	50	0	0	0	0	0	0	3	2	0	10	0	15	0	0
Average of the 5 subplots:	49					10					1					5				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Browm	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect	SW	Site Drainage	Good	Distance to nearest water & type	50m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Moderate	less than 3yo	Rubus fruticosus agg
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	25-03-06 0:00						
		Date:	14-04-19	Plot ID:	2276	Recorders:	MP, CE

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	55	500	No	N	
Shrub (SG)	<i>Bursaria spinosa</i>	20	100	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	1	20	No	N	
	<i>Potentilla recta</i>	0.6	50	No	E	
	<i>Hypericum perforatum</i>	1	100	No	HTE	
Grass & grasslike	<i>Poa costiniana</i>	5	100	No	N	
Shrub (SG)	<i>Banksia canei</i>	3	10	No	N	
Tree (TG)	<i>Eucalyptus rubida</i>	2	2	No	N	
Tree (TG)	<i>Eucalyptus stellulata</i>	5	3	No	N	
	<i>Rosa rubiginosa</i>	0.1	3	No	HTE	
	<i>Rubus fruticosus</i> sp. agg.	5	20	No	HTE	
Tree (TG)	<i>Acacia melanoxylon</i>	1.5	3	No	N	
	<i>Centaurium</i> spp.	0.1	60	No	E	
Grass & grasslike	<i>Rytidosperma</i> spp.	0.1	10	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	10	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.2	15	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.6	20	No	N	
	<i>Paspalum dilatatum</i>	0.1	10	No	HTE	
Forb (FG)	<i>Dichondra repens</i>	0.2	100	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	60	No	N	
Tree (TG)	<i>Eucalyptus dives</i>	0.4	1	No	N	
	<i>Acetosella vulgaris</i>	0.1	12	No	HTE	
Shrub (SG)	<i>Pimelea linifolia</i>	1	100	No	N	
Shrub (SG)	<i>Leucopogon ericoides</i>	0.4	20	No	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	4	No	N	
	<i>Conyza</i> spp.	0.1	4	No	E	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.8	20	No	N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>Angustissima</i>	3	30	No	N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	15	25	No	N	
Forb (FG)	<i>Dianella</i> spp.	0.2	15	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	4	No	N	
Forb (FG)	<i>Ajuga australis</i>	0.1	4	No	N	
Forb (FG)	<i>Asperula conferta</i>	0.1	50	No	N	
	<i>Hypochaeris radicata</i>	0.1	8	No	E	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	10	No	N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	4	No	N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	6	No	N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.2	20	No	N	
Grass & grasslike	<i>Luzula</i> spp.	0.1	8	No	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	2	40	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	4	No	N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.1	10	No	N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	7	11	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	1	No	N	
Shrub (SG)	<i>Acrotriche serrulata</i>	0.1	2	No	N	
Forb (FG)	<i>Cymbonotus</i> spp.	0.1	4	No	N	
Forb (FG)	<i>Acaena</i> spp.	0.2	10	No	N	

Grass & grasslike	<i>Poa helmsii</i>	0.2	4	No	N	
	<i>Verbascum virgatum</i>	0.1	4	No	E	
Forb (FG)	<i>Plantago spp.</i>	0.1	6	No	N	

BAM Site – Field Survey Form

Plot ID:	2284	Date:	14-05-19	Survey Name:	LHRR	Recorders:	JB, DK
Zone:	55	Easting:	625378.9112	Plot dimensions:	20m x 50m	Midline bearing:	172
Datum:	GDA94	Northing:	6039762.785	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	3
	Grasses etc.:	2
	Forbs:	9
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	7.6
	Grasses etc.:	36
	Forbs:	5.8
	Ferns:	0
	Other:	0
High Threat Weed cover:		40.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	5	1	5	2	5	5	2	0	5	3	5	10	0	2	10	0	0	0	0	0
Average of the 5 subplots:	3.6					3					5.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)		Lf Pattern (A)		Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	D. Grassland
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light	less than 3yo	Rabbits
Fire damage:			
Storm damage:			
Weediness:	Light	less than 3yo	Weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000, ...

Survey Name:	LHRR					
			Date:	14-05-19	Plot ID:	2284
			Recorders:		JB, DK	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
	<i>Potentilla</i> spp.	0.1	1	No	E	
Forb (FG)	<i>Patersonia</i> spp.	5	40	No	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	5	20	No	N	
	<i>Hypericum perforatum</i>	20	500	No	HTE	
	<i>Rosa rubiginosa</i>	0.1	5	No	HTE	
Grass & grasslike	<i>Themeda triandra</i>	35	300	No	N	
Forb (FG)	<i>Oxalis</i> spp.	0.1	1	No	N	
	<i>Acetosella vulgaris</i>	20	600	No	HTE	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	2.5	2	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	0.1	2	No	N	
Forb (FG)	<i>Plantago</i> spp.	0.1	40	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	10	No	N	
Forb (FG)	<i>Acaena</i> spp.	0.1	20	No	N	
	<i>Taraxacum officinale</i>	0.2	20	No	E	
Forb (FG)	<i>Asteraceae</i> indeterminate	0.1	1	No	N	
	<i>Sphagnum</i> spp.	0.1	1	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	1	10	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	10	No	N	
	<i>Verbascum</i> spp.	0.1	2	No	E	
Forb (FG)	<i>Asteraceae</i> indeterminate	0.1	1	No	N	
	<i>Verbascum</i> spp.	0.1	1	No	E	
Forb (FG)	<i>Iridaceae</i> indeterminate	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3003	Date:	30-01-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM	
Zone:	55	Easting:	626091.1022	Plot dimensions:	20m x 50m	Midline bearing:	260	
Datum:	GDA94	Northing:	6039214.589	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	13
	Grasses etc.:	5
	Forbs:	7
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	47
	Shrubs:	77.7
	Grasses etc.:	90.3
	Forbs:	1
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		25.4

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	5	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	31		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	15	20	20	30	1	2	10	0	2	0	0	0	0	1	0	0	0	0	0
Average of the 5 subplots:	19					3					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Loamy, closer to clay	Soil Colour	light brown	Soil Depth	At least 50m
Lithology (B)							
Slope	10	Aspect	N	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			no evidence
Cultivation (inc. pasture):			no evidence
Soil erosion:			no evidence
Firewood / CWD removal:			no evidence
Grazing (identify native/stock):			
Fire damage:	Moderate	greater than 10yo	Moderate fire scarring on trunk of at least 5 Eucalyptus
Storm damage:			no evidence
Weediness:	Moderate	less than 3yo	St Johns Wort present in plot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ..., 100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine						
		Date:	30-01-19	Plot ID:	3003	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus mannifera</i>	35	25	No	N	
Tree (TG)	<i>Eucalyptus dives</i>	10	10	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	8	25	No	N	
Shrub (SG)	<i>Banksia</i> spp.	20	10	No	N	
Shrub (SG)	<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	1	3	No	N	
Shrub (SG)	<i>Calytrix tetragona</i>	25	75	No	N	
Shrub (SG)	<i>Acacia floribunda</i>	0.5	2	No	N	
Shrub (SG)	<i>Acacia siculiformis</i>	2	10	No	N	
Shrub (SG)	<i>Rubus parvifolius</i>	0.3	5	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.5	20	No	N	
Grass & grasslike	<i>Themeda triandra</i>	60	2000	No	N	
	<i>Hypericum perforatum</i>	25	500	No	HTE	
	<i>Centaurium erythraea</i>	0.1	20	No	E	
Other (OG)	<i>Desmodium varians</i>	0.1	5	No	N	
Grass & grasslike	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	20	300	No	N	
Grass & grasslike	<i>Rytidosperma erianthum</i>	10	200	No	N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.1	10	No	N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	30	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	0.1	2	No	N	
Tree (TG)	<i>Eucalyptus rubida</i>	2	5	No	N	
Shrub (SG)	<i>Pultenaea fasciculata</i>	0.1	10	No	N	
Forb (FG)	<i>Wahlenbergia</i> spp.	0.1	2	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	1	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.1	10	No	N	
Forb (FG)	<i>Galium gaudichaudii</i>	0.2	150	No	N	
Forb (FG)	<i>Brunoniella australis</i>	0.1	2	No	N	
Forb (FG)	<i>Oxalis perennans</i>	0.2	50	No	N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.2	20	No	N	
	<i>Rosa rubiginosa</i>	0.4	5	No	HTE	
Shrub (SG)	<i>Cassinia longifolia</i>	20	10	No	N	
Grass & grasslike	<i>Poaceae</i> spp.	0.2	50	No	N	
Forb (FG)	<i>Asteraceae</i> indeterminate	0.1	25	No	N	
Forb (FG)	<i>Asteraceae</i> indeterminate	0.1	2	No	N	

BAM Site – Field Survey Form

Plot ID:	3006	Date:	12-02-19	Survey Name:	Marica	Recorders:	MP, CW
Zone:	55	Easting:	632621.3583	Plot dimensions:	20m x 50m	Midline bearing:	220
Datum:	GDA94	Northing:	6038430.652	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	639: Alpine Ash - Snow Gum shrubby tall open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Montane Wet Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	11
	Grasses etc.:	4
	Forbs:	13
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	80
	Shrubs:	42.3
	Grasses etc.:	15.3
	Forbs:	10.1
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	620		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	98	80	40	95	95	1	10	5	2	2	0	0	0	0	0	0	5	0	0	1
Average of the 5 subplots:	81.6					4					0					1.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour	Brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect	SE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Animal diggings and scats rara
Fire damage:	Severe	greater than 10yo	Fallen timber, charcoal in leaf litter, fire marks on trees
Storm damage:	Moderate	3 to 10 yo	Abundant fallen timber
Weediness:	Light		Hypochaeris radicata
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Marica						
		Date:	12-02-19	Plot ID:	3006	Recorders:	MP, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	10	10	No	N	
Shrub (SG)	<i>Acacia obliquinervia</i>	25	120	No	N	
Tree (TG)	<i>Eucalyptus delegatensis</i> subsp. <i>delegatensis</i>	70	100	No	N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	4	500	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	3	50	No	N	
Forb (FG)	<i>Stellaria pungens</i>	1	250	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	2	800	No	N	
Shrub (SG)	<i>Polyscias sambucifolia</i>	3	80	No	N	
Shrub (SG)	<i>Platylabium formosum</i>	5	100	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	12	450	No	N	
Shrub (SG)	<i>Pimelea</i> spp.	0.5	80	No	N	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.6	250	No	N	
Forb (FG)	<i>Coronidium monticola</i>	1	150	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.8	150	No	N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.2	1	No	N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	4	No	N	
Shrub (SG)	<i>Lomatia myricoides</i>	2	7	No	N	
Forb (FG)	<i>Galium</i> spp.	0.1	2	No	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	10	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	6	50	No	N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.1	2	No	N	
Other (OG)	<i>Clematis aristata</i>	0.1	10	No	N	
Shrub (SG)	<i>Olearia erubescens</i>	0.2	4	No	N	
	<i>Hypochaeris radicata</i>	0.1	2	No	E	
Forb (FG)	<i>Senecio gunnii</i>	0.1	8	No	N	
Forb (FG)	<i>Craspedia</i> spp.	0.1	1	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.1	4	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	8	No	N	
Shrub (SG)	<i>Coprosma hirtella</i>	0.2	2	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	1	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.1	1	No	N	
Grass & grasslike	<i>Deyeuxia monticola</i> var. <i>monticola</i>	0.2	8	No	N	

BAM Site – Field Survey Form

Plot ID:	3027	Date:	19-02-19	Survey Name:	Lobbs hole	Recorders:	RP, CG
Zone:	55	Easting:	628246.0851	Plot dimensions:	20m x 50m	Midline bearing:	33
Datum:	GDA94	Northing:	6038651.108	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	311: Red Stringybark - Broad-leaved Peppermint - Nortons Box heath open forest of the upper slopes subregion in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:	Low	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	22
	Grasses etc.:	6
	Forbs:	9
	Ferns:	0
	Other:	5
Sum of Cover of native vascular plants by growth form group	Trees:	40
	Shrubs:	95.3
	Grasses etc.:	38.1
	Forbs:	2.6
	Ferns:	0
	Other:	0.7
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	9	0	1
20 – 29 cm:	1	0	1
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	62		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	50	55	60	78	50	33	33	6	0	0	0	0	1	0	6	0	0	0	0	0
Average of the 5 subplots:	58.6					14.4					1.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	Steep, -22	Aspect	NNW	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light	greater than 10yo	2003 fires
Storm damage:			
Weediness:	Light	greater than 10yo	None observed
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobbs hole						
		Date:	19-02-19	Plot ID:	3027	Recorders:	RP, CG

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	30	20	No	N	
Shrub (SG)	<i>Banksia canei</i>	50	180	No	N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	20	100	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	5	200	No	N	
Shrub (SG)	<i>Pomaderris subcapitata</i>	0.2	1	Yes	N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.5	120	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.1	70	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	30	1500	No	N	
Grass & grasslike	<i>Lepidosperma laterale</i>	2	50	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.5	200	No	N	
Shrub (SG)	<i>Leucopogon fraseri</i>	0.2	300	Yes	N	
Forb (FG)	<i>Euchiton japonicus</i>	0.1	10	No	N	
Shrub (SG)	<i>Acacia spp.</i>	5	75	No	N	
Other (OG)	<i>Cassytha melantha</i>	0.2	20	Yes	N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	1	500	Yes	N	
Shrub (SG)	<i>Leucopogon attenuatus</i>	0.5	20	No	N	
	<i>Centaurium erythraea</i>	0.1	30	No	E	
Grass & grasslike	<i>Rytidosperma spp.</i>	0.5	30	Yes	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	1	60	No	N	
Forb (FG)	<i>Galium gaudichaudii</i>	0.1	10	Yes	N	
Forb (FG)	<i>Hovea heterophylla</i>	1	50	No	N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	25	Yes	N	
Other (OG)	<i>Billardiera scandens</i>	0.2	20	No	N	
Other (OG)	<i>Cassytha pubescens</i>	0.1	20	No	N	
Shrub (SG)	<i>Pomaderris ledifolia</i>	2	30	Yes	N	
Forb (FG)	<i>Dianella nervosa</i>	0.5	15	Yes	N	
Shrub (SG)	<i>Cassinia longifolia</i>	2	35	Yes	N	
Forb (FG)	<i>Ranunculus collinus</i>	0.1	15	Yes	N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.2	5	Yes	N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	1	Yes	N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	3	Yes	N	
Shrub (SG)	<i>Pimelea glauca</i>	0.1	5	Yes	N	
Grass & grasslike	<i>Poa phillipsiana</i>	5	200	Yes	N	
Shrub (SG)	<i>Podolobium procumbens</i>	0.5	12	No	N	
Shrub (SG)	<i>Acacia floribunda</i>	1	5	Yes	N	
Shrub (SG)	<i>Exocarpos strictus</i>	1	50	No	N	
Shrub (SG)	<i>Leucopogon ericoides</i>	0.1	3	No	N	
Forb (FG)	<i>Boronia nana var. hyssopifolia</i>	0.1	20	No	N	
Shrub (SG)	<i>Calytrix tetragona</i>	0.1	2	No	N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	3	No	N	
Shrub (SG)	<i>Pimelea curviflora</i>	0.1	2	No	N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.2	1	No	N	
Shrub (SG)	<i>Grevillea arenaria subsp. Canescens</i>	0.1	2	No	N	
Tree (TG)	<i>Eucalyptus spp.</i>	5	6	Yes	N	
Shrub (SG)	<i>Acacia pravissima</i>	5	75	No	N	
Tree (TG)	<i>Eucalyptus nortonii</i>	5	6	No	N	

BAM Site – Field Survey Form

Plot ID:	3076	Date:	05-02-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM	
Zone:	55	Easting:	626305.6539	Plot dimensions:	20m x 50m	Midline bearing:	250	
Datum:	GDA94	Northing:	6039139.16	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	16
	Grasses etc.:	5
	Forbs:	5
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	54
	Shrubs:	184
	Grasses etc.:	41
	Forbs:	8
	Ferns:	0
	Other:	7
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	5	0	0
20 – 29 cm:	1	0	1
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	22		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	85	90	90	85	80	5	5	10	5	5	1	0	2	1	2	0	0	0	1	0
Average of the 5 subplots:	86					6					1.2					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Medium-fine grained	Soil Colour	Dark orange-brown	Soil Depth	At least 30cm
Lithology (B)							
Slope	<5	Aspect	275	Site Drainage	Moderate drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	less than 3yo	Plot adjacent to road
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Moderate	greater than 10yo	Some trees have burn marks from trunk to crown
Storm damage:	Severe	3 to 10 yo	At least 7 fallen Eucalyptus or Banksia, most leaves browned off
Weediness:			No evidence
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine						
		Date:	05-02-19	Plot ID:	3076	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	40	12	No	N	
Tree (TG)	<i>Eucalyptus mannifera</i>	10	3	No	N	
Shrub (SG)	<i>Acacia pravissima</i>	20	50	No	N	
Shrub (SG)	<i>Epacris celata</i>	15	50	No	N	
Shrub (SG)	<i>Acacia saliciformis</i>	10	20	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	10	50	No	N	
Shrub (SG)	<i>Banksia canei</i>	60	200	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	10	50	No	N	
	<i>Polypogon spp.</i>	10	50	No	E	
Shrub (SG)	<i>Hibbertia linearis</i>	5	100	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	1	200	No	N	
Forb (FG)	<i>Stellaria pungens</i>	4	100	No	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	10	50	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	5	50	No	N	
Grass & grasslike	<i>Poa spp.</i>	20	200	No	N	
Shrub (SG)	<i>Acacia gunnii</i>	1	20	No	N	
Shrub (SG)	<i>Tetradlea thymifolia</i>	1	300	No	N	
Grass & grasslike	<i>Carex appressa</i>	1	10	No	N	
Tree (TG)	<i>Acacia dealbata</i>	4	5	No	N	
Grass & grasslike	<i>Entolasia stricta</i>	5	20	No	N	
Shrub (SG)	<i>Leucopogon ericoides</i>	3	50	No	N	
Shrub (SG)	<i>Leucopogon virgatus</i>	3	40	No	N	
Forb (FG)	<i>Brachyscome decipiens</i>	1	1	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	5	50	No	N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	31	100	No	N	
Other (OG)	<i>Cassytha spp.</i>	5	20	No	N	
Forb (FG)	<i>Senecio quadridentatus</i>	1	1	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	5	10	No	N	
Other (OG)	<i>Billardiera scandens</i>	2	1	No	N	
Forb (FG)	<i>Boronia nana</i> var. <i>hyssopifolia</i>	1	1	No	N	
Shrub (SG)	<i>Monotoca scoparia</i>	3	20	No	N	
Shrub (SG)	<i>Hovea montana</i>	2	10	No	N	

BAM Site – Field Survey Form

Plot ID:	3098	Date:	04-02-19	Survey Name:	Lobbs hole	Recorders:	RP, CG, KM	
Zone:	55	Easting:	627928.3701	Plot dimensions:	20m x 50m	Midline bearing:	50	
Datum:	GDA94	Northing:	6030452.968	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	6
	Grasses etc.:	4
	Forbs:	24
	Ferns:	1
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	45
	Shrubs:	13.5
	Grasses etc.:	70.7
	Forbs:	14
	Ferns:	1
	Other:	1.2
High Threat Weed cover:		0.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	5	0	10
50 – 79 cm:	1	0	2
30 – 49 cm:	4	0	9
20 – 29 cm:	1	1	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	30		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	25	50	20	25	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0
Average of the 5 subplots:	29					0					1.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	20	Aspect	SSE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	greater than 10yo	2003 fires
Storm damage:			
Weediness:	Moderate	greater than 10yo	Trifolium repens, Hypericum perforatum, Oxalis perenans
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobbs hole						
		Date:	04-02-19	Plot ID:	3098	Recorders:	RP, CG, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	30	18	No	N	
Tree (TG)	<i>Eucalyptus dalrympleana</i> subsp. <i>dalrympleana</i>	10	1	No	N	
Tree (TG)	<i>Acacia dealbata</i>	3	6	No	N	
Tree (TG)	<i>Acacia melanoxylon</i>	2	14	No	N	
Shrub (SG)	<i>Lomatia myricoides</i>	6	16	No	N	
Shrub (SG)	<i>Cassinia aculeata</i>	1	3	No	N	
Shrub (SG)	<i>Daviesia latifolia</i>	1	23	No	N	
Shrub (SG)	<i>Olearia megalophylla</i>	3	40	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	2	18	No	N	
Forb (FG)	<i>Senecio gunnii</i>	1	80	No	N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	2	200	No	N	
	<i>Trifolium repens</i>	2	300	No	E	
Forb (FG)	<i>Arthropodium milleflorum</i>	2	150	No	N	
Forb (FG)	<i>Coronidium scorpioides</i>	0.5	50	No	N	
Other (OG)	<i>Clematis aristata</i>	0.2	40	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	70	1000	No	N	
Forb (FG)	<i>Veronica subtilis</i>	0.1	6	No	N	
Forb (FG)	<i>Brachyscome decipiens</i>	0.1	20	No	N	
Other (OG)	<i>Glycine clandestina</i>	1	150	No	N	
Grass & grasslike	<i>Rytidosperma oreophilum</i>	0.1	12	No	N	
Forb (FG)	<i>Stellaria pungens</i>	2	300	No	N	
Forb (FG)	<i>Acaena x anserovina</i>	0.8	20	No	N	
Forb (FG)	<i>Geranium solanderi</i>	0.5	30	No	N	
Forb (FG)	<i>Ranunculus collinus</i>	0.2	20	No	N	
Grass & grasslike	<i>Carex breviculmis</i>	0.5	45	No	N	
Forb (FG)	<i>Wahlenbergia ceracea</i>	0.2	75	No	N	
Forb (FG)	<i>Gonocarpus montanus</i>	0.1	5	No	N	
Forb (FG)	<i>Picris angustifolia</i> subsp. <i>merxmuelleri</i>	0.2	20	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.2	60	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.5	4	No	N	
	<i>Hypericum perforatum</i>	0.1	3	No	HTE	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	40	No	N	
Forb (FG)	<i>Bulbine bulbosa</i>	0.5	75	No	N	
Forb (FG)	<i>Veronica calycina</i>	0.1	12	No	N	
	<i>Crepis capillaris</i>	0.1	3	No	E	
Forb (FG)	<i>Asperula pusilla</i>	1	180	No	N	
Forb (FG)	<i>Brachyscome tenuiscapa</i>	1	25	No	N	
Forb (FG)	<i>Ranunculus lappaceus</i>	1	25	No	N	
Fern (EG)	<i>Polystichum proliferum</i>	1	2	No	N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	1	No	N	
Forb (FG)	<i>Oreomyrrhis</i> spp.	0.1	2	No	N	
Grass & grasslike	<i>Luzula densiflora</i>	0.1	1	No	N	
Forb (FG)	<i>Craspedia jamesii</i>	0.1	2	No	N	
	<i>Anthoxanthum odoratum</i>	0.1	20	No	E	
Forb (FG)	<i>Epilobium</i> spp.	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3101	Date:	02-02-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM	
Zone:	55	Easting:	625169.0592	Plot dimensions:	20m x 50m	Midline bearing:	310	
Datum:	GDA94	Northing:	6040319.697	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	Medium

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	7
	Grasses etc.:	4
	Forbs:	4
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	25
	Shrubs:	126
	Grasses etc.:	15
	Forbs:	4
	Ferns:	5
	Other:	1
High Threat Weed cover:		10

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	10		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	10	5	5	20	85	60	25	5	5	1	3	10	30	30	10	10	15	10	10
Average of the 5 subplots:	10					36					14.8					11				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Fine grained	Soil Colour	Orange-brown	Soil Depth	At least 30cm
Lithology (B)							
Slope	25	Aspect	SW	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:			No evidence
Storm damage:	Light	less than 3yo	Some Eucalyptus fallen off or snapped off branches
Weediness:	Moderate	less than 3yo	St Johns Wort and Centurion ethyium present in plot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	02-02-19	Plot ID:	3101	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus rubida</i>	5	1		N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	15	5		N	
Shrub (SG)	<i>Bursaria spinosa</i>	50	200		N	
Shrub (SG)	<i>Grevillea arenaria</i> subsp. <i>Canescens</i>	15	50		N	
Shrub (SG)	<i>Acacia pravissima</i>	20	100		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	30	200		N	
Grass & grasslike	<i>Dichelachne rara</i>	5	100		N	
Other (OG)	<i>Glycine clandestina</i>	1	1		N	
Grass & grasslike	<i>Rytidosperma erianthum</i>	3	150		N	
	<i>Centaurium erythraea</i>	5	300		E	
Grass & grasslike	<i>Austrostipa scabra</i>	5	100		N	
Shrub (SG)	<i>Dodonaea viscosa</i> subsp. <i>Angustissima</i>	4	50		N	
Grass & grasslike	<i>Poa</i> spp.	2	100		N	
	<i>Trifolium arvense</i>	1	50		E	
Forb (FG)	<i>Stellaria pungens</i>	1	200		N	
Forb (FG)	<i>Oxalis perennans</i>	1	50		N	
Shrub (SG)	<i>Exocarpos strictus</i>	5	20		N	
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>Dealbata</i>	5	20		N	
	<i>Aira</i> spp.	5	500		E	
Shrub (SG)	<i>Leucopogon ericoides</i>	2	20		N	
Fern (EG)	<i>Cheilanthes distans</i>	5	50		N	
Forb (FG)	<i>Geranium solanderi</i>	1	10		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	1	20		N	
	<i>Hypericum perforatum</i>	10	200		HTE	

BAM Site – Field Survey Form

Plot ID:	3117	Date:	14-02-19	Survey Name:	Marica	Recorders:	MP, CW	
Zone:	55	Easting:	631614.9697	Plot dimensions:	20m x 50m	Midline bearing:	300	
Datum:	GDA94	Northing:	6038948.502	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	12
	Grasses etc.:	7
	Forbs:	12
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	64
	Shrubs:	25.3
	Grasses etc.:	10.7
	Forbs:	3.2
	Ferns:	0
	Other:	1.4
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	103		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	96	50	73	75	85	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	75.8					0.2					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect	Nw	Site Drainage	Good	Distance to nearest water & type	270m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	3 to 10 yo	Charred trees
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Marica						
		Date:	14-02-19	Plot ID:	3117	Recorders:	MP, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus radiata</i>	20	18	No	N	
Tree (TG)	<i>Eucalyptus viminalis</i>	30	40	No	N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	10	20	No	N	
Shrub (SG)	<i>Daviesia latifolia</i>	6	80	No	N	
Other (OG)	<i>Clematis aristata</i>	0.9	40	No	N	
Shrub (SG)	<i>Cassinia aculeata</i>	10	100	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	4	100	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	3	100	No	N	
Forb (FG)	<i>Stellaria pungens</i>	0.2	180	No	N	
Forb (FG)	<i>Asperula scoparia</i>	1	500	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	1	200	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	2	250	No	N	
Forb (FG)	<i>Stackhousia monogyna</i>	0.1	10	No	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	8	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.3	6	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	6	100	No	N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	25	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	25	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.5	80	No	N	
Shrub (SG)	<i>Olearia</i> spp.	0.3	40	No	N	
Grass & grasslike	<i>Dichelachne</i> spp.	0.2	250	No	N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	1	80	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	15	No	N	
Shrub (SG)	<i>Daviesia mimosoides</i>	0.3	6	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	2	80	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	4	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	10	No	N	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	1	No	N	
Tree (TG)	<i>Acacia dealbata</i>	4	20	No	N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	15	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.2	50	No	N	
Forb (FG)	<i>Acaena</i> spp.	0.1	1	No	N	
Grass & grasslike	<i>Dichelachne hirtella</i>	0.1	25	No	N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	0.1	1	No	N	
Shrub (SG)	<i>Ozothamnus thyrsoides</i>	0.3	1	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.1	40	No	N	
Grass & grasslike	<i>Luzula densiflora</i>	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3124	Date:	15-02-19	Survey Name:	Marica	Recorders:	MP, CW	
Zone:	55	Easting:	631233.3957	Plot dimensions:	20m x 50m	Midline bearing:	225	
Datum:	GDA94	Northing:	6038815.554	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:		Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:		Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	13
	Grasses etc.:	4
	Forbs:	22
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	68
	Shrubs:	20.5
	Grasses etc.:	25
	Forbs:	5.5
	Ferns:	0
	Other:	0.6
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	3	0	1
50 – 79 cm:	5	0	1
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	64		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	70	20	70	80	70	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Average of the 5 subplots:	62					0					0.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Red-brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect	NW	Site Drainage	Good	Distance to nearest water & type	10m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Severe	greater than 10yo	Charred trees
Storm damage:			
Weediness:	Moderate	less than 3yo	Rubus fruticosus agg.
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Marica					
	Date:	15-02-19	Plot ID:	3124	Recorders:	MP, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus viminalis</i>	50	14	No	N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	1	7	No	N	
Tree (TG)	<i>Acacia melanoxylon</i>	5	15	No	N	
Shrub (SG)	<i>Daviesia latifolia</i>	2	30	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	4	250	No	N	
Forb (FG)	<i>Coronidium monticola</i>	0.3	80	No	N	
Forb (FG)	<i>Geranium potentilloides</i> var. <i>abditum</i>	0.5	150	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.2	80	No	N	
	<i>Trifolium repens</i>	0.1	20	No	E	
Grass & grasslike	<i>Rytidosperma pilosum</i>	2	25	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	3	150	No	N	
Forb (FG)	<i>Ranunculus</i> spp.	0.1	10	No	N	
Forb (FG)	<i>Dichondra</i> sp. A	0.1	25	No	N	
Forb (FG)	<i>Asperula scoparia</i>	2	500	No	N	
Grass & grasslike	<i>Dichelachne inaequiglumis</i>	1	100	No	N	
Shrub (SG)	<i>Leptospermum grandifolium</i>	1.5	30	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.2	80	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	1	30	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.6	500	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	0.1	30	No	N	
Forb (FG)	<i>Lagenophora</i> spp.	0.1	25	No	N	
Shrub (SG)	<i>Olearia</i> spp.	0.4	30	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	3	40	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	18	250	No	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	6	No	N	
Forb (FG)	<i>Veronica subtilis</i>	0.1	40	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	3	50	No	N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.2	4	No	HTE	
Forb (FG)	<i>Epilobium</i> spp.	0.1	10	No	N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.1	20	No	N	
	<i>Centaurium</i> spp.	0.1	4	No	E	
Other (OG)	<i>Clematis aristata</i>	0.4	35	No	N	
Tree (TG)	<i>Eucalyptus radiata</i>	12	20	No	N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	3	40	No	N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	0.2	80	No	N	
Forb (FG)	<i>Dianella revoluta</i>	0.1	8	No	N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.4	80	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.8	45	No	N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	20	No	N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.2	60	No	N	
Forb (FG)	<i>Stackhousia monogyna</i>	0.1	10	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	4	No	N	
Shrub (SG)	<i>Lomatia myricoides</i>	2	20	No	N	
Shrub (SG)	<i>Daviesia mimosoides</i> subsp. <i>mimosoides</i>	0.2	2	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	8	No	N	
Forb (FG)	<i>Thelymitra</i> spp.	0.1	1	No	N	
Forb (FG)	<i>Orchidaceae</i> spp.	0.2	50	No	N	

Forb (FG)	<i>Gonocarpus montanus</i>	0.1	10	No	N	

BAM Site – Field Survey Form

Plot ID:	3175	Date:	17-02-19	Survey Name:	Tantangara	Recorders:	JA, DK
Zone:	55	Easting:	649032.4708	Plot dimensions:	20m x 50m	Midline bearing:	0
Datum:	GDA94	Northing:	6036846.756	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	303: Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Grassy Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	10
	Grasses etc.:	8
	Forbs:	18
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	20
	Shrubs:	11.1
	Grasses etc.:	51
	Forbs:	9.2
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	2	0	0
50 – 79 cm:	2	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	10		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	20	15	35	10	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	18					5					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	8	Aspect	N	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light		Rabbit dropping
Fire damage:			
Storm damage:			
Weediness:	Moderate		Spear thistle, anthoxanthum, sheep sorrel
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara						
		Date:	17-02-19	Plot ID:	3175	Recorders:	JA, DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus stellulata</i>	20	13	No	N	
Shrub (SG)	<i>Hakea microcarpa</i>	7	25	No	N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	3	50	No	N	
Shrub (SG)	<i>Discaria pubescens</i>	0.1	2	No	N	
Shrub (SG)	<i>Dillwynia prostrata</i>	0.3	4	No	N	
Grass & grasslike	<i>Themeda triandra</i>	30	300	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	20	200	No	N	
Forb (FG)	<i>Scleranthus biflorus</i>	3	400	No	N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	3	250	No	N	
	<i>Anthoxanthum odoratum</i>	1	300	No	E	
	<i>Holcus lanatus</i>	0.3	300	No	E	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.5	200	No	N	
	<i>Cirsium vulgare</i>	3	100	No	E	
Forb (FG)	<i>Cynoglossum australe</i>	0.1	50	No	N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	1.5	400	No	N	
Forb (FG)	<i>Geranium spp.</i>	0.1	30	No	N	
	<i>Acetosella vulgaris</i>	0.1	300	No	HTE	
Grass & grasslike	<i>Anthosachne scabra</i>	0.1	5	No	N	
Grass & grasslike	<i>Carex spp.</i>	0.1	100	No	N	
	<i>Sonchus oleraceus</i>	0.1	10	No	E	
Grass & grasslike	<i>Poaceae spp.</i>	0.1	30	No	N	
Grass & grasslike	<i>Poa phillipsiana</i>	0.1	1	No	N	
Shrub (SG)	<i>Bossiaea riparia</i>	0.1	5	No	N	
	<i>Trifolium repens</i>	0.2	200	No	E	
Forb (FG)	<i>Senecio gunnii</i>	0.1	50	No	N	
Forb (FG)	<i>Ranunculus lappaceus</i>	0.1	30	No	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.2	400	No	N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	5	No	N	
	<i>Tragopogon porrifolius</i> subsp. <i>porrifolius</i>	0.1	5	No	E	
	<i>Hypochaeris radicata</i>	0.1	50	No	E	
Forb (FG)	<i>Solenogyne gunnii</i>	0.1	30	No	N	
	<i>Rosa rubiginosa</i>	0.1	15	No	HTE	
Forb (FG)	<i>Geum urbanum</i>	0.1	1	No	N	
Forb (FG)	<i>Acaena ovina</i>	0.1	20	No	N	
Forb (FG)	<i>Epilobium spp.</i>	0.2	200	No	N	
Grass & grasslike	<i>Microlaena stipoides</i>	0.1	50	No	N	
Forb (FG)	<i>Oxalis spp.</i>	0.1	50	No	N	
Shrub (SG)	<i>Monotoca scoparia</i>	0.1	1	No	N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	0.2	1	No	HTE	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.2	1	No	N	
Shrub (SG)	<i>Pimelea spp.</i>	0.1	1	No	N	
	<i>Leucanthemum vulgare</i>	0.1	1	No	HTE	
Forb (FG)	<i>Asperula conferta</i>	0.1	1	No	N	
	<i>Centaurium erythraea</i>	0.1	2	No	E	
Forb (FG)	<i>Wahlenbergia spp.</i>	0.1	10	No	N	
Forb (FG)	<i>Veronica gracilis</i>	0.1	1	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	1	No	N	

Forb (FG)	<i>Dianella spp.</i>	0.1	1	No	N	
Shrub (SG)	<i>Platysace lanceolata</i>	0.1	3	No	N	

BAM Site – Field Survey Form

Plot ID:	3177	Date:	04-02-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM
Zone:	55	Easting:	625074.1738	Plot dimensions:	20m x 50m	Midline bearing:	318
Datum:	GDA94	Northing:	6040197.698	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
				Medium			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	7
	Grasses etc.:	7
	Forbs:	7
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	13
	Shrubs:	181
	Grasses etc.:	95
	Forbs:	22
	Ferns:	0
	Other:	1
High Threat Weed cover:		3

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	10	10	5	20	20	3	0	25	10	25	5	0	0	5	0	0	0	0	5	3
Average of the 5 subplots:	13					12.6					2					1.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Alluvial loams and clays	Soil Surface Texture	Medium-fine grained	Soil Colour	Dark brown	Soil Depth	At least 30cm
Lithology (B)							
Slope	20	Aspect	NW	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	3 to 10 yo	Derived grassland under power easement. Close to boatramp in Lobs Hole, extensive clearing in surrounding area
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):	Light	less than 3yo	Rabbit scats present
Fire damage:	Light	3 to 10 yo	Some burnt logs present
Storm damage:			No evidence
Weediness:	Severe	less than 3yo	Blackberry, St Johns Wort and Centorium erthyum present in plot
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	04-02-19	Plot ID:	3177	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus rubida</i>	10	5	No	N	
Shrub (SG)	<i>Bursaria spinosa</i>	40	30	No	N	
Shrub (SG)	<i>Acacia pravissima</i>	50	100	No	N	
Tree (TG)	<i>Callitris endlicheri</i>	1	1	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	70	300	No	N	
Grass & grasslike	<i>Themeda triandra</i>	50	2000	No	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	10	50	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	5	200	No	N	
Forb (FG)	<i>Pimelea curviflora</i> var. <i>sericea</i>	2	50	No	N	
	<i>Hypericum perforatum</i>	1	200	No	HTE	
Grass & grasslike	<i>Carex appressa</i>	5	20	No	N	
Other (OG)	<i>Glycine clandestina</i>	1	1	No	N	
Grass & grasslike	<i>Rytidosperma</i> spp.	2	50	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	2	200	No	N	
Forb (FG)	<i>Ranunculus lappaceus</i>	3	50	No	N	
	<i>Centaurium erythraea</i>	10	200	No	E	
Grass & grasslike	<i>Dichelachne rara</i>	10	200	No	N	
	<i>Taraxacum officinale</i>	1	1	No	E	
Forb (FG)	<i>Oxalis perennans</i>	5	100	No	N	
Grass & grasslike	<i>Anthosachne scabra</i>	1	20	No	N	
Shrub (SG)	<i>Tetradlea thymifolia</i>	1	20	No	N	
	<i>Rosa rubiginosa</i>	2	1	No	HTE	
	<i>Rubus anglocandicans</i>	20	50	No	E	
Grass & grasslike	<i>Poa sieberiana</i>	25	500	No	N	
Forb (FG)	<i>Acaena ovina</i>	5	200	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	2	10	No	N	
Tree (TG)	<i>Eucalyptus robertsonii</i>	2	1	No	N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	1	50	No	N	
Forb (FG)	<i>Ranunculus collinus</i>	4	20	No	N	
	<i>Centaurium erythraea</i>	3	50	No	E	
Shrub (SG)	<i>Exocarpos strictus</i>	5	5	No	N	

BAM Site – Field Survey Form

Plot ID:	3179	Date:	06-02-19	Survey Name:	Lobs Hole Ravine	Recorders:	SW, KM
Zone:	55	Easting:	626864.9002	Plot dimensions:	20m x 50m	Midline bearing:	250
Datum:	GDA94	Northing:	6036770.526	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	300: Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Wet Sclerophyll Forests				EEC:	No	Confidence:
							High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	5
	Grasses etc.:	6
	Forbs:	8
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	120
	Shrubs:	59
	Grasses etc.:	83
	Forbs:	14
	Ferns:	0
	Other:	0
High Threat Weed cover:		21

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	1		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	85	85	45	5	5	10	3	5	2	0	0	0	1	0	0	0	0	0	0	0
Average of the 5 subplots:	45					4					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Medium-fine grained	Soil Colour	Light brown/pale orange	Soil Depth	At least 30cm
Lithology (B)							
Slope	25	Aspect	N	Site Drainage	Good drainage	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			No evidence
Cultivation (inc. pasture):			No evidence
Soil erosion:			No evidence
Firewood / CWD removal:			No evidence
Grazing (identify native/stock):			No evidence
Fire damage:	Light	greater than 10yo	Some burnt trunks
Storm damage:	Light	less than 3yo	One fallen down Exocarpos stricta
Weediness:	Severe	less than 3yo	Substantial amounts of blackberry, Rubis rubiginosa approx 85% and 15% cover, respectively. St Johns Wort and
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine						
		Date:	06-02-19	Plot ID:	3179	Recorders:	SW, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Acacia dealbata</i> subsp. <i>Subalpina</i>	40	150	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	15	150	No	N	
	<i>Hypericum perforatum</i>	5	200	No	HTE	
Forb (FG)	<i>Acaena ovina</i>	2	100	No	N	
	<i>Aira spp.</i>	5	100	No	E	
	<i>Rosa rubiginosa</i>	15	30	No	HTE	
Shrub (SG)	<i>Cassinia aculeata</i>	20	50	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	20	150	No	N	
	<i>Rubus anglocandicans</i>	85	200	No	E	
Tree (TG)	<i>Eucalyptus viminalis</i>	80	50	No	N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	4	100	No	N	
	<i>Crataegus monogyna</i>	1	1	No	HTE	
Forb (FG)	<i>Dichondra repens</i>	3	50	No	N	
Grass & grasslike	<i>Microlaena stipoides</i> var. <i>stipoides</i>	25	1000	No	N	
Grass & grasslike	<i>Rytidosperma erianthum</i>	25	2000	No	N	
	<i>Centaurium erythraea</i>	1	100	No	E	
Grass & grasslike	<i>Anthosachne scabra</i>	10	500	No	N	
Forb (FG)	<i>Chrysocephalum semipapposum</i>	1	20	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	20	2000	No	N	
Shrub (SG)	<i>Gompholobium huegelii</i>	2	2	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	2	2	No	N	
Grass & grasslike	<i>Rytidosperma spp.</i>	1	1	No	N	
Forb (FG)	<i>Oxalis perennans</i>	1	50	No	N	
Shrub (SG)	<i>Bursaria spinosa</i>	2	10	No	N	
Forb (FG)	<i>Asteraceae indeterminate</i>	1	3	No	N	
Forb (FG)	<i>Wahlenbergia communis</i>	1	1	No	N	
Forb (FG)	<i>Senecio spp.</i>	1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3184	Date:	20-02-19	Survey Name:	lobs hole	Recorders:	RP, CG	
Zone:	55	Easting:	626438.0211	Plot dimensions:	20m x 50m	Midline bearing:	47	
Datum:	GDA94	Northing:	6037952.518	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	299: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	6
	Grasses etc.:	2
	Forbs:	4
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	62
	Shrubs:	41
	Grasses etc.:	0.2
	Forbs:	2.3
	Ferns:	0.1
	Other:	0.1
High Threat Weed cover:		100.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	2	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	4	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	48		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	50	25	60	45	14	0	0	0	0	1	0	0	15	0	60	0	0	0	0	0
Average of the 5 subplots:	38.8					0.2					15					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	steep	Aspect	SSE	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:	Light	greater than 10yo	2003 fires
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Severe	greater than 10yo	choked in Blackberry
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Iobs hole					
			Date:	20-02-19	Plot ID:	3184
			Recorders:		RP, CG	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus</i> spp.	30	8	No	N	
Other (OG)	<i>Clematis aristata</i>	0.1	2	No	N	
Tree (TG)	<i>Acacia dealbata</i>	30	19	No	N	
	<i>Rubus fruticosus</i> sp. agg.	95	1000	No	HTE	
Shrub (SG)	<i>Cassinia aculeata</i>	2	7	No	N	
Shrub (SG)	<i>Cassinia longifolia</i>	10	15	No	N	
Forb (FG)	<i>Oxalis exilis</i>	0.1	10	No	N	
Forb (FG)	<i>Geranium solanderi</i>	2	60	No	N	
	<i>Crataegus monogyna</i>	3	6	No	HTE	
	<i>Holcus lanatus</i>	1	17	No	E	
Shrub (SG)	<i>Acacia pravissima</i>	5	18	No	N	
	<i>Rosa rubiginosa</i>	2	3	No	HTE	
Shrub (SG)	<i>Acacia</i> spp.	2	1	No	N	
	<i>Cerastium glomeratum</i>	1	25	No	E	
Shrub (SG)	<i>Bursaria spinosa</i>	20	50	No	N	
	<i>Hypericum perforatum</i>	0.1	10	No	HTE	
	<i>Centaureum erythraea</i>	0.1	2	No	E	
	<i>Verbascum virgatum</i>	0.1	1	No	E	
Grass & grasslike	<i>Microlaena</i> spp.	0.1	21	No	N	
Grass & grasslike	<i>Carex appressa</i>	0.1	1	No	N	
Fern (EG)	<i>Asplenium trichomanes</i>	0.1	5	No	N	
Forb (FG)	<i>Euchiton involucratus</i>	0.1	1	No	N	
Forb (FG)	<i>Dichondra repens</i>	0.1	8	No	N	
	<i>Prunus cerasifera</i>	1	1	No	E	
	<i>Rubus anglocandicans</i>	95	1000	No	E	
	<i>Cerastium</i> spp.	0.1	2	No	E	
Tree (TG)	<i>Eucalyptus</i> spp.	2	1	No	N	
Shrub (SG)	<i>Acacia</i> spp.	2	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3187	Date:	20-02-19	Survey Name:	Lobs Hole Ravine	Recorders:	RP, CG, KM
Zone:	55	Easting:	627635.7052	Plot dimensions:	20m x 50m	Midline bearing:	95
Datum:	GDA94	Northing:	6038060.601	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	729: Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
				Medium			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	4
	Shrubs:	6
	Grasses etc.:	11
	Forbs:	11
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	36
	Shrubs:	20.7
	Grasses etc.:	38.2
	Forbs:	4.1
	Ferns:	0.5
	Other:	0.1
High Threat Weed cover:		2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	1	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	29		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	25	85	20	20	0	15	5	0	1	1	0	1	0	1	0	2	0	0	0
Average of the 5 subplots:	48					4.2					0.6					0.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Footslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	Moderate	Aspect	N	Site Drainage	Good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	greater than 10yo	2003 fires
Storm damage:	Light	greater than 10yo	Many fallen trees
Weediness:	Severe	greater than 10yo	Infestation of blackberry. Centaurea erythrum and hypericum perforatumq also present.
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs Hole Ravine					
	Date:	20-02-19	Plot ID:	3187	Recorders:	RP, CG, KM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	4	2	No	N	
Tree (TG)	<i>Eucalyptus rubida</i>	8	6	No	N	
Shrub (SG)	<i>Exocarpos strictus</i>	3	45	No	N	
	<i>Rubus anglocandicans</i>	20	250	No	E	
Shrub (SG)	<i>Acacia pravissima</i>	12	120	No	N	
Shrub (SG)	<i>Cassinia longifolia</i>	5	35	No	N	
Grass & grasslike	<i>Poa labillardierei</i>	10	120	No	N	
Grass & grasslike	<i>Carex appressa</i>	2	55	No	N	
	<i>Hypericum perforatum</i>	1	250	No	HTE	
Forb (FG)	<i>Acaena ovina</i>	0.1	3	No	N	
	<i>Centaurium erythraea</i>	1	200	No	E	
	<i>Conyza spp.</i>	0.1	1	No	E	
Forb (FG)	<i>Chryscephalum semipapposum</i>	0.1	3	No	N	
Grass & grasslike	<i>Themeda triandra</i>	2	75	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	5	75	No	N	
Grass & grasslike	<i>Anthosachne scabra</i>	2	50	No	N	
Grass & grasslike	<i>Rytidosperma spp.</i>	0.1	1	No	N	
Forb (FG)	<i>Geranium solanderi</i> var. <i>solanderi</i>	0.5	20	No	N	
	<i>Rosa rubiginosa</i>	1	12	No	HTE	
Grass & grasslike	<i>Lomandra longifolia</i>	1	45	No	N	
Forb (FG)	<i>Dianella revoluta</i> var. <i>revoluta</i>	2	60	No	N	
Shrub (SG)	<i>Pimelea curviflora</i> var. <i>gracilis</i>	0.2	5	No	N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	2	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.8	80	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.1	3	No	N	
Grass & grasslike	<i>Carex breviculmis</i>	0.5	75	No	N	
Tree (TG)	<i>Eucalyptus stellulata</i>	20	16	No	N	
Tree (TG)	<i>Eucalyptus mannifera</i>	4	4	No	N	
Grass & grasslike	<i>Rytidosperma erianthum</i>	0.5	26	No	N	
Forb (FG)	<i>Brachyscome tenuiscapa</i>	0.1	1	No	N	
Forb (FG)	<i>Ranunculus collinus</i>	0.1	6	No	N	
Grass & grasslike	<i>Microlaena stipoides</i>	15	400	No	N	
Forb (FG)	<i>Oxalis exilis</i>	0.1	6	No	N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.2	2	No	N	
Shrub (SG)	<i>Calytrix tetragona</i>	0.3	2	No	N	
	<i>Lysimachia arvensis</i>	0.1	17	No	E	
Forb (FG)	<i>Rumex brownii</i>	0.1	1	No	N	
Fern (EG)	<i>Pteridium esculentum</i>	0.5	11	No	N	
	<i>Hypochaeris radicata</i>	0.1	3	No	E	
	<i>Cerastium glomeratum</i>	0.1	1	No	E	
Forb (FG)	<i>Cullen microcephalum</i>	0.1	2	No	N	
Forb (FG)	<i>Oxalis perennans</i>	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3193	Date:	25-03-19	Survey Name:	Marika	Recorders:	JA, RP
Zone:	55	Easting:	629423.9642	Plot dimensions:	20m x 50m	Midline bearing:	158
Datum:	GDA94	Northing:	6039452.502	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	311: Red Stringybark - Broad-leaved Peppermint - Nortons Box heath open forest of the upper slopes subregion in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:	Medium	Photo #:
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:	No	Confidence:
				High			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	15
	Grasses etc.:	3
	Forbs:	3
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	47.2
	Shrubs:	18.5
	Grasses etc.:	15.2
	Forbs:	0.4
	Ferns:	0
	Other:	0.5
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	4	0	21
20 – 29 cm:	1	0	3
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	15		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	50	80	25	10	5	1	0	0	0	15	8	5	2	0	1	10	18	0	0	0
Average of the 5 subplots:	34					3.2					3.2					5.6				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture	Slightly Gritty	Soil Colour	Dark brown	Soil Depth	10cm
Lithology (B)							
Slope	approx. 22 deg	Aspect	N	Site Drainage	Very good	Distance to nearest water & type	500m to creek estimated to be at bottom of mountain

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:	Light	less than 3yo	No evidence of weeds
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Marika					
			Date:	25-03-19	Plot ID:	3193
			Recorders:		JA, RP	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dives</i>	45	44		N	
Tree (TG)	<i>Eucalyptus macrorhyncha</i>	2	2		N	
Tree (TG)	<i>Eucalyptus nortonii</i>	0.2	1		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	15	250		N	
Shrub (SG)	<i>Leionema lamprophyllum</i> subsp. <i>obovatum</i>	3	19		N	
Shrub (SG)	<i>Monotoca scoparia</i>	5	40		N	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.3	20		N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	3		N	
Shrub (SG)	<i>Banksia canei</i>	0.5	2		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	0.3	60		N	
Shrub (SG)	<i>Dillwynia phylloides</i>	6	120		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	2	6		N	
Shrub (SG)	<i>Brachyloma daphnoides</i>	0.2	20		N	
Forb (FG)	<i>Dianella longifolia</i>	0.2	35		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	15		N	
Shrub (SG)	<i>Acacia gunnii</i>	0.1	1		N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	0.6	12		N	
Other (OG)	<i>Cassytha glabella</i>	0.4	50		N	
Grass & grasslike	<i>Lomandra longifolia</i>	0.1	20		N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	5		N	
Shrub (SG)	<i>Omphacomeria acerba</i>	0.1	1		N	
Forb (FG)	<i>Stylidium</i> spp.	0.1	1		N	
Forb (FG)	<i>Hovea heterophylla</i>	0.1	1		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.1	1		N	
Shrub (SG)	<i>Platylobium formosum</i>	0.1	1		N	
Shrub (SG)	<i>Bossiaea buxifolia</i>	0.1	1		N	

BAM Site – Field Survey Form

Plot ID:	3213	Date:	22-02-19	Survey Name:	Lobs hole	Recorders:	IM, CK	
Zone:	55	Easting:	625702.3025	Plot dimensions:	20m x 50m	Midline bearing:	215	
Datum:	GDA94	Northing:	6039227.345	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	285: Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion				Confidence:		Photo #:	
Vegetation Class:	Upper Riverina Dry Sclerophyll Forests				EEC:		Confidence:	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	0
	Shrubs:	0
	Grasses etc.:	2
	Forbs:	0
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	0
	Shrubs:	0
	Grasses etc.:	50.1
	Forbs:	0
	Ferns:	0
	Other:	0
High Threat Weed cover:		30.1

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	0	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	1	1	0	1	2	10	15	60	5	5	2	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	1					19					0.4					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour	Brown	Soil Depth	
Lithology (B)							
Slope	8	Aspect	W	Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	greater than 10yo	
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light		
Fire damage:			
Storm damage:			
Weediness:	Moderate		
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Lobs hole					
			Date:	22-02-19	Plot ID:	3213
			Recorders:		IM, CK	

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Grass & grasslike	<i>Themeda triandra</i>	50	1000	No	N	
	<i>Hypericum perforatum</i>	30	500	No	HTE	
	<i>Rubus fruticosus</i> sp. agg.	0.1	3	No	HTE	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	2	No	N	

BAM Site – Field Survey Form

Plot ID:	3215	Date:	13-02-19	Survey Name:	Marica	Recorders:	MP, CW
Zone:	55	Easting:	632059.9705	Plot dimensions:	20m x 50m	Midline bearing:	265
Datum:	GDA94	Northing:	6038834.337	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
				High			

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	11
	Grasses etc.:	2
	Forbs:	1
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	52
	Shrubs:	45.2
	Grasses etc.:	2.5
	Forbs:	1
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	0
50 – 79 cm:	6	0	2
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	122		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	85	95	70	80	30	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0
Average of the 5 subplots:	72					0.4					0					0.2				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Valley flat	Lf Pattern (A)	Plateau	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect		Site Drainage	Moderate	Distance to nearest water & type	320m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light	less than 3yo	Wombats
Fire damage:	Light	3 to 10 yo	Charred stags
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Marica						
		Date:	13-02-19	Plot ID:	3215	Recorders:	MP, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus dalrympleana</i>	12	10	No	N	
Tree (TG)	<i>Eucalyptus pauciflora</i>	40	18	No	N	
Shrub (SG)	<i>Daviesia latifolia</i>	15	150	No	N	
Shrub (SG)	<i>Tetratheca bauerifolia</i>	8	400	No	N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	3	100	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	5	80	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	6	100	No	N	
Shrub (SG)	<i>Daviesia mimosoides</i>	2	6	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	2	40	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	1.5	150	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	1	200	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	1	150	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	3	15	No	N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	0.1	1	No	N	
Shrub (SG)	<i>Choretrum pauciflorum</i>	0.1	8	No	N	
Shrub (SG)	<i>Acacia obliquinervia</i>	1	7	No	N	

BAM Site – Field Survey Form

Plot ID:	3222	Date:	27-03-19	Survey Name:	Lobbs hole	Recorders:	RP, JA	
Zone:	55	Easting:	628870.9802	Plot dimensions:	20m x 50m	Midline bearing:	338	
Datum:	GDA94	Northing:	6038615.554	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	999: Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion				Confidence:	Medium	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	16
	Grasses etc.:	6
	Forbs:	13
	Ferns:	0
	Other:	2
Sum of Cover of native vascular plants by growth form group	Trees:	8.1
	Shrubs:	33.4
	Grasses etc.:	60.6
	Forbs:	2.3
	Ferns:	0
	Other:	0.2
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	1
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	23		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	19	1	15	15	8	1	0	20	2	15	10	2	2	5	12	2	0	0	0
Average of the 5 subplots:	13					6.2					6.8					2.8				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)		Soil Surface Texture		Soil Colour	Pale grey pinkish brownish	Soil Depth	2cm
Lithology (B)							
Slope	42degrees, very steep	Aspect	W	Site Drainage	Very good	Distance to nearest water & type	550m to creek at bottom of mountain

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			Only centaurium sp.
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1. 2. 3. 10. 20. 30. ... 100. 200. 1000. ...

Survey Name:	Lobbs hole						
		Date:	27-03-19	Plot ID:	3222	Recorders:	RP, JA

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus nortonii</i>	8	3	No	N	
Shrub (SG)	<i>Bursaria spinosa</i>	3	5	No	N	
Shrub (SG)	<i>Acacia siculiformis</i>	5	22	No	N	
Shrub (SG)	<i>Mirbelia oxylobioides</i>	20	38	No	N	
Shrub (SG)	<i>Dodonaea viscosa</i>	2	15	No	N	
Shrub (SG)	<i>Grevillea neurophylla</i>	0.2	18	No	N	
Tree (TG)	<i>Acacia dealbata</i>	0.1	1	No	N	
Shrub (SG)	<i>Acacia obliquinervia</i>	1	4	No	N	
Shrub (SG)	<i>Grevillea arenaria</i>	0.2	3	No	N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.7	150	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.2	25	No	N	
Grass & grasslike	<i>Poa sieberiana</i>	25	500	No	N	
Grass & grasslike	<i>Themeda triandra</i>	35	800	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.1	10	No	N	
Forb (FG)	<i>Plantago spp.</i>	0.1	5	No	N	
Grass & grasslike	<i>Anthosachne scabra</i>	0.2	30	No	N	
	<i>Centaurium spp.</i>	0.1	50	No	E	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	10	No	N	
Shrub (SG)	<i>Leucopogon virgatus</i>	0.3	10	No	N	
Shrub (SG)	<i>Pimelea biflora</i>	0.1	35	No	N	
Grass & grasslike	<i>Lomandra multiflora</i> subsp. <i>Multiflora</i>	0.1	15	No	N	
Forb (FG)	<i>Hydrocotyle laxiflora</i>	0.1	5	No	N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	0.3	3	No	N	
Grass & grasslike	<i>Lepidosperma cf. laterale</i>	0.1	4	No	N	
Forb (FG)	<i>Galium spp.</i>	0.1	1	No	N	
Forb (FG)	<i>Dianella revoluta</i>	0.5	100	No	N	
Shrub (SG)	<i>Acrotriche serrulata</i>	0.3	5	No	N	
Shrub (SG)	<i>Platylobium formosum</i>	0.5	10	No	N	
Forb (FG)	<i>Leptorhynchus squamatus</i>	0.1	1	No	N	
Forb (FG)	<i>Acaena ovina</i>	0.1	5	No	N	
Forb (FG)	<i>Eriochilus cucullatus</i>	0.1	10	No	N	
Forb (FG)	<i>Dianella longifolia</i>	0.1	2	No	N	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	3	No	N	
Shrub (SG)	<i>Astrotricha ledifolia</i>	0.2	1	No	N	
	<i>Hypericum perforatum</i>	0.2	50	No	HTE	
Shrub (SG)	<i>Cassinia aculeata</i>	0.1	2	No	N	
Forb (FG)	<i>Asperula spp.</i>	0.1	2	No	N	
Other (OG)	<i>Desmodium varians</i>	0.1	15	No	N	
Forb (FG)	<i>Euchiton spp.</i>	0.1	2	No	N	
Shrub (SG)	<i>Pimelea spp.</i>	0.1	1	No	N	
Forb (FG)	<i>Xerochrysum viscosum</i>	0.1	5	No	N	

BAM Site – Field Survey Form

Plot ID:	3223	Date:	22-02-19	Survey Name:	Kings cross rd	Recorders:	CK, IM
Zone:	55	Easting:	630585.2389	Plot dimensions:	20m x 50m	Midline bearing:	198
Datum:	GDA94	Northing:	6025151.443	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	1
	Shrubs:	16
	Grasses etc.:	4
	Forbs:	13
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	15
	Shrubs:	30
	Grasses etc.:	4.9
	Forbs:	3.1
	Ferns:	0
	Other:	0
High Threat Weed cover:		0.2

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	1	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	0	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	0		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	3	55	40	2	7	0	0	0	5	3	0	0	0	0	0	0	0	0	0	
Average of the 5 subplots:	21.4					1.6					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillcrest	Lf Pattern (A)	Mountains	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope		Aspect		Site Drainage		Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Moderate	greater than 10yo	
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):	Light		
Fire damage:			
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Kings cross rd						
		Date:	22-02-19	Plot ID:	3223	Recorders:	CK, IM

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus debeuzevillei</i>	15	12	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	4	20	No	N	
Shrub (SG)	<i>Ozothamnus secundiflorus</i>	4	30	No	N	
Shrub (SG)	<i>Podolobium alpestre</i>	8	100	No	N	
Shrub (SG)	<i>Asterolasia trymalioides</i>	5	30	No	N	
Shrub (SG)	<i>Olearia erubescens</i>	0.1	2	No	N	
Grass & grasslike	<i>Dichelachne rara</i>	0.1	20	No	N	
Grass & grasslike	<i>Rytidosperma penicillatum</i>	0.3	50	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.2	50	No	N	
	<i>Anthoxanthum odoratum</i>	0.2	50	No	E	
Shrub (SG)	<i>Olearia myrsinoides</i>	0.1	1	No	N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	3	25	No	N	
Shrub (SG)	<i>Dillwynia prostrata</i>	1	50	No	N	
	<i>Holcus lanatus</i>	2	100	No	E	
	<i>Acetosella vulgaris</i>	0.2	20	No	HTE	
Forb (FG)	<i>Asperula</i> spp.	0.1	8	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	4	150	No	N	
Forb (FG)	<i>Leptorhynchus squamatus</i> subsp. <i>Alpinus</i>	0.5	50	No	N	
Forb (FG)	<i>Coronidium monticola</i>	0.2	30	No	N	
Forb (FG)	<i>Xerochrysium</i> spp.	0.1	15	No	N	
Shrub (SG)	<i>Leucopogon gelidus</i>	0.1	1	No	N	
	<i>Hypochaeris radicata</i>	0.2	30	No	E	
Shrub (SG)	<i>Daviesia ulicifolia</i>	0.1	4	No	N	
Forb (FG)	<i>Senecio gunnii</i>	0.3	30	No	N	
Shrub (SG)	<i>Acacia alpina</i>	0.2	4	No	N	
Shrub (SG)	<i>Cassinia monticola</i>	4	100	No	N	
Forb (FG)	<i>Ranunculus</i> spp.	0.1	8	No	N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	4	No	N	
Forb (FG)	<i>Asperula</i> spp.	0.1	2	No	N	
Grass & grasslike	<i>Poa</i> spp.	0.5	20	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	1	30	No	N	
Shrub (SG)	<i>Bossiaea</i> spp.	0.1	1	No	N	
Shrub (SG)	<i>Polyscias sambucifolia</i>	0.1	2	No	N	
Forb (FG)	<i>Acaena ovina</i>	0.1	2	No	N	
Forb (FG)	<i>Celmisia tomentella</i>	0.2	20	No	N	
Shrub (SG)	<i>Pimelea linifolia</i> subsp. <i>caesia</i>	0.1	1	No	N	
Forb (FG)	<i>Wahlenbergia gloriosa</i>	0.1	3	No	N	
Shrub (SG)	<i>Pimelea ligustrina</i> subsp. <i>ciliata</i>	0.1	1	No	N	

BAM Site – Field Survey Form

Plot ID:	3229	Date:	19-02-19	Survey Name:	Tantangara rd	Recorders:	MP, CW
Zone:	55	Easting:	646690.2505	Plot dimensions:	20m x 50m	Midline bearing:	85
Datum:	GDA94	Northing:	6028123.515	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:	
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	8
	Grasses etc.:	5
	Forbs:	11
	Ferns:	0
	Other:	0
Sum of Cover of native vascular plants by growth form group	Trees:	80
	Shrubs:	10.6
	Grasses etc.:	47.3
	Forbs:	1.3
	Ferns:	0
	Other:	0
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	6	0	2
30 – 49 cm:	0	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	136		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	83	75	75	80	65	0	0	0	0	0	0	1	0	1	0	7	0	0	0	0
Average of the 5 subplots:	75.6					0					0.4					1.4				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Red-brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect	NW	Site Drainage	Moderate	Distance to nearest water & type	160m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Severe	greater than 10yo	Charred felled trees
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara rd					
	Date:	19-02-19	Plot ID:	3229	Recorders:	MP, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	50	77	No	N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	30	4	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	45	300	No	N	
Grass & grasslike	<i>Lomandra filiformis</i>	0.1	4	No	N	
Grass & grasslike	<i>Poa phillipsiana</i>	0.1	1	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	15	No	N	
Forb (FG)	<i>Coronidium monticola</i>	0.2	50	No	N	
Shrub (SG)	<i>Olearia</i> spp.	0.1	40	No	N	
Forb (FG)	<i>Asperula scoparia</i>	0.1	35	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	40	No	N	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	30	No	N	
Grass & grasslike	<i>Lomandra longifolia</i>	2	80	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	6	30	No	N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	1	25	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	3	35	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	10	No	N	
Forb (FG)	<i>Stellaria pungens</i>	0.1	50	No	N	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.1	14	No	N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	6	No	N	
Shrub (SG)	<i>Leucopogon gelidus</i>	0.1	1	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	20	No	N	
Forb (FG)	<i>Hovea heterophylla</i>	0.2	80	No	N	
Shrub (SG)	<i>Ozothamnus thyrsoides</i>	0.2	3	No	N	
Shrub (SG)	<i>Daviesia latifolia</i>	0.1	3	No	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	2	No	N	
Grass & grasslike	<i>Deyeuxia monticola</i>	0.1	3	No	N	

BAM Site – Field Survey Form

Plot ID:	3234	Date:	19-02-19	Survey Name:	Tantangara rd	Recorders:	MP, CW	
Zone:	55	Easting:	646483.7746	Plot dimensions:	20m x 50m	Midline bearing:	280	
Datum:	GDA94	Northing:	6027169.871	IBRA region:	Australian Alps (Snowy Mountains)	Zone ID:		
Plant Community Type:	1196: Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Subalpine Woodlands				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	2
	Shrubs:	8
	Grasses etc.:	6
	Forbs:	25
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	63
	Shrubs:	41.4
	Grasses etc.:	33.6
	Forbs:	7.8
	Ferns:	0
	Other:	0.1
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	1	0	1
50 – 79 cm:	0	0	0
30 – 49 cm:	3	0	0
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	1	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	118		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	15	15	10	5	15	0	45	0	10	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots:	12					11					0					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Red-brown	Soil Depth	Moderate
Lithology (B)							
Slope		Aspect	S	Site Drainage	Moderate	Distance to nearest water & type	80m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Moderate	greater than 10yo	Charred felled branches
Storm damage:			
Weediness:			
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if "top 3"; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	Tantangara rd						
		Date:	19-02-19	Plot ID:	3234	Recorders:	MP, CW

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Tree (TG)	<i>Eucalyptus pauciflora</i>	35	60	No	N	
Tree (TG)	<i>Eucalyptus dalrympleana</i>	28	20	No	N	
Shrub (SG)	<i>Bossiaea foliosa</i>	5	40	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>sieberiana</i>	20	100	No	N	
Forb (FG)	<i>Arthropodium milleflorum</i>	4	1000	No	N	
Shrub (SG)	<i>Podolobium alpestre</i>	30	100	No	N	
Forb (FG)	<i>Euchiton sphaericus</i>	0.1	40	No	N	
Other (OG)	<i>Glycine clandestina</i>	0.1	50	No	N	
Forb (FG)	<i>Hypericum gramineum</i>	0.1	25	No	N	
Forb (FG)	<i>Asperula scoparia</i>	1	900	No	N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.1	20	No	N	
Grass & grasslike	<i>Carex</i> spp.	2	150	No	N	
Shrub (SG)	<i>Olearia</i> spp.	0.3	60	No	N	
Forb (FG)	<i>Geranium potentilloides</i> var. <i>abditum</i>	0.1	40	No	N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	1	10	No	N	
Grass & grasslike	<i>Rytidosperma pilosum</i>	0.5	70	No	N	
Forb (FG)	<i>Leptorhynchos squamatus</i> subsp. <i>Alpinus</i>	0.1	30	No	N	
Forb (FG)	<i>Stellaria pungens</i>	0.6	180	No	N	
Forb (FG)	<i>Oreomyrrhis eriopoda</i>	0.1	60	No	N	
Forb (FG)	<i>Viola betonicifolia</i>	0.1	40	No	N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.1	50	No	N	
Forb (FG)	<i>Ranunculus</i> spp.	0.1	10	No	N	
Forb (FG)	<i>Acaena novae-zelandiae</i>	0.1	30	No	N	
Forb (FG)	<i>Wahlenbergia stricta</i>	0.1	50	No	N	
Forb (FG)	<i>Pratia</i> spp.	0.1	10	No	N	
Grass & grasslike	<i>Luzula</i> spp.	0.1	8	No	N	
Forb (FG)	<i>Asteraceae</i> indeterminate	0.1	1	No	N	
	<i>Anthoxanthum odoratum</i>	5	900	No	E	
Forb (FG)	<i>Poranthera microphylla</i>	0.1	40	No	N	
Forb (FG)	<i>Senecio prenanthoides</i>	0.1	20	No	N	
Forb (FG)	<i>Scleranthus biflorus</i>	0.1	10	No	N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.5	20	No	N	
Shrub (SG)	<i>Ozothamnus thyrsoides</i>	3	60	No	N	
Forb (FG)	<i>Eriochilus cucullatus</i>	0.1	4	No	N	
Shrub (SG)	<i>Pimelea biflora</i>	1.5	180	No	N	
Grass & grasslike	<i>Dichelachne inaequiglumis</i>	1	100	No	N	
Grass & grasslike	<i>Poa sieberiana</i> var. <i>cyanophylla</i>	10	90	No	N	
Forb (FG)	<i>Senecio gunnii</i>	0.1	4	No	N	
Forb (FG)	<i>Epilobium</i> spp.	0.1	4	No	N	
	<i>Crepis capillaris</i>	0.1	25	No	E	
Forb (FG)	<i>Cymbonotus preissianus</i>	0.1	4	No	N	
Forb (FG)	<i>Geranium</i> spp.	0.1	6	No	N	
	<i>Trifolium repens</i>	0.1	10	No	E	
Forb (FG)	<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	0.1	25	No	N	
Forb (FG)	<i>Brachyscome spathulata</i>	0.1	8	No	N	

BAM Site – Field Survey Form

Plot ID:	3301	Date:	25-06-19	Survey Name:	LHRR North	Recorders:	MP DK	
Zone:	55	Easting:	628221.0596	Plot dimensions:	20m x 50m	Midline bearing:	12	
Datum:	GDA94	Northing:	6047160.73	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:		
Plant Community Type:	296: Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion				Confidence:	High	Photo #:	
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:	High

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	12
	Grasses etc.:	8
	Forbs:	8
	Ferns:	1
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	15
	Shrubs:	41.6
	Grasses etc.:	26.9
	Forbs:	2.6
	Ferns:	35
	Other:	0.1
High Threat Weed cover:		2.5

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	0	0	0
30 – 49 cm:	0	0	0
20 – 29 cm:	0	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	1	0
< 5 cm:	1	1	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	6		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	25	40	35	55	20	0	0	0	1	4	0	0	0	0	1	0	0	0	0	0
Average of the 5 subplots:	35					1					0.2					0				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Other	Microrelief	
		Lf Element (B)		Lf Pattern (B)	Valley		
Lithology (A)		Soil Surface Texture		Soil Colour		Soil Depth	
Lithology (B)							
Slope	10	Aspect	NE	Site Drainage	good	Distance to nearest water & type	

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):	Severe	3 to 10 yo	Clearing for powerline easement
Cultivation (inc. pasture):			
Soil erosion:	Moderate		From animals digging and from clearing
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:	Light		Some scorched trunks that had been cut down before the fire. Unsure of age
Storm damage:			
Weediness:	Moderate		Blackberry and acetosella vulgaris
Other:			

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

GF Code: see Growth Form definitions in Appendix 1; N: native, E: exotic, HTE: high threat exotic; GF – circle code if 'top 3'; Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover)
 Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
 Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...

Survey Name:	LHRR North					
	Date:	25-06-19	Plot ID:	3301	Recorders:	MP DK

GF Code	Top 3 native species in each growth form group: Full species name mandatory All other native and exotic species: Full species name where practicable	Cover	Abund	Voucher	N, E or HTE	Stratum
Fern (EG)	<i>Pteridium esculentum</i>	35	3500		N	
Grass & grasslike	<i>Poa spp.</i>	20	2000		N	
Shrub (SG)	<i>Cassinia longifolia</i>	15	150		N	
Shrub (SG)	<i>Platylobium formosum</i>	5	200		N	
Shrub (SG)	<i>Leucopogon fletcheri</i> subsp. <i>brevisepalus</i>	8	150		N	
Shrub (SG)	<i>Hibbertia obtusifolia</i>	2	80		N	
Shrub (SG)	<i>Leucopogon spp.</i>	3	40		N	
Grass & grasslike	<i>Rytidosperma pallidum</i>	3	10		N	
Shrub (SG)	<i>Tetradlea bauerifolia</i>	5	1000		N	
Tree (TG)	<i>Eucalyptus dives</i>	4	3		N	
	<i>Acetosella vulgaris</i>	1	350		HTE	
	<i>Hypericum perforatum</i>	0.5	100		HTE	
Forb (FG)	<i>Viola hederacea</i>	0.1	10		N	
Forb (FG)	<i>Stellaria pungens</i>	1	450		N	
Other (OG)	<i>Hardenbergia violacea</i>	0.1	4		N	
Grass & grasslike	<i>Lomandra longifolia</i>	2.5	30		N	
Shrub (SG)	<i>Pimelea linifolia</i>	0.6	10		N	
Forb (FG)	<i>Stylidium graminifolium</i>	0.9	80		N	
Forb (FG)	<i>Gonocarpus tetragynus</i>	0.2	400		N	
Shrub (SG)	<i>Acrothamnus hookeri</i>	0.8	4		N	
Forb (FG)	<i>Dianella spp.</i>	0.1	4		N	
Grass & grasslike	<i>Lomandra spp.</i>	1	30		N	
Shrub (SG)	<i>Daviesia ulicifolia</i>	1	5		N	
Shrub (SG)	<i>Persoonia chamaepeuce</i>	0.2	2		N	
Tree (TG)	<i>Eucalyptus mannifera</i>	8	5		N	
Tree (TG)	<i>Acacia dealbata</i>	3	10		N	
Shrub (SG)	<i>Daviesia latifolia</i>	0.6	5		N	
	<i>Rubus fruticosus</i> sp. <i>agg.</i>	1	15		HTE	
Grass & grasslike	<i>Luzula spp.</i>	0.1	10		N	
Forb (FG)	<i>Epilobium spp.</i>	0.1	10		N	
Grass & grasslike	<i>Dichelachne spp.</i>	0.1	4		N	
Shrub (SG)	<i>Cassinia aculeata</i>	0.4	6		N	
Grass & grasslike	<i>Carex spp.</i>	0.1	10		N	
Forb (FG)	<i>Geranium spp.</i>	0.1	10		N	
Forb (FG)	<i>Scleranthus spp.</i>	0.1	4		N	
Grass & grasslike	<i>Rytidosperma spp.</i>	0.1	4		N	

BAM Site – Field Survey Form

Plot ID:	5211	Date:	09-03-19	Survey Name:	BH5211	Recorders:	JA, CW
Zone:	55	Easting:	630228.7565	Plot dimensions:	20m x 50m	Midline bearing:	41
Datum:	GDA94	Northing:	6039069.867	IBRA region:	South Eastern Highlands (Bondo)	Zone ID:	
Plant Community Type:	953: Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion				Confidence:	High	Photo #:
Vegetation Class:	Southern Tableland Dry Sclerophyll Forests				EEC:	No	Confidence:
						High	

Record easting and northing at 0 m on midline. Dimensions (Shape) of 0.04 ha base plot.

BAM Attribute (400 m2 plot)		Sum values
Count of Native Richness	Trees:	3
	Shrubs:	14
	Grasses etc.:	4
	Forbs:	4
	Ferns:	0
	Other:	1
Sum of Cover of native vascular plants by growth form group	Trees:	60
	Shrubs:	45.6
	Grasses etc.:	25.5
	Forbs:	0.9
	Ferns:	0
	Other:	0.5
High Threat Weed cover:		0

BAM Attribute (1000 m2 plot) DBH			
DBH	Stem count (euc)	Stem count (non-euc)	Stems with Hollows
80 + cm:	0	0	0
50 – 79 cm:	3	0	1
30 – 49 cm:	8	0	1
20 – 29 cm:	1	0	0
10 – 19 cm:	1	0	0
5 – 9 cm:	1	0	0
< 5 cm:	0	0	0
Length of logs (m) (≥10 cm diameter, >50 cm in length)	25		

Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living. For hollows, count only the presence of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs.

BAM Attribute (1 x 1 m plots)	Litter cover (%)					Bare ground cover (%)					Cryptogam cover (%)					Rock cover (%)				
Subplot score (% in each):	90	85	86	92	40	0	0	0	0	0	5	1	0	0	0	0	5	4	0	0
Average of the 5 subplots:	78.6					0					1.2					1.8				

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Lf Element (A)	Hillslope	Lf Pattern (A)	Low hills	Microrelief	
		Lf Element (B)		Lf Pattern (B)			
Lithology (A)	Quartz and stone	Soil Surface Texture	Loamy	Soil Colour	Brown	Soil Depth	Modetate
Lithology (B)							
Slope		Aspect	NE	Site Drainage	Moderate	Distance to nearest water & type	150m

Plot Disturbance	Severity code	Age code	Observational evidence
Clearing (inc. logging):			
Cultivation (inc. pasture):			
Soil erosion:			
Firewood / CWD removal:			
Grazing (identify native/stock):			
Fire damage:			
Storm damage:			
Weediness:			
Other:	Light	less than 3yo	Cassytha infestation in some parts

Severity: 0=no evidence, 1=light, 2=moderate, 3=severe

Annexure B

Vegetation integrity assessment – plot data

Table B.1 **Vegetation integrity data**

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
7	55	628781	6050388	140	1	4	7	18	0	0	25.0	6.4	27.8	3.8	0.0	0.0	2	1	46.0	79.0	1	1	1	1	1	1	0.4
27	55	648047	6043062	221	1	9	2	9	0	0	20.0	98.0	70.1	40.7	0.0	0.0	0	0	18.0	11.0	1	1	1	1	0	1	0.2
32	55	647725	6042849	90	0	0	3	5	0	0	0	0	26.1	31.7	0	0	0	0	68.0	0.0	0	0	0	0	0	0	0
41	55	646532	6041966	240	0	0	1	1	0	0	0.0	0.0	90.0	3.0	0.0	0.0	0	0	5.0	0.0	0	0	0	0	0	0	0.0
42	55	624855	6041940	257	6	14	6	11	0	1	23.8	6.8	8.2	2.3	0.0	0.1	1	2	50.0	17.0	0	0	0	0	1	0	0.5
47	55	645844	6041520	90	0	0	4	7	0	0	0.0	0.0	75.4	26.0	0.0	0.0	0	0	86.0	0.0	0	0	0	0	0	0	0.0
49	55	645724	6041492	250	0	1	3	10	0	0	0	0.1	30.6	51.7	0	0	0	0	60.0	0.0	0	0	0	0	0	0	0.7
50	55	645785	6041385	0	0	0	5	2	0	0	0	0	81.4	0.3	0	0	0	0	52.0	0.0	0	0	0	0	0	0	0
54	55	645537	6041230	199	0	0	2	7	0	0	0	0	31	1.4	0	0	0	0	50.0	0.0	0	0	0	0	0	0	60
60	55	623933	6040974	275	2	18	12	16	1	3	30.0	59.2	28.4	2.8	0.1	0.3	0	2	42.0	51.0	1	1	1	1	1	1	2.6
61	55	644941	6040983	145	0	0	5	13	0	0	0	0	66.8	3.5	0	0	0	0	19.0	0.0	0	0	0	0	0	0	1
70	55	624595	6040563	280	3	10	14	12	3	0	33.0	51.0	40.9	3.4	4.5	0.0	2	0	44.0	27.0	1	1	1	1	1	0	4.2
71	55	624411	6040491	260	1	6	5	9	0	0	5	37.8	20.6	1.1	0	0	0	0	41.0	8.0	1	1	1	0	0	1	5.6
72	55	624718	6040447	218	4	10	9	8	2	0	10.1	40.3	37.6	1.0	0.7	0.0	0	0	32.0	4.0	0	1	1	1	0	0	6.2
75	55	643610	6040256	42	0	4	7	22	0	0	0.0	3.8	82.4	4.4	0.0	0.0	1	5	18.8	132.0	0	0	0	1	1	1	0.1
79	55	625588	6039630	50	1	13	8	7	0	2	10.0	65.8	6.3	2.7	0.0	0.2	3	0	90.0	19.0	0	0	0	0	1	0	0.1
80	55	625548	6039580	20	2	15	6	6	1	0	15.5	9.8	5.4	1.1	0.1	0.0	1	1	76.0	41.0	0	0	0	0	1	0	0.1
81	55	643062	6039530	298	3	8	8	17	0	0	40	16	91.6	2.2	0	0	1	1	24.0	187.0	1	1	1	1	0	1	0.1
95	55	626114	6038722	317	3	12	7	17	0	1	21.1	8.5	5.9	5.1	0.0	0.1	0	0	39.0	27.0	1	1	1	1	0	1	0.1
99	55	636963	6038741	300	0	3	8	7	0	0	0.0	75.3	71.3	6.2	0.0	0.0	0	0	4.2	0.0	0	0	0	0	0	0	0.1
104	55	626333	6038703	290	1	2	7	6	0	0	15.0	3.2	36.4	1.2	0.0	0.0	0	0	2.6	0.0	1	1	0	0	0	1	7.1
105	55	632919	6038714	240	2	10	4	12	0	1	37.0	10.2	20.7	5.2	0.0	0.3	1	0	70.0	0.0	0	0	0	0	0	0	0.0
112	55	631189	6038618	60	2	11	4	5	0	0	37.0	42.9	21.1	1.5	0.0	0.0	8	1	97.0	1415.0	0	0	0	0	1	0	0.0

Table B.1 **Vegetation integrity data**

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
120	55	638727	6038396	126	0	3	10	14	0	0	0	16	90.7	8.5	0	0	0	0	32.0	0.0	0	0	0	0	0	0	0.1
122	55	638454	6038390	162	1	3	8	18	0	0	25.0	25.5	81.4	3.1	0.0	0.0	0	0	22.0	40.0	1	1	0	0	0	1	0.2
126	55	637047	6038359	151	0	0	9	13	0	0	0	0	10.9	27.5	0	0	0	0	15.0	0.0	0	0	0	0	0	0	0
132	55	636309	6038310	218	0	5	3	15	0	0	0.0	13.2	70.4	6.7	0.0	0.0	0	0	18.2	43.0	0	0	0	0	0	1	3.2
135	55	646539	6038254	180	2	9	4	25	0	1	10.2	15.9	75.4	12.2	0.0	0.1	1	1	18.0	24.0	1	1	1	1	1	1	0.1
139	55	625891	6038121	160	2	11	4	10	0	2	65.0	59.2	3.5	1.3	0.0	0.8	0	0	85.0	18.0	1	1	1	1	0	1	0.0
143	55	627654	6038149	20	2	13	5	7	1	1	35.0	132.7	20.5	0.8	0.6	0.1	1	0	50.0	12.0	1	1	1	1	1	1	16.3
144	55	626943	6038109	10	1	1	5	3	0	0	60.0	0.2	17.4	0.5	0.0	0.0	0	0	15.6	4.0	1	1	1	0	0	0	86.5
149	55	638758	6037936	124	0	3	7	10	0	0	0	2.2	82.2	1.5	0	0	0	0	2.2	39.0	0	0	0	0	0	0	0.5
154	55	625887	6037831	210	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	48.2	2.0	1	1	1	1	0	1	0.0
156	55	626038	6037661	171	4	5	4	8	1	0	45.0	74.0	4.5	3.9	0.1	0.0	0	0	29.0	20.0	1	1	1	1	0	1	1.5
164	55	649063	6037391	117	1	3	8	5	0	0	2	27.2	23.5	2.1	0	0	0	0	9.0	0.0	1	1	1	0	0	1	0.7
167	55	648817	6037148	328	2	4	6	8	0	0	12.0	7.3	45.4	6.6	0.0	0.0	1	0	35.0	20.0	0	1	1	1	1	1	0.0
172	55	626847	6034263	60	4	7	2	7	1	1	60.0	96.1	70.0	1.3	0.8	0.1	1	2	52.0	12.0	0	1	1	1	1	1	0.1
173	55	627163	6033834	84	3	4	0	2	1	0	4.0	8.2	0.0	0.2	1.0	0.0	0	0	22.0	17.0	1	0	1	0	0	1	0.1
174	55	626962	6036924	110	1	2	6	6	1	0	5.0	50.0	5.7	0.9	0.1	0.0	0	0	8.2	0.0	0	0	0	0	0	0	29.0
178	55	647441	6032429	179	2	9	5	11	0	0	1.1	12.4	85.3	1.3	0	0	0	0	43.0	12.0	0	0	0	0	0	1	0.3
181	55	626760	6038307	300	0	0	8	4	1	0	0.0	0.0	2.8	1.4	0.1	0.0	0	0	13.8	0.0	0	0	0	0	0	0	22.1
183	55	626501	6038371	115	2	3	5	8	0	0	0.5	0.5	70.7	1.4	0.0	0.0	0	0	5.8	0.0	0	0	0	0	0	0	0.2
188	55	627887	6038243	190	1	13	4	5	0	1	35.0	119.0	10.2	1.4	0.0	0.2	0	4	79.0	48.0	1	1	1	1	0	1	0.0
189	55	623809	6041283	140	4	17	4	8	0	4	36.0	45.7	60.7	1.1	0.0	0.4	0	3	55.0	12.0	1	1	1	1	0	1	0.0
193	55	626913	6036373	347	2	6	5	11	1	0	5.5	28.1	0.7	27.7	0.1	0.0	1	1	48.0	24.0	1	1	1	0	1	1	4.0
195	55	627136	6037800	131	0	0	1	1	1	0	0.0	0.0	0.1	0.1	5.0	0.0	0	0	6.0	0.0	0	0	0	0	0	0	0.3

Table B.1 **Vegetation integrity data**

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
197	55	628192	6038948	300	3	17	11	16	1	0	46.0	27.6	71.0	4.9	1.0	0.0	5	3	66.0	54.0	1	1	1	1	1	1	10.5
198	55	625880	6038914	202	2	4	7	3	0	0	23.0	2.0	47.8	0.3	0.0	0.0	1	1	27.0	3.0	1	1	1	0	0	1	11.7
199	55	651369	6036906	0	1	1	6	7	0	0	1	1	7.1	1	0	0	0	0	62.0	0.0	0	0	0	0	0	0	2.2
202	55	643972	6048992	129	1	2	8	8	0	0	45.0	0.7	8.2	4.7	0.0	0.0	2	0	12.4	0.0	1	0	1	1	1	1	1.0
207	55	646746	6026381	80	4	9	3	19	0	2	21.5	4.1	25.6	7.2	0.0	0.3	6	1	100.0	110.0	0	0	0	0	0	0	0.1
208	55	632677	6038494	180	3	11	3	10	0	1	26.7	12.6	1.4	1.8	0.0	0.2	0	0	72.0	165.0	0	0	0	0	0	0	0.0
211	55	638667	6037714	256	2	5	4	17	0	0	20.5	4.4	70.7	4.8	0.0	0.0	0	0	21.0	75.0	0	0	1	1	0	1	0.3
212	55	648509	6038412	110	3	8	2	24	0	0	2.8	2.2	20.2	9.8	0.0	0.0	0	0	64.0	202.0	0	0	0	0	0	0	0.6
216	55	627033	6033444	211	6	7	5	18	0	2	22.3	6.9	72.3	4.0	0.0	0.3	4	4	28.0	43.0	1	1	1	1	1	1	0.2
218	55	625998	6038194	318	2	14	5	9	1	1	0.2	85.6	3.6	3.3	0.2	1.0	0	0	20.0	0.0	1	1	0	0	0	1	0.5
224	55	636364	6037743	124	1	2	5	14	0	0	1	1.7	71.2	3.4	0	0	0	0	9.0	5.0	1	1	0	0	0	1	0.2
1006	55	626686	6038254	310	0	0	5	0	0	0	0.0	0.0	3.5	0.0	0.0	0.0	0	0	28.0	0.0	0	0	0	0	0	0	35.0
1009	55	625222	6039994	140	0	4	5	1	1	0	0.0	2.7	31.5	0.1	0.1	0.0	0	0	44.0	0.0	0	0	0	0	0	1	20.2
1011	55	626149	6038223	103	3	7	9	2	0	5	61.2	77.8	6.6	0.2	0.0	0.5	3	6	66.0	44.0	1	1	1	1	1	1	3.1
1013	55	626380	6038571	118	3	7	4	2	0	0	39.0	37.6	62.1	0.2	0.0	0.0	0	0	79.0	2.0	1	1	1	1	0	1	21.1
1015	55	628254	6038817	105	3	15	6	3	0	4	32.0	94.3	9.2	0.4	0.0	0.4	1	1	87.0	31.0	1	1	1	1	1	1	0.0
1016	55	625418	6039231	86	3	16	6	7	0	0	30.2	41.5	42.5	0.8	0.0	0.0	0	2	84.0	32.0	1	1	1	1	0	0	0.6
1020	55	626931	6036666	319	2	5	7	6	0	0	45.0	22.3	40.2	0.6	0.0	0.0	0	0	94.6	0.0	0	1	1	1	1	1	46.3
1021	55	626180	6037291	105	2	5	8	2	1	0	25.0	56.2	7.9	0.2	0.1	0.0	0	0	90.6	16.0	1	1	0	0	1	1	5.0
1024	55	626892	6033322	315	1	9	10	18	1	1	5.0	20.3	71.6	2.3	25.0	0.1	0	0	33.0	8.0	0	0	0	0	0	0	1.2
1029	55	616780	6056977	335	4	8	9	3	1	3	45.0	13.1	21.5	0.3	0.2	0.4	0	0	90.6	106.0	1	1	1	1	0	1	0.2
1037	55	628075	6038425	210	3	14	5	3	0	2	30.2	54.3	25.4	0.5	0.0	0.2	0	1	65.0	42.0	1	1	1	1	0	1	0.0
1039	55	627147	6029463	33	2	5	5	5	0	2	5.2	3.3	97.2	0.5	0	0.2	0	0	50.0	0.0	0	0	0	0	0	0	0.4

Table B.1 **Vegetation integrity data**

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
1042	55	627547	6028039	105	2	11	4	8	1	2	60.5	14.3	70.3	2.3	0.5	0.2	3	4	54.0	28.0	1	1	1	1	1	1	0.1
1043	55	625081	6039931	59	2	7	8	10	0	1	21	54.3	11.8	1	0	0.1	0	0	51.0	7.0	1	1	1	1	0	0	3.1
1045	55	626051	6039332	0	0	2	3	1	0	1	0.0	1.1	70.2	0.1	0.0	0.1	0	0	21.0	0.0	0	0	0	0	0	0	0.8
1046	55	625823	6039178	0	1	3	4	2	0	0	70.0	20.2	8.4	0.2	0.0	0.0	0	0	77.0	25.0	1	1	1	0	0	1	35.2
1048	55	627677	6038086	105	2	5	7	4	0	0	9.0	1.4	5.8	0.4	0.0	0.0	0	0	14.0	5.0	1	1	1	0	0	0	37.6
1050	55	629134	6027981	20	2	6	4	14	0	2	46.0	39.3	45.3	2.8	0.0	0.3	4	3	65.0	130.0	1	1	1	1	1	1	0.2
1051	55	625963	6038950	121	0	0	4	1	0	0	0.0	0.0	5.3	0.1	0.0	0.0	0	0	6.2	0.0	0	0	0	0	0	0	2.2
1054	55	629062	6051288	70	2	1	9	12	0	0	0.3	0.5	82.4	4.8	0.0	0.0	0	0	29.0	0.0	0	0	0	0	0	0	1.0
2020	55	628380	6038221	355	1	11	4	3	0	2	70.0	245.0	31.0	11.0	0.0	4.0	0	0	35.0	20.0	1	1	1	1	0	1	0.0
2026	55	647486	6029396	38	2	8	7	19	0	0	39.0	1.3	40.6	2.0	0.0	0.0	1	2	89.0	109.0	1	1	1	1	1	1	0.0
2038	55	629026	6028263	51	3	7	5	12	0	2	52.0	81.7	38.2	3.4	0.0	2.5	3	1	43.8	34.0	1	1	1	1	1	1	1.0
2050	55	649045	6040550	68	0	0	4	6	0	0	0	0	82.1	0.6	0	0	0	0	23.0	0.0	0	0	0	0	0	0	0.1
2063	55	646706	6025473	205	1	6	9	19	0	0	25.0	6.4	47.2	2.1	0.0	0.0	2	2	58.0	74.0	1	0	1	1	1	1	0.3
2068	55	630055	6024218	180	0	7	5	24	0	0	0.0	21.0	32.6	18.3	0.0	0.0	0	0	51.0	18.0	1	1	1	1	0	1	0.4
2079	55	631498	6039436	143	2	12	7	20	0	2	75.0	101.4	63.0	4.2	0.0	2.1	0	8	19.0	58.0	1	0	1	1	1	1	0.0
2082	55	636649	6027771	243	0	3	8	4	1	0	0.0	3.2	116.5	2.5	0.5	0.0	0	0	35.0	0.0	0	0	0	0	0	0	0.0
2084	55	625304	6039603	155	3	8	8	2	1	0	50.0	146.0	24.0	3.0	1.0	0.0	0	0	27.0	111.0	1	1	1	1	0	0	5.0
2099	55	637065	6027774	114	0	3	6	10	0	0	0	10.6	88.8	2.2	0	0	0	0	53.0	0.0	0	0	0	0	0	0	0.1
2102	55	637856	6028039	109	0	4	2	10	0	0	0	6.5	70.2	6	0	0	0	0	24.0	0.0	0	0	0	0	0	0	0.1
2119	55	626682	6036780	350	2	3	6	8	0	0	65.0	41.0	107.0	16.0	0.0	0.0	1	0	25.4	3.0	0	1	0	0	0	1	15.0
2127	55	649027	6040184	287	0	0	2	5	0	0	0	0	30.1	6.4	0	0	0	0	1.0	0.0	0	0	0	0	0	0	0.1
2144	55	631479	6027383	210	1	8	4	22	1	0	80.0	29.0	24.5	7.1	0.1	0.0	1	0	52.0	143.0	1	1	0	1	1	1	1.1

Table B.1 **Vegetation integrity data**

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
2145	55	647073	6029350	220	2	5	3	14	0	0	30.0	15.5	47.1	1.8	0.0	0.0	3	2	73.0	10.0	1	0	1	1	1	1	1.1
2150	55	633685	6037824	111	1	7	4	28	1	0	70.0	41.1	70.5	29.1	0.1	0.0	4	6	9.0	73.0	0	1	1	1	1	0	0.1
2161	55	625815	6039432	277	2	12	4	2	0	2	100.0	188.0	5.0	4.0	0.0	5.0	2	0	67.0	8.0	1	1	1	1	1	1	0.0
2170	55	648892	6040408	160	0	0	5	10	0	0	0	0	9.2	1.9	0	0	0	0	8.8	0.0	0	0	0	0	0	0	1.1
2186	55	646199	6023741	135	3	5	5	8	0	0	40.3	41.4	43.4	5.8	0.0	0.0	2	3	93.6	145.0	1	1	1	1	1	1	0.0
2220	55	634650	6029626	71	0	0	3	5	0	0	0	0	50.2	0.9	0	0	0	0	37.0	0.0	0	0	0	0	0	0	0.1
2230	55	628805	6028612	264	3	8	10	18	0	2	80.0	92.1	26.3	17.2	0.0	5.0	1	0	30.0	52.0	1	1	1	1	1	1	0.1
2236	55	645982	6022840	290	1	7	11	13	1	0	0.1	58.7	40.9	1.5	0.1	0.0	0	0	15.0	9.0	0	0	0	0	0	1	0.1
2240	55	646714	6027069	2	0	4	5	15	0	0	0	5.4	62.7	1.7	0	0	0	0	69.0	18.0	0	0	0	0	0	1	0.3
2244	55	648954	6035099	178	1	2	8	17	0	0	0.1	0.2	79.6	4.6	0.0	0.0	0	0	9.6	16.0	0	0	0	0	0	0	0.5
2250	55	646400	6025212	15	0	4	5	13	1	0	0	1.5	45.4	1.3	0.2	0	0	0	31.0	0.0	0	0	0	0	0	0	0.3
2256	55	645736	6022859	92	0	7	9	9	0	0	0	48.3	57.4	0.9	0	0	0	0	23.0	2.0	0	0	0	0	0	0	0
2264	55	628696	6039087	132	3	19	6	8	1	3	50.0	15.3	50.9	1.0	0.1	0.3	0	0	34.0	42.0	1	1	1	1	0	1	0.1
2265	55	626599	6038070	30	3	8	4	2	0	1	62.3	37.1	5.5	0.3	0.0	0.1	1	6	85.4	32.0	1	1	1	1	0	1	0.0
2266	55	627795	6022451	332	2	12	4	16	0	0	45.0	72.5	6.2	2.6	0.0	0.0	0	0	74.8	11.0	1	1	0	0	0	1	0.3
2269	55	624597	6040798	180	2	18	7	11	0	1	40	58	25	3.3	0	1	0	0	20.0	12.0	1	1	1	1	0	1	2
2274	55	650897	6021045	151	2	2	7	11	0	0	0.2	40.5	91.5	1.2	0	0	0	0	4.4	0.0	0	0	0	0	0	1	0.2
2275	55	650061	6021751	45	1	6	7	14	0	0	8	4.6	64.4	1.6	0	0	0	0	36.0	0.0	1	1	1	1	0	1	5
2276	55	624564	6041771	154	5	12	8	14	0	1	15.9	46.6	61.2	1.7	0	0.2	2	0	49.0	33.0	1	1	1	1	1	1	6.3
2284	55	625379	6039763	172	0	3	2	9	0	0	0.0	7.6	36.0	5.8	0.0	0.0	0	0	3.6	0.0	0	0	0	0	0	0	40.1
3003	55	626091	6039215	260	3	13	5	7	0	2	47.0	77.7	90.3	1.0	0.0	0.2	0	0	19.0	31.0	1	1	1	1	0	0	25.4
3006	55	632621	6038431	220	2	11	4	13	0	1	80.0	42.3	15.3	10.1	0.0	0.1	0	0	81.6	620.0	1	1	1	0	0	1	0.0
3027	55	628246	6038651	33	3	22	6	9	0	5	40.0	95.3	38.1	2.6	0.0	0.7	0	2	58.6	62.0	1	1	1	1	0	1	0.0

Table B.1 **Vegetation integrity data**

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
3076	55	626306	6039139	250	3	16	5	5	0	2	54.0	184.0	41.0	8.0	0.0	7.0	0	1	86.0	22.0	1	1	1	1	0	1	0.0
3098	55	627928	6030453	50	4	6	4	24	1	2	45	13.5	70.7	14	1	1.2	6	21	29.0	30.0	1	1	1	1	1	1	0.1
3101	55	625169	6040320	310	3	7	4	4	1	1	25	126	15	4	5	1	0	0	10.0	10.0	1	1	0	1	0	1	10
3117	55	631615	6038949	300	4	12	7	12	0	2	64	25.3	10.7	3.2	0	1.4	2	0	75.8	103.0	1	1	1	1	1	1	0
3124	55	631233	6038816	225	4	13	4	22	0	2	68	20.5	25	5.5	0	0.6	8	2	62.0	64.0	1	1	1	0	1	1	0.2
3175	55	649032	6036847	0	1	10	8	18	0	0	20.0	11.1	51.0	9.2	0.0	0.0	4	0	18.0	10.0	1	1	1	1	1	1	0.5
3177	55	625074	6040198	318	3	7	7	7	0	1	13.0	181.0	95.0	22.0	0.0	1.0	0	0	13.0	0.0	1	0	0	0	0	1	3.0
3179	55	626865	6036771	250	2	5	6	8	0	0	120.0	59.0	83.0	14.0	0.0	0.0	1	0	45.0	1.0	1	1	1	1	0	1	21.0
3184	55	626438	6037953	47	3	6	2	4	1	1	62.0	41.0	0.2	2.3	0.1	0.1	3	0	38.8	48.0	1	1	1	1	1	1	100.1
3187	55	627636	6038061	95	4	6	11	11	1	1	36.0	20.7	38.2	4.1	0.5	0.1	1	0	48.0	29.0	1	1	1	1	1	1	2.0
3193	55	629424	6039453	158	3	15	3	3	0	2	47.2	18.5	15.2	0.4	0.0	0.5	0	24	34.0	15.0	1	1	1	1	0	1	0.0
3213	55	625702	6039227	215	0	0	2	0	0	0	0.0	0.0	50.1	0.0	0.0	0.0	0	0	1.0	0.0	0	0	0	0	0	0	30.1
3215	55	632060	6038834	265	2	11	2	1	0	0	52	45.2	2.5	1	0	0	7	2	72.0	122.0	1	1	1	0	1	1	0
3222	55	628871	6038616	338	2	16	6	13	0	2	8.1	33.4	60.6	2.3	0.0	0.2	0	1	13.0	23.0	1	1	1	1	0	1	0.2
3223	55	630585	6025151	198	1	16	4	13	0	0	15.0	30.0	4.9	3.1	0.0	0.0	0	0	21.4	0.0	1	0	1	1	0	1	0.2
3229	55	646690	6028124	85	2	8	5	11	0	0	80	10.6	47.3	1.3	0	0	6	2	75.6	136.0	1	1	1	0	1	1	0
3234	55	646484	6027170	280	2	8	6	25	0	1	63	41.4	33.6	7.8	0	0.1	1	1	12.0	118.0	1	1	1	1	0	1	0
3301	55	628221	6047161	12	3	12	8	8	1	1	15.0	41.6	26.9	2.6	35.0	0.1	0	0	35.0	6.0	1	1	0	0	0	1	2.5
5211	55	630229	6039070	41	3	14	4	4	0	1	60.0	45.6	25.5	0.9	0.0	0.5	3	2	78.6	25.0	1	1	1	1	1	0	0.0
2244A	55	648954	6035099	178	1	2	8	17	0	0	0.1	0.2	79.6	4.6	0.0	0.0	0	0	9.6	16.0	0	0	0	0	0	0	0.5
2244B	55	648954	6035099	178	1	2	8	17	0	0	0.1	0.2	79.6	4.6	0.0	0.0	0	0	9.6	16.0	0	0	0	0	0	0	0.5
2274A	55	650897	6021045	151	2	2	7	11	0	0	0.2	40.5	91.5	1.2	0	0	0	0	4.4	0.0	0	0	0	0	0	1	0.2
81A	55	643062	6039530	298	3	8	8	17	0	0	40	16	91.6	2.2	0	0	1	1	24.0	187.0	1	1	1	1	0	1	0.1

Table B.1 Vegetation integrity data

plot	zone	easting	northing	bearing	Comp Tree	Comp Shrub	Comp Grass	Comp Forbs	Comp Ferns	Comp Other	Struc Tree	Struc Shrub	Struc Grass	Struc Forbs	Struc Ferns	Struc Other	Fun Large Trees	Fun Hollow trees	Fun Litter Cover	Fun Len Fallen Logs	Fun Tree Stem 5 to 9	Fun Tree Stem 10 to 19	Fun Tree Stem 20 to 29	Fun Tree Stem 30 to 49	Fun Tree Stem 50 to 79	Fun Tree Rare	Fun High Threat Exotic
81B	55	643062	6039530	298	3	8	8	17	0	0	40	16	91.6	2.2	0	0	1	1	24.0	187.0	1	1	1	1	0	1	0.1
81C	55	643062	6039530	298	3	8	8	17	0	0	40	16	91.6	2.2	0	0	1	1	24.0	187.0	1	1	1	1	0	1	0.1
X1	55	629421	6027493	0	4	11	4	13	2	2	35.0	40.0	25.0	16.0	2.0	1.0	2	0	70.0	87.0	1	1	1	1	1	1	0.0
X2	55	649637	6021230	0	4	9	8	18	1	2	26.0	10.0	45.0	12.0	0.0	0.0	3	0	55.0	83.0	1	1	1	1	1	1	0.0
X3	55	649722	6021138	0	4	9	8	18	1	2	26.0	10.0	45.0	12.0	0.0	0.0	3	0	55.0	83.0	1	1	1	1	1	1	0.0
X4	55	649579	6020997	0	4	9	8	18	1	2	26.0	10.0	45.0	12.0	0.0	0.0	3	0	55.0	83.0	1	1	1	1	1	1	0.0
X5	55	649634	6020713	0	4	9	8	18	1	2	26.0	10.0	45.0	12.0	0.0	0.0	3	0	55.0	83.0	1	1	1	1	1	1	0.0
X6	55	649538	6020460	0	4	9	8	18	1	2	26.0	10.0	45.0	12.0	0.0	0.0	3	0	55.0	83.0	1	1	1	1	1	1	0.0
X7	55	649816	6021012	0	4	9	8	18	1	2	26.0	10.0	45.0	12.0	0.0	0.0	3	0	55.0	83.0	1	1	1	1	1	1	0.0

Annexure C

Fauna survey effort summary

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Bird surveys	Lobs Hole Ravine		LH	05-12-17	05-12-17	9:40	10:40	1:00
Bird surveys	Lobs Hole Ravine		GM	05-12-17	05-12-17	9:50	10:50	1:00
Bird surveys	Wallace Creek		GM , LH	05-12-17	05-12-17	12:15	13:15	1:00
Bird surveys	Marica		GM , LH	07-12-17	07-12-17	14:55	15:55	1:00
Bird surveys	Port Phillip track		NG , ED	07-12-17	07-12-17	8:07	9:13	1:06
Bird surveys	Wallace Creek		GM , LH	07-12-17	07-12-17	8:40	9:40	1:00
Bird surveys	Tantangara South		GM , LH	10-12-17	10-12-17	7:30	8:30	1:00
Bird surveys	Plateau		SW , LH	12-01-18	12-01-18	8:50	9:50	1:00
Bird surveys	Plateau		SW , LH	12-01-18	12-01-18	7:30	8:30	1:00
Bird surveys	Plateau		NG , LH	14-01-18	14-01-18	8:55	9:55	1:00
Bird surveys	Plateau		NG , LH	14-01-18	14-01-18	10:51	12:05	1:14
Bird surveys	Lobs Hole		DJ , AR	21-01-18	21-01-18	14:40	15:40	1:00
Bird surveys	Lobs Hole		DJ , AR	21-01-18	21-01-18	16:40	17:40	1:00
Bird surveys	Marica		AR , ACM	30-01-18	30-01-18	11:00	15:00	4:00
Bird surveys	Lobs Hole Ravine		GM , CK	07-02-18	07-02-18	7:25	8:25	1:00
Bird surveys	Lobs Hole Ravine		GM , CK	07-02-18	07-02-18	9:45	10:45	1:00
Bird surveys	Tantangara south		GM , CK	08-02-18	08-02-18	8:50	9:50	1:00
Bird surveys	Talbingo Dam	transect 1	DJ	16-03-18	16-03-18	8:20	9:00	0:40
Bird surveys	Talbingo Dam	transect 10	DJ	16-03-18	16-03-18	15:30	16:10	0:40
Bird surveys	Talbingo Dam	transect 2	DJ	16-03-18	16-03-18	9:00	9:40	0:40
Bird surveys	Talbingo Dam	transect 3	DJ	16-03-18	16-03-18	9:45	10:25	0:40
Bird surveys	Talbingo Dam	transect 4	DJ	16-03-18	16-03-18	10:40	11:20	0:40
Bird surveys	Talbingo Dam	transect 5	DJ	16-03-18	16-03-18	12:00	12:40	0:40
Bird surveys	Talbingo Dam	transect 6	DJ	16-03-18	16-03-18	12:45	13:25	0:40
Bird surveys	Talbingo Dam	transect 7	DJ	16-03-18	16-03-18	13:30	14:10	0:40
Bird surveys	Talbingo Dam	transect 8	DJ	16-03-18	16-03-18	14:10	14:50	0:40
Bird surveys	Talbingo Dam	transect 9	DJ	16-03-18	16-03-18	15:00	15:30	0:30
Bird surveys	Talbingo	BS1	GD , DK	16-10-18	16-10-18	8:08	9:08	1:00
Bird surveys	Talbingo	BS2	GD , DK	16-10-18	16-10-18	9:36	10:37	1:01
Bird surveys	Talbingo	BS3	GD , DK	16-10-18	16-10-18	10:48	11:48	1:00
Bird surveys	Talbingo	BS4	GD , DK	16-10-18	16-10-18	12:44	13:44	1:00
Bird surveys	Talbingo	BS5	GD , DK	16-10-18	16-10-18	13:52	14:52	1:00
Bird surveys	Tantangara south	BS19	AS, AR	01-11-18	01-11-18	11:45	15:30	3:45
Bird surveys	Tantangara south	BS21	CK, BR	03-11-18	03-11-18	14:02	14:55	0:53
Bird surveys	Tantangara south	BS22	CK, BR	03-11-18	03-11-18	12:30	13:20	0:50
Bird surveys	Lobs Hole Ravine rd	BS13	CK, BR	04-11-18	04-11-18	13:16	14:20	1:04
Bird surveys	Tantangara south	BS20	AS, AR	04-11-18	04-11-18	8:05	11:05	3:00
Bird surveys	Lobs Hole Ravine rd	BS14	BR, CK, JB	05-11-18	05-11-18	10:45	13:39	2:54
Bird surveys	Tantangara	BS23	AS, AR	05-11-18	05-11-18	8:30	11:00	2:30
Bird surveys	Tantangara	BS24	AS, AR	05-11-18	05-11-18	11:30	13:45	2:15
Bird surveys	Talbingo Dam	BS5	DJ, BR	07-11-18	07-11-18	14:30	15:00	0:30

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Bird surveys	Talbingo Dam Wall	BS6	PF, BR	07-11-18	07-11-18	15:00	15:30	0:30
Bird surveys	Alpine Hill Powerline	BS7	EL, CK, BR	08-11-18	08-11-18	10:46	11:31	0:45
Bird surveys	Alpine Hill Powerline	BS8	EL, CK, BR	08-11-18	08-11-18	11:35	12:15	0:40
Bird surveys	Lobs Hole Ravine rd	BS10	JB, DJ	29-11-18	29-11-18	10:55	11:40	0:45
Bird surveys	Lobs Hole Ravine rd	BS11	JB, DJ	29-11-18	29-11-18	8:26	9:30	1:04
Bird surveys	Lobs Hole Ravine rd	BS12	JB, DJ	29-11-18	29-11-18	9:40	10:29	0:49
Bird surveys	Lobs Hole Ravine rd	BS13	JB, DJ	29-11-18	29-11-18	14:11	15:34	1:23
Bird surveys	Gulf creek trail	BS17	DJ, BR	30-11-18	30-11-18	15:15	16:25	1:10
Bird surveys	Schofield trail	BS18	DJ, BR	30-11-18	30-11-18	13:34	14:45	1:11
Bird surveys	Alpine Hill Powerline	BS7	DJ, BR	01-12-18	01-12-18	15:27	16:25	0:58
Bird surveys	Alpine Hill Powerline	BS8	DJ, BR	01-12-18	01-12-18	16:28	17:02	0:34
Bird surveys	Tantangara	BS24	EL, AR	10-01-19	10-01-19	13:00	14:10	1:10
Bird surveys	Boundary Trail	BS15	EL, AR	11-01-19	11-01-19	10:15	12:00	1:45
Bird surveys	Boundary Trail	BS16	EL, AR	11-01-19	11-01-19	12:15	13:45	1:30
Bird surveys	Marica	BS3	EL, AR	12-01-19	12-01-19	10:10	11:50	1:40
Bird surveys	Marica	BS1	EL, AR	13-01-19	13-01-19	12:45	16:15	3:30
Bird surveys	Schofield trail	BS18	AS, BR	13-01-19	13-01-19	13:45	15:00	1:15
Bird surveys	Marica	BS2	EL, AR	13-01-19	13-01-19	10:00	12:00	2:00
Bird surveys	Tantangara south	BS20	AS, BR	14-01-19	14-01-19	14:58	15:58	1:00
Bird surveys	Lobs Hole Ravine rd	BS11	EL, AR	15-01-19	15-01-19	17:40	19:00	1:20
Bird surveys	Lobs Hole Ravine rd	BS12	AS, BR	15-01-19	15-01-19	17:45	18:45	1:00
Bird surveys	Tantangara south	BS19	AS, BR	15-01-19	15-01-19	7:36	8:58	1:22
Bird surveys	Tantangara south	BS21	EL, AR	15-01-19	15-01-19	6:20	8:20	2:00
Bird surveys	Tantangara south	BS22	EL, AR	15-01-19	15-01-19	9:35	10:55	1:20
Bird surveys	Tantangara	BS25	AS, BR	15-01-19	15-01-19	10:52	12:00	1:08
Bird surveys	Lobs Hole Ravine rd	BS10	AS, BR	16-01-19	16-01-19	12:30	13:45	1:15
Bird surveys	Lobs Hole Ravine rd	BS13	BR, AS	16-01-19	16-01-19	9:07	11:07	2:00
Bird surveys	Lobs Hole Ravine rd	BS14	EL, AR	16-01-19	16-01-19	9:21	11:25	2:04
Bird surveys	Tantangara	BS25	ER, AM	16-01-19	16-01-19	13:04	14:49	1:45
Bird surveys	Marica	BS4	ER, AM	16-01-19	16-01-19	7:43	10:53	3:10
Bird surveys	Lobs Hole Ravine rd	BS9	EL, AR	16-01-19	16-01-19	12:18	13:20	1:02
Bird surveys	Boundary Trail	BS15	AM, BR	17-01-19	17-01-19	8:15	9:04	0:49
Bird surveys	Boundary Trail	BS16	AS, ER	17-01-19	17-01-19	7:45	10:10	2:25
Bird surveys	Gulf creek trail	BS17	AM, BR	17-01-19	17-01-19	10:52	11:28	0:36
Bird surveys	Schofield trail	BS18	AS, ER	17-01-19	17-01-19	11:30	13:45	2:15
Bird surveys	Talbingo Dam	BS5	EL, AR	17-01-19	17-01-19	11:30	11:55	0:25
Bird surveys	Talbingo Dam Wall	BS6	AR, EL	17-01-19	17-01-19	12:50	13:50	1:00
Bird surveys	Alpine Hill Powerline	BS7	CK, IC	17-01-19	17-01-19	6:54	8:30	1:36
Bird surveys	Alpine Hill Powerline	BS8	CK, IC	17-01-19	17-01-19	9:30	10:20	0:50
Bird surveys	Lobs Hole Ravine rd	BS14	CK, IC	20-01-19	20-01-19	14:20	15:40	1:20
Bird surveys	Tantangara south	BS21	ER, MW	20-01-19	20-01-19	14:04	16:00	1:56

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Bird surveys	Tantangara	BS23	ER, MW	21-01-19	21-01-19	9:30	11:30	2:00
Bird surveys	Gulf creek trail	BS17	ER, MW	23-01-19	23-01-19	14:39	15:17	0:38
Bird surveys	Tantangara south	BS20	CK, IC	24-01-19	24-01-19	11:45	12:20	0:35
Bird surveys	Tantangara south	BS22	ER, MW	24-01-19	24-01-19	14:00	15:15	1:15
Bird surveys	Marica	BS1	JW, GS	31-01-19	31-01-19	16:08	16:40	0:32
Bird surveys	Marica	BS2	JW, GS	31-01-19	31-01-19	16:48	17:28	0:40
Bird surveys	Marica	BS3	JW, GS	01-02-19	01-02-19	16:05	17:10	1:05
Bird surveys	Marica	BS4	JW, GS	01-02-19	01-02-19	17:34	17:51	0:17
Bird surveys	Tantangara south	BS19	JW, GS	03-02-19	03-02-19	16:08	17:28	1:20
Bird surveys	Tantangara	BS23	JW, GS	04-02-19	04-02-19	17:13	17:50	0:37
Bird surveys	Tantangara	BS24	JW, GS	04-02-19	04-02-19	15:32	16:00	0:28
Bird surveys	Lobs Hole Ravine rd	BS11	JW, GS	05-02-19	05-02-19	17:01	17:37	0:36
Bird surveys	Lobs Hole Ravine rd	BS12	JW, GS	05-02-19	05-02-19	16:11	16:55	0:44
Bird surveys	Talbingo Dam	BS5	JB, DF	05-02-19	05-02-19	17:48	18:00	0:12
Bird surveys	Talbingo Dam Wall	BS6	JB, DJ	05-02-19	05-02-19	17:00	17:33	0:33
Bird surveys	Boundary Trail	BS15	GS, JW	07-02-19	07-02-19	16:06	16:54	0:48
Bird surveys	Boundary Trail	BS16	GS, JW	08-02-19	08-02-19	10:48	11:43	0:55
Bird surveys	Tantangara	BS25	GS, JW	08-02-19	08-02-19	13:48	14:40	0:52
Bird surveys	Marica	BS2	AS, IC	11-02-19	11-02-19	13:00	13:42	0:42
Bird surveys	Marica	BS1	AS, IC	12-02-19	12-02-19	13:40	14:40	1:00
Bird surveys	Lobs Hole Ravine rd	BS10	JB, DF	14-02-19	14-02-19	13:52	14:52	1:00
Bird surveys	Marica	BS4	AS, IC	14-02-19	14-02-19	15:00	15:40	0:40
Bird surveys	Marica	BS3	JB, IC	05-03-19	05-03-19	10:37	11:39	1:02
Bird surveys	Rock Forest	BS30	JB OM	07-04-19	07-04-19	14:15	15:50	1:35
Bird surveys	Alpine trail	BS29	JB OM	08-04-19	08-04-19	9:45	11:44	1:59
Bird surveys	Rock Forest	BS31	JB OM	08-04-19	08-04-19	14:10	15:00	0:50
Bird surveys	Middle Creek	BS26	CW, DK	11-04-19	11-04-19	12:08	13:44	1:36
Bird surveys	Lobs Hole Ravine rd	BS27	CW, DK	12-04-19	12-04-19	10:50	11:50	1:00
Bird surveys	Rock Forest	BS31	IM, DK	15-04-19	15-04-19	10:49	12:54	2:05
Owl surveys	Lobs Hole Ravine	LHRR1	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR2	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR3	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR4	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR5	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR6	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR7	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR8	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR9	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR10	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR11	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR12	JB , DK	07-05-18	20-06-19			8

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Owl surveys	Lobs Hole Ravine	LHRR13	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR13	JB , DK	16-06-19	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR14	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR15	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR16	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR17	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR18	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR19	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR20	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR21	JB , DK	07-05-18	20-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR22	JB , DK	16-06-19	26-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR23	JB , DK	16-06-19	26-06-19			8
Owl surveys	Lobs Hole Ravine	LHRR24	JB , DK	16-06-19	26-06-19			8
Owl surveys	Marica	MT1	JB , DK	08-05-18	20-06-19			8
Owl surveys	Marica	MT2	JB , DK	08-05-18	12-05-18			4
Owl surveys	Marica	MT3	JB , DK	08-05-18	20-06-19			8
Owl surveys	Marica	MT4	JB , DK	08-05-18	20-06-19			8
Owl surveys	Marica	MT5	JB , DK	08-05-18	20-06-19			8
Owl surveys	Marica	MT6	JB , DK	08-05-18	20-06-19			8
Owl surveys	Marica	MT7	JB , DK	08-05-18	12-05-18			4
Owl surveys	Marica	MT9	JB , DK	16-06-19	20-06-19			4
Terrestrial trapping	Marica	TA01	NG , ED	08-12-17	12-12-17			4
Terrestrial trapping	Lobs Hole Ravine	TA02	GM , LH	04-12-17	08-12-17			4
Terrestrial trapping	Lobs Hole	TAT01	NG , ED	12-12-17	16-12-17			4
Terrestrial trapping	Talbingo Reservoir (south of boat ramp)	TAT02	SW, DJ , KS	17-03-18	22-03-18			4
Terrestrial trapping	Lobs Hole Ravine	TAT03	GM , LH	04-12-17	08-12-17			4
Terrestrial trapping	Marica	TAT05	NG , ED	08-12-17	12-12-17			4
Terrestrial trapping	Lobs Hole Ravine Road	TAT06	NG , ED	12-12-17	16-12-17			4
Terrestrial trapping	Talbingo Intake	TAT07	SW, DJ , KS	17-03-18	22-03-18			4
Terrestrial trapping	Yarrangobilly River	TAT08	SW, DJ , KS	17-03-18	22-03-18			4
Terrestrial trapping	Link Rd	TAT09	SW, DJ , KS	17-03-18	22-03-18			4
Terrestrial trapping	Plateau	TT01	SW , KS	06-02-18	10-02-18			4

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Terrestrial trapping	Tantangara north	TT02	NG	04-12-17	08-12-17			4
Terrestrial trapping	Marica	TT03	NG , ED	08-12-17	12-12-17			4
Terrestrial trapping	Marica	TT04	NG , ED	08-12-17	12-12-17			4
Terrestrial trapping	Tantangara Dam	TT05	GM , LH	08-12-17	12-12-17			4
Terrestrial trapping	Port Phillip Trail	TT06	NG	04-12-17	08-12-17			4
Terrestrial trapping	Lobs Hole	TT07	NG , ED	12-12-17	16-12-17			4
Terrestrial trapping	Tantangara Dam	TT08	GM , LH	08-12-17	12-12-17			4
Terrestrial trapping	Plateau	TT09	SW , KS	06-02-18	10-02-18			4
Terrestrial trapping	Wallace's creek trail	TT-1	GD, EL	30-10-18	04-11-18			4
Terrestrial trapping	Port Phillip Trail	TT10	NG	04-12-17	08-12-17			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-10	CK, GM	14-10-18	18-10-18			4
Terrestrial trapping	Plateau, Bullocks Hill Trail	TT11	NG	04-12-17	08-12-17			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-11	CK, GM	14-10-18	18-10-18			4
Terrestrial trapping	Tantangara Dam	TT12	GM , LH	08-12-17	12-12-17			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-12	CK, GM	14-10-18	18-10-18			4
Terrestrial trapping	Tantangara Dam	TT13	GM , LH	08-12-17	12-12-17			4
Terrestrial trapping	Tantangara Camp	TT-13	JB, AS	12-03-19	16-03-19			4
Terrestrial trapping	Plateau	TT14	SW , KS	06-02-18	10-02-18			4
Terrestrial trapping	Tantangara south	TT-14	AR, ER	29-11-18	03-12-18			4
Terrestrial trapping	Lobs Hole Ravine	TT15	GM , LH	04-12-17	08-12-17			4
Terrestrial trapping	Tantangara south	TT-15	AR, ER	29-11-18	03-12-18			4
Terrestrial trapping	Hains Hut Trail	TT16	GM , LH	04-12-17	04-12-17			4
Terrestrial trapping	Tantangara North	TT-16	JB, AS	12-03-19	16-03-19			4

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Terrestrial trapping	Lobs Hole Ravine	TT17	SW, DJ , KS	17-03-18	22-03-18			4
Terrestrial trapping	Kings cross rd	TT-17	GD, EL	04-11-18	14-11-18			4
Terrestrial trapping	Kings cross rd	TT-18	GD, EL	04-11-18	14-11-18			4
Terrestrial trapping	Kings cross rd	TT-19	GD, EL	04-11-18	14-11-18			4
Terrestrial trapping	Marica	TT-2	GD, EL	30-10-18	04-11-18			4
Terrestrial trapping	Kings cross rd	TT-20	GD, EL	04-11-18	14-11-18			4
Terrestrial trapping	Three mile dam	TT-21	GM, PF	23-10-18	27-10-18			4
Terrestrial trapping	Three mile dam	TT-22	GM, PF	23-10-18	27-10-18			4
Terrestrial trapping	Three mile dam	TT-23	GM, PF	23-10-18	27-10-18			4
Terrestrial trapping	Three mile dam	TT-24	GM, PF	23-10-18	27-10-18			4
Terrestrial trapping	Tantangara	TT-25	GM, PF	27-10-18	31-10-18			4
Terrestrial trapping	Tantangara	TT-26	GM, PF	27-10-18	31-10-18			4
Terrestrial trapping	Tantangara	TT-27	GM, PF	27-10-18	31-10-18			4
Terrestrial trapping	Tantangara	TT-28	GM, PF	27-10-18	31-10-18			4
Terrestrial trapping	Talbingo	TT-29	PF, AS	18-11-18	26-11-18			4
Terrestrial trapping	Wallace Creek Trail	TT-3	GD, EL	30-10-18	04-11-18			4
Terrestrial trapping	Talbingo	TT-30	PF, AS	18-11-18	26-11-18			4
Terrestrial trapping	Talbingo	TT-31	PF, AS	18-11-18	26-11-18			4
Terrestrial trapping	Talbingo	TT-32	PF, AS	18-11-18	26-11-18			4
Terrestrial trapping	Marica	TT-33	BR, LH	29-11-18	03-12-18			4
Terrestrial trapping	Marica	TT-34	BR, LH	29-11-18	03-12-18			4
Terrestrial trapping	Marica	TT-35	BR, LH	29-11-18	03-12-18			4
Terrestrial trapping	Marica	TT-36	BR, LH	29-11-18	03-12-18			4

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Terrestrial trapping	Sawmill / Alpine powerline track	TT-37	GM, AM	12-02-19	16-02-19			4
Terrestrial trapping	Sawmill / Alpine powerline track	TT-38	GM, AM	12-02-19	16-02-19			4
Terrestrial trapping	Sawmill / Alpine powerline track	TT-39	GM, AM	12-02-19	16-02-19			4
Terrestrial trapping	Snowy HWY	TT-4	GD, EL	30-10-18	04-11-18			4
Terrestrial trapping	Sawmill / Alpine powerline track	TT-40	GM, AM	12-02-19	16-02-19			4
Terrestrial trapping	Schofields track	TT-41	GM, AM	16-02-19	20-02-19			4
Terrestrial trapping	Schofields track	TT-42	GM, AM	16-02-19	20-02-19			4
Terrestrial trapping	Circuits trail	TT-43	GM, AM	16-02-19	20-02-19			4
Terrestrial trapping	Brayshaws trail	TT-44	GM, AM	16-02-19	20-02-19			4
Terrestrial trapping	Circuit trail	TT-45	AR, ER	29-11-18	03-12-18			4
Terrestrial trapping	Circuit trail	TT-46	AR, ER	29-11-18	03-12-18			4
Terrestrial trapping	Tantangara Quarry	TT-49	JB, AS	12-03-19	16-03-19			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-5	DJ, KS	12-10-18	16-10-18			4
Terrestrial trapping	Tantangara	TT-50	IM, DK	13-04-19	17-04-19			4
Terrestrial trapping	Alpine Trail	TT-51	JB OM	05-04-19	09-04-19			4
Terrestrial trapping	Nungar trail	TT-52	JB OM	05-04-19	09-04-19			4
Terrestrial trapping	Lobs Hole Ravine	TT-54	DK, CW	09-04-19	13-04-19			4
Terrestrial trapping	Rock Forest	TT-59	JB OM	05-04-19	09-04-19			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-6	DJ, KS	12-10-18	16-10-18			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-7	DJ, KS	12-10-18	16-10-18			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-8	DJ, KS	12-10-18	16-10-18			4
Terrestrial trapping	Lobs Hole Ravine rd	TT-9	JB, AS	16-03-19	20-03-19			4
Remote cameras - small	Lobs Hole Ravine	RC01-0743	GM , LH	06-12-17	11-12-17			5

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Lobs Hole Ravine	RC01-5218	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Lobs Hole Ravine	RC01-0593	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Lobs Hole Ravine	RC01-4961	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Lobs Hole Ravine Road	RC01-5412	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Lobs Hole Ravine Road	RC01-0741	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Marica	RC01-5257	NG , ED	06-12-17	11-12-17			5
Remote cameras - small	Marica	RC01-0411	NG , ED	06-12-17	11-12-17			5
Remote cameras - small	Port Phillip Track	RC01-0759	NG , ED	06-12-17	11-12-17			5
Remote cameras - small	Port Phillip Track	RC01-5220	NG , ED	06-12-17	11-12-17			5
Remote cameras - small	Bullocks Hill	RC01-5254	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Bullocks Hill	RC01-5219	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Bullocks Hill	RC01-0561	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Bullocks Hill	RC01-5143	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Bullocks Hill	RC01-0576	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Bullocks Hill	RC01-5198	GM , LH	06-12-17	11-12-17			5
Remote cameras - small	Lobs Hole Ravine Road	RC02-0411		12-12-17	16-12-17			4
Remote cameras - small	Lobs Hole Ravine Road	RC02-0561		12-12-17	16-12-17			4
Remote cameras - small	Tantangara south	RC02-0576		12-12-17	16-12-17			4
Remote cameras - small	Nungar trail	RC02-0593		12-12-17	16-12-17			4
Remote cameras - small	Bullocks Hill	RC02-0741		12-12-17	16-12-17			4
Remote cameras - small	Tantangara south	RC02-0743		12-12-17	16-12-17			4
Remote cameras - small	Tantangara south	RC02-0759		12-12-17	16-12-17			4
Remote cameras - small	Nungar trail	RC02-4961		12-12-17	16-12-17			4

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Lobs Hole Ravine Road	RC02-5143		12-12-17	16-12-17			4
Remote cameras - small	Lobs Hole Ravine Road	RC02-5198		12-12-17	16-12-17			4
Remote cameras - small	Tantangara south	RC02-5218		12-12-17	16-12-17			4
Remote cameras - small	Tantangara south	RC02-5219		12-12-17	16-12-17			4
Remote cameras - small	Bullocks Hill	RC02-5220		12-12-17	16-12-17			4
Remote cameras - small	Bullocks Hill	RC02-5254		12-12-17	16-12-17			4
Remote cameras - small	Bullocks Hill	RC02-5257		12-12-17	16-12-17			4
Remote cameras - small	Tantangara south	RC02-5412		12-12-17	16-12-17			4
Remote cameras - small	Marica	RC03-0411		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-0561		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-0593		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-0743		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-0759		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-4961		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-5143		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-5219		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-5220		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-5254		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-5257		17-12-17	30-12-17			13
Remote cameras - small	Marica	RC03-5412		17-12-17	30-12-17			13
Remote cameras - small	Lobs Hole Ravine	RC04-7487	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7906	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7510	CD , LH	09-01-18	26-01-18			17

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Lobs Hole Ravine	RC04-4961	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-5412	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7480	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7774	CD , LH	09-01-18	25-01-18			16
Remote cameras - small	Lobs Hole Ravine	RC04-5257	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7855	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-5218	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7778	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-5143	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7636	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-0898	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-5220	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-5219	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7683	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-5198	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7716	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Lobs Hole Ravine	RC04-7495	CD , LH	09-01-18	26-01-18			17
Remote cameras - small	Marica	RC05-5143	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-5412	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-5218	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-4961	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-5219	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-5257	CK , SW	27-01-18	10-02-18			14

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Marica	RC05-5198	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-5220	CK , SW	27-01-18	10-02-18			14
Remote cameras - small	Marica	RC05-7480	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Marica	RC05-7495	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7906	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-0898	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7855	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7510	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7636	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7778	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7683	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7774	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7487	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Talbingo Intake	RC05-7716	CK , SW	28-01-18	10-02-18			13
Remote cameras - small	Marica	RC06-7683	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Marica	RC06-7480	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Marica	RC06-7487	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Marica	RC06-0898	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Bullocks Hill track	RC06-5198	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Bullocks Hill track	RC06-7778	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Wallace Creek Fire Trail	RC06-5257	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Wallace Creek Fire Trail	RC06-5219	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Coppermine Trail	RC06-4961	CK , GM	11-02-18	22-02-18			11

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Coppermine Trail	RC06-5143	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Bullocks Hill track	RC06-7855	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Bullocks Hill track	RC06-7636	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Plateau	RC06-7510	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Plateau	RC06-7716	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Plateau	RC06-7906	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Plateau	RC06-7774	CK , GM	11-02-18	22-02-18			11
Remote cameras - small	Marica	RC06-7495	CK , GM	12-02-18	22-02-18			10
Remote cameras - small	Marica	RC06-5218	CK , GM	12-02-18	22-02-18			10
Remote cameras - small	Marica	RC06-5412	CK , GM	12-02-18	22-02-18			10
Remote cameras - small	Marica	RC06-5220	CK , GM	12-02-18	22-02-18			10
Remote cameras - small	Lobs Hole Ravine Road	RC07-5220	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-5198	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7510	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7480	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-5218	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-5143	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7487	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-4961	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-5257	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7683	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-5412	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7774	DK , AR	23-02-18	09-03-18			14

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Lobs Hole Ravine Road	RC07-7855	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7636	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7495	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-5219	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7716	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7096	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-0898	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole Ravine Road	RC07-7778	DK , AR	23-02-18	09-03-18			14
Remote cameras - small	Lobs Hole	RC08-5219	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7480	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7483	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7855	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7716	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-5143	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-5218	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7495	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-5220	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-5198	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-5412	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7636	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7906	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-5257	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-0898	JB , KS	10-03-18	24-03-18			14

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Lobs Hole	RC08-4961	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7683	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7510	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7778	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Lobs Hole	RC08-7774	JB , KS	10-03-18	24-03-18			14
Remote cameras - small	Wallace Creek Fire Trail	RC09-7716	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Wallace Creek Fire Trail	RC09-5198	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Lobs Hole Ravine	RC09-5218	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-7855	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Talbingo Intake	RC09-7906	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Talbingo Intake	RC09-7495	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Boat Ramp	RC09-7683	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Boat Ramp	RC09-7774	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Lobs Hole Ravine	RC09-4961	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Lobs Hole Ravine	RC09-5257	SW , KS	26-03-18	20-04-18			25
Remote cameras - small	Lobs Hole Ravine	RC09-7636	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-7480	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-5220	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-5219	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-5143	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-7778	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-7510	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-7487	SW , KS	26-03-18	19-04-18			24

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Lobs Hole Ravine	RC09-0898	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC09-5412	SW , KS	26-03-18	19-04-18			24
Remote cameras - small	Lobs Hole Ravine	RC10-01A	DK, CW	10-04-19	09-05-19			29
Remote cameras - small	Lobs Hole Ravine	RC10-01B	DK, CW	10-04-19	09-05-19			29
Remote cameras - small	Tantangara rd	RC10-02A	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Tantangara rd	RC10-02B	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Lobs Hole Ravine	RC10-03A	DK, CW	10-04-19	09-05-19			29
Remote cameras - small	Lobs Hole Ravine	RC10-03B	DK, CW	10-04-19	09-05-19			29
Remote cameras - small	Tantangara rd	RC10-04A	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Tantangara rd	RC10-04B	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Rock Forest	RC10-05A	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Rock Forest	RC10-05B	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Rock Forest	RC10-06A	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Rock Forest	RC10-06B	JB, OM	06-04-19	07-05-19			31
Remote cameras - small	Marica	RC-BH4104A	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5212	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH4104B	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5201	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5202	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5203	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5204	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5211	JB, AS	15-03-19	04-04-19			20
Remote cameras - small	Marica	RC-BH5208	JB, AS	15-03-19	04-04-19			20

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - small	Marica	RC-BH5206	JB, AS	15-03-19	04-04-19			20
Regional surveys	Goat ridge road	RSM-1A	DK, GD	12-10-18	30-10-18			18
Regional surveys	Goat ridge road	RSM-1B	DK, GD	12-10-18	30-10-18			18
Regional surveys	Goat ridge road	RSM-1C	AS, BR	11-01-19	01-02-19			21
Regional surveys	Goat ridge road	RSM-1D	AS, BR	11-01-19	01-02-19			21
Regional surveys	Goat ridge road	RSM-2A	DK, GD	12-10-18	30-10-18			18
Regional surveys	Goat ridge road	RSM-2B	DK, GD	12-10-18	30-10-18			18
Regional surveys	Goat ridge road	RSM-2C	AS, BR	11-01-19	01-02-19			21
Regional surveys	Goat ridge road	RSM-2D	AS, BR	11-01-19	01-02-19			21
Regional surveys	Goat ridge road	RSM-3A	DK, GD	13-10-18	31-10-18			18
Regional surveys	Goat ridge road	RSM-3B	DK, GD	13-10-18	31-10-18			18
Regional surveys	Goat ridge road	RSM-3C	AS, BR	12-01-19	30-01-19			18
Regional surveys	Goat ridge road	RSM-3D	AS, BR	12-01-19	30-01-19			18
Regional surveys	Link road	RSM-4A	DK, GD	12-10-18	31-10-18			19
Regional surveys	Link road	RSM-4B	DK, GD	12-10-18	31-10-18			19
Regional surveys	Link road	RSM-4C	AS, BR	12-01-19	30-01-19			18
Regional surveys	Link road	RSM-4D	AS, BR	12-01-19	30-01-19			18
Regional surveys	Goat ridge road	RSM-5A	DK, GD	14-10-18	31-10-18			17
Regional surveys	Goat ridge road	RSM-5B	DK, GD	14-10-18	31-10-18			17
Regional surveys	Goat ridge road	RSM-5C	AS, BR	12-01-19	04-02-19			23
Regional surveys	Goat ridge road	RSM-5D	AS, BR	12-01-19	04-02-19			23
Regional surveys	Link road	RSM-6A	DK, GD	14-10-18	31-10-18			17
Regional surveys	Link road	RSM-6B	DK, GD	14-10-18	31-10-18			17
Regional surveys	Link road	RSM-6C	AS, BR	12-01-19	04-02-19			23
Regional surveys	Link road	RSM-6D	AS, BR	12-01-19	04-02-19			23
Regional surveys	Link road	RSM-7A	DK, GD	13-10-18	30-10-18			17
Regional surveys	Link road	RSM-7B	DK, GD	13-10-18	30-10-18			17
Regional surveys	Link road	RSM-8A	DK, GD	13-10-18	30-10-18			17
Regional surveys	Link road	RSM-8B	DK, GD	13-10-18	30-10-18			17
Regional surveys	Link road	RSM-8C	AS, BR	14-01-19	03-02-19			20
Regional surveys	Link road	RSM-8D	AS, BR	14-01-19	03-02-19			20
Regional surveys	Lobs Hole Ravine rd	RSM-9A	DK, GD	15-10-18	30-10-18			15
Regional surveys	Lobs Hole Ravine rd	RSM-9B	DK, GD	15-10-18	30-10-18			15
Regional surveys	Link Rd/ Wallace's Ck firetrail/transmission line	RSM-10A	PF, ER	15-11-18	17-12-18			32
Regional surveys	Link Rd/ Wallace's Ck firetrail/transmission line	RSM-10B	PF, ER	15-11-18	17-12-18			32

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Regional surveys	Link Rd/ Wallace's Ck firetrail/transmission line	RSM-10C	AR, EL	17-01-19	05-02-19			19
Regional surveys	Link Rd/ Wallace's Ck firetrail/transmission line	RSM-10D	AR, EL	17-01-19	05-02-19			19
Regional surveys	Goat ridge road	RSM-11A	DK, GD	15-10-18	30-10-18			15
Regional surveys	Goat ridge road	RSM-11B	DK, GD	15-10-18	30-10-18			15
Regional surveys	Goat ridge road	RSM-12A	DK, GD	14-10-18	30-10-18			16
Regional surveys	Goat ridge road	RSM-12B	DK, GD	14-10-18	30-10-18			16
Regional surveys	Dead Man's Firetrail	RSM-13A	DK, SV	27-10-18	15-11-18			19
Regional surveys	Dead Man's Firetrail	RSM-13B	DK, SV	27-10-18	15-11-18			19
Regional surveys	Dead Man's Firetrail	RSM-13C	AS, BR	14-01-19	03-02-19			20
Regional surveys	Dead Man's Firetrail	RSM-13D	AS, BR	14-01-19	03-02-19			20
Regional surveys	Ravine Road	RSM-14A	DK, SV	28-10-18	15-11-18			18
Regional surveys	Ravine Road	RSM-14B	DK, SV	28-10-18	15-11-18			18
Regional surveys	Ravine Road	RSM-14C	AM, ER	15-01-19	04-02-19			20
Regional surveys	Ravine Road	RSM-14D	AM, ER	15-01-19	04-02-19			20
Regional surveys	Lobs Hole Ravine rd	RSM-15A	DK, GD	15-10-18	30-10-18			15
Regional surveys	Lobs Hole Ravine rd	RSM-15B	DK, GD	15-10-18	30-10-18			15
Regional surveys	Lobs Hole Ravine rd	RSM-15C	AS, BR	12-01-19	04-02-19			23
Regional surveys	Lobs Hole Ravine rd	RSM-15D	AS, BR	12-01-19	04-02-19			23
Regional surveys	Wallace's creek fire trail	RSM-16A	PF, SW	16-11-18	19-12-18			33
Regional surveys	Wallace's creek fire trail	RSM-16B	PF, SW	16-11-18	19-12-18			33
Regional surveys	Wallace's creek fire trail	RSM-16C	ER, MW	20-01-19	07-02-19			18
Regional surveys	Wallace's creek fire trail	RSM-16D	ER, MW	20-01-19	07-02-19			18
Regional surveys	Dead Man's Firetrail	RSM-17A	DK, SV	25-10-18	17-12-18			53
Regional surveys	Dead Man's Firetrail	RSM-17B	DK, SV	25-10-18	17-12-18			53
Regional surveys	Dead Man's Firetrail	RSM-18A	DK, SV	26-10-18	17-12-18			52
Regional surveys	Dead Man's Firetrail	RSM-18B	DK, SV	26-10-18	17-12-18			52
Regional surveys	Dead Man's Firetrail	RSM-18C	AS, BR	14-01-19	05-02-19			22
Regional surveys	Dead Man's Firetrail	RSM-18D	AS, BR	14-01-19	05-02-19			22
Regional surveys	Dead Man's Firetrail	RSM-19A	DK, SV	27-10-18	15-11-18			19
Regional surveys	Dead Man's Firetrail	RSM-19B	DK, SV	27-10-18	15-11-18			19
Regional surveys	Dead Man's Firetrail	RSM-19C	AS, BR	14-01-19	03-02-19			20
Regional surveys	Dead Man's Firetrail	RSM-19D	AS, BR	14-01-19	03-02-19			20
Regional surveys	Dead Man's Firetrail	RSM-20A	DK, SV	31-10-18	15-11-18			15
Regional surveys	Dead Man's Firetrail	RSM-20B	DK, SV	31-10-18	15-11-18			15
Regional surveys	Dead Man's Firetrail	RSM-20C	AS, BR	14-01-19	30-01-19			16

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Regional surveys	Dead Man's Firetrail	RSM-20D	AS, BR	14-01-19	30-01-19			16
Regional surveys	Ravine Road	RSM-21A	DK, SV	28-10-18	28-11-18			31
Regional surveys	Ravine Road	RSM-21B	DK, SV	28-10-18	28-11-18			31
Regional surveys	Ravine Road	RSM-21C	AM, ER	15-01-19	06-02-19			22
Regional surveys	Ravine Road	RSM-21D	AM, ER	15-01-19	06-02-19			22
Regional surveys	Wallace's creek fire trail	RSM-22A	PF, SW	16-11-18	19-12-18			33
Regional surveys	Wallace's creek fire trail	RSM-22B	PF, SW	16-11-18	19-12-18			33
Regional surveys	Wallace's creek fire trail	RSM-22C	ER, MW	24-01-19	09-02-19			16
Regional surveys	Wallace's creek fire trail	RSM-22D	ER, MW	24-01-19	09-02-19			16
Regional surveys	Dead Man's Firetrail	RSM-23A	DK, SV	25-10-18	17-12-18			53
Regional surveys	Dead Man's Firetrail	RSM-23B	DK, SV	25-10-18	17-12-18			53
Regional surveys	Dead Man's Firetrail	RSM-24A	DK, SV	27-10-18	17-12-18			51
Regional surveys	Dead Man's Firetrail	RSM-24B	DK, SV	27-10-18	17-12-18			51
Regional surveys	Wallace's creek fire trail	RSM-25A	PF, SW	16-11-18	08-01-19			53
Regional surveys	Wallace's creek fire trail	RSM-25B	PF, SW	16-11-18	08-01-19			53
Regional surveys	Ravine Road	RSM-26A	DK, SV	30-10-18	18-12-18			49
Regional surveys	Ravine Road	RSM-26B	DK, SV	30-10-18	18-12-18			49
Regional surveys	Ravine Road	RSM-27A	DK, SV	27-10-18	22-11-18			26
Regional surveys	Ravine Road	RSM-27B	DK, SV	27-10-18	22-11-18			26
Regional surveys	Ravine Road	RSM-28A	DK, SV	28-10-18	27-11-18			30
Regional surveys	Ravine Road	RSM-28B	DK, SV	28-10-18	27-11-18			30
Regional surveys	Ravine Road	RSM-28C	JB, AS	16-03-19	04-04-19			19
Regional surveys	Ravine Road	RSM-28D	JB, AS	16-03-19	04-04-19			19
Regional surveys	West of Wallace Creek Fire Trail	RSM-29A	ER, AR	03-12-18	08-01-19			36
Regional surveys	West of Wallace Creek Fire Trail	RSM-29B	ER, AR	03-12-18	08-01-19			36
Regional surveys	West of Wallace Creek Fire Trail	RSM-29C	ER, MW	22-01-19	10-02-19			19
Regional surveys	West of Wallace Creek Fire Trail	RSM-29D	ER, MW	22-01-19	10-02-19			19
Regional surveys	West of Wallace Creek Fire Trail	RSM-30A	GM, PF	26-10-18	20-11-18			25
Regional surveys	West of Wallace Creek Fire Trail	RSM-30B	GM, PF	26-10-18	20-11-18			25
Regional surveys	West of Wallace Creek Fire Trail	RSM-30C	ER, MW	23-01-19	08-02-19			16

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Regional surveys	West of Wallace Creek Fire Trail	RSM-30D	ER, MW	23-01-19	08-02-19			16
Regional surveys	O'Hares Firetrail	RSM-31A	DK, SV	31-10-18	18-12-18			48
Regional surveys	O'Hares Firetrail	RSM-31B	DK, SV	31-10-18	18-12-18			48
Regional surveys	O'Hares Firetrail	RSM-31C	AR, EL	14-01-19	07-02-19			24
Regional surveys	O'Hares Firetrail	RSM-31D	AR, EL	14-01-19	07-02-19			24
Regional surveys	Ravine Road	RSM-32A	DK, SV	27-10-18	22-11-18			26
Regional surveys	Ravine Road	RSM-32B	DK, SV	27-10-18	22-11-18			26
Regional surveys	Ravine Road	RSM-32C	AR, EL	14-01-19	03-02-19			20
Regional surveys	Ravine Road	RSM-32D	AR, EL	14-01-19	03-02-19			20
Regional surveys	Ravine Road	RSM-33A	DK, SV	29-10-18	20-12-18			52
Regional surveys	Ravine Road	RSM-33B	DK, SV	29-10-18	20-12-18			52
Regional surveys	Ravine Road	RSM-33C	AR, EL	14-01-19	07-02-19			24
Regional surveys	Ravine Road	RSM-33D	AR, EL	14-01-19	07-02-19			24
Regional surveys	Wallace's creek fire trail	RSM-34A	AS, LH	26-11-18	09-01-19			44
Regional surveys	Wallace's creek fire trail	RSM-34B	AS, LH	26-11-18	09-01-19			44
Regional surveys	Wallace's creek fire trail	RSM-35A	LH, AS	25-11-18	09-01-19			45
Regional surveys	Wallace's creek fire trail	RSM-35B	LH, AS	25-11-18	09-01-19			45
Regional surveys	Wallace's creek fire trail	RSM-35C	ER, MW	21-01-19	08-02-19			18
Regional surveys	Wallace's creek fire trail	RSM-35D	ER, MW	21-01-19	08-02-19			18
Regional surveys	O'Hares Firetrail	RSM-36A	DK, SV	30-10-18	18-12-18			49
Regional surveys	O'Hares Firetrail	RSM-36B	DK, SV	30-10-18	18-12-18			49
Regional surveys	O'Hares Firetrail	RSM-36C	SV, LM	30-01-19	13-02-19			14
Regional surveys	O'Hares Firetrail	RSM-36D	SV, LM	30-01-19	13-02-19			14
Regional surveys	O'Hares Firetrail	RSM-37A	DK, SV	30-10-18	18-12-18			49
Regional surveys	O'Hares Firetrail	RSM-37B	DK, SV	30-10-18	18-12-18			49
Regional surveys	O'Hares Firetrail	RSM-38A	DK, SV	29-10-18	20-12-18			52
Regional surveys	O'Hares Firetrail	RSM-38B	DK, SV	29-10-18	20-12-18			52
Regional surveys	Wallace's creek fire trail	RSM-39A	BR, DJ	04-12-18	09-01-19			36
Regional surveys	Wallace's creek fire trail	RSM-39B	BR, DJ	04-12-18	09-01-19			36
Regional surveys	Wallace's creek fire trail	RSM-39C	JW, GS	02-02-19	21-02-19			19
Regional surveys	Wallace's creek fire trail	RSM-39D	JW, GS	02-02-19	21-02-19			19
Regional surveys	Wallace's creek fire trail	RSM-40A	BR, DJ	04-12-18	09-01-19			36

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Regional surveys	Wallace's creek fire trail	RSM-40B	BR, DJ	04-12-18	09-01-19			36
Regional surveys	Wallace's creek fire trail	RSM-41A	BR, DJ	04-12-18	09-01-19			36
Regional surveys	Wallace's creek fire trail	RSM-41B	BR, DJ	04-12-18	09-01-19			36
Regional surveys	Wallace's creek fire trail	RSM-41C	JW, GS	02-02-19	21-02-19			19
Regional surveys	Wallace's creek fire trail	RSM-41D	JW, GS	02-02-19	21-02-19			19
Regional surveys	Wallace's creek fire trail	RSM-42A	BR, DJ	04-12-18	11-01-19			38
Regional surveys	Wallace's creek fire trail	RSM-42B	BR, DJ	04-12-18	11-01-19			38
Regional surveys	Wallace's creek fire trail	RSM-42C	JW, GS	02-02-19	21-02-19			19
Regional surveys	Wallace's creek fire trail	RSM-42D	JW, GS	02-02-19	21-02-19			19
Regional surveys	Wallace's creek fire trail	RSM-43A	BR, DJ	05-12-18	09-01-19			35
Regional surveys	Wallace's creek fire trail	RSM-43B	BR, DJ	05-12-18	09-01-19			35
Regional surveys	Wallace's creek fire trail	RSM-44A	BR, LH	27-11-18	09-01-19			43
Regional surveys	Wallace's creek fire trail	RSM-44B	BR, LH	27-11-18	09-01-19			43
Regional surveys	Wallace's creek fire trail	RSM-45A	BR, LH	27-11-18	09-01-19			43
Regional surveys	Wallace's creek fire trail	RSM-45B	BR, LH	27-11-18	09-01-19			43
Regional surveys	Wallace's creek fire trail	RSM-45C	LM, SV	02-02-19	26-02-19			24
Regional surveys	Wallace's creek fire trail	RSM-45D	LM, SV	02-02-19	26-02-19			24
Regional surveys	Wallace's creek fire trail	RSM-46A	GM, PF	26-10-18	20-11-18			25
Regional surveys	Wallace's creek fire trail	RSM-46B	GM, PF	26-10-18	20-11-18			25
Regional surveys	Wallace's creek fire trail	RSM-46C	CK, IC	16-01-19	07-02-19			22
Regional surveys	Wallace's creek fire trail	RSM-46D	CK, IC	16-01-19	07-02-19			22
Regional surveys	Wallace's creek fire trail	RSM-47A	BR, DJ	03-12-18	10-01-19			38
Regional surveys	Wallace's creek fire trail	RSM-47B	BR, DJ	03-12-18	10-01-19			38

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Regional surveys	Wallace's creek fire trail	RSM-47C	SV, LM	31-01-19	14-02-19			14
Regional surveys	Wallace's creek fire trail	RSM-47D	SV, LM	31-01-19	14-02-19			14
Regional surveys	Wallace's creek fire trail	RSM-48A	AS, AR	05-11-18	27-11-18			22
Regional surveys	Wallace's creek fire trail	RSM-48B	AS, AR	05-11-18	27-11-18			22
Regional surveys	Marica	RSM-49A	AS, AR	01-11-18	27-11-18			26
Regional surveys	Marica	RSM-49B	AS, AR	01-11-18	27-11-18			26
Regional surveys	Marica	RSM-50A	AS, AR	01-11-18	20-11-18			19
Regional surveys	Marica	RSM-50B	AS, AR	01-11-18	20-11-18			19
Regional surveys	Marica	RSM-50C	CK, IC	15-01-19	05-02-19			21
Regional surveys	Marica	RSM-50D	CK, IC	15-01-19	05-02-19			21
Regional surveys	Marica	RSM-51A	AS, AR	01-11-18	20-11-18			19
Regional surveys	Marica	RSM-51B	AS, AR	01-11-18	20-11-18			19
Regional surveys	Marica	RSM-51C	CK, IC	15-01-19	05-02-19			21
Regional surveys	Marica	RSM-51D	CK, IC	15-01-19	05-02-19			21
Regional surveys	Marica	RSM-52A	AS, AR	02-11-18	16-12-18			44
Regional surveys	Marica	RSM-52B	AS, AR	02-11-18	16-12-18			44
Regional surveys	Marica	RSM-53A	AS, AR	03-11-18	16-12-18			43
Regional surveys	Marica	RSM-53B	AS, AR	03-11-18	16-12-18			43
Regional surveys	Marica	RSM-54A	AS, AR	02-11-18	29-11-18			27
Regional surveys	Marica	RSM-54B	AS, AR	02-11-18	29-11-18			27
Regional surveys	Marica	RSM-54C	CK, IC	21-01-19	06-02-19			16
Regional surveys	Marica	RSM-54D	CK, IC	21-01-19	06-02-19			16
Regional surveys	Marica	RSM-55A	AS, AR	03-11-18	29-11-18			26
Regional surveys	Marica	RSM-55B	AS, AR	03-11-18	29-11-18			26
Regional surveys	Marica	RSM-55C	CK, IC	21-01-19	06-02-19			16
Regional surveys	Marica	RSM-55D	CK, IC	21-01-19	06-02-19			16
Regional surveys	Marica	RSM-56A	AS, AR	02-11-18	16-12-18			44
Regional surveys	Marica	RSM-56B	AS, AR	02-11-18	16-12-18			44
Regional surveys	Marica	RSM-56C	CK, IC	22-01-19	07-02-19			16
Regional surveys	Marica	RSM-56D	CK, IC	22-01-19	07-02-19			16
Regional surveys	Wallace's creek trail	RSM-57A	GM, PF	26-10-18	16-12-18			51
Regional surveys	Wallace's creek trail	RSM-57B	GM, PF	26-10-18	16-12-18			51
Regional surveys	Wallace's creek trail	RSM-57C	CK, IC	23-01-19	07-02-19			15
Regional surveys	Wallace's creek trail	RSM-57D	CK, IC	23-01-19	07-02-19			15
Regional surveys	Marica	RSM-58A	BR, DJ	06-12-18	08-01-19			33
Regional surveys	Marica	RSM-58B	BR, DJ	06-12-18	08-01-19			33
Regional surveys	Marica	RSM-58C	CK, IC	20-01-19	06-02-19			17
Regional surveys	Marica	RSM-58D	CK, IC	20-01-19	06-02-19			17

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Regional surveys	Marica	RSM-59A	BR, DJ	06-12-18	08-01-19			33
Regional surveys	Marica	RSM-59B	BR, DJ	06-12-18	08-01-19			33
Regional surveys	Marica	RSM-59C	CK, IC	20-01-19	06-02-19			17
Regional surveys	Marica	RSM-59D	CK, IC	20-01-19	06-02-19			17
Regional surveys	Marica	RSM-60A	AS, AR	04-12-18	08-01-19			35
Regional surveys	Marica	RSM-60B	AS, AR	04-12-18	08-01-19			35
Regional surveys	Marica	RSM-61A	AS, AR	04-12-18	08-01-19			35
Regional surveys	Marica	RSM-61B	AS, AR	04-12-18	08-01-19			35
Regional surveys	Marica	RSM-61C	CK, IC	22-01-19	07-02-19			16
Regional surveys	Marica	RSM-61D	CK, IC	22-01-19	07-02-19			16
Regional surveys	Coppermine trail	RSM-62A	AS, AR	03-11-18	20-11-18			17
Regional surveys	Coppermine trail	RSM-62B	AS, AR	03-11-18	20-11-18			17
Regional surveys	Wallace's creek trail	RSM-63A	GM, PF	26-10-18	20-11-18			25
Regional surveys	Wallace's creek trail	RSM-63B	GM, PF	26-10-18	20-11-18			25
Regional surveys	Wallace's creek trail	RSM-63C	CK, IC	15-01-19	05-02-19			21
Regional surveys	Wallace's creek trail	RSM-63D	CK, IC	15-01-19	05-02-19			21
Regional surveys	Coppermine trail	RSM-64A	AS, AR	03-11-18	24-11-18			21
Regional surveys	Coppermine trail	RSM-64B	AS, AR	03-11-18	24-11-18			21
Regional surveys	Coppermine trail	RSM-64C	CK, IC	16-01-19	04-02-19			19
Regional surveys	Coppermine trail	RSM-64D	CK, IC	16-01-19	04-02-19			19
Regional surveys	Coppermine trail	RSM-65A	GM, PF	26-10-18	20-11-18			25
Regional surveys	Coppermine trail	RSM-65B	GM, PF	26-10-18	20-11-18			25
Regional surveys	Coppermine trail	RSM-65C	CK, IC	16-01-19	04-02-19			19
Regional surveys	Coppermine trail	RSM-65D	CK, IC	16-01-19	04-02-19			19
Regional surveys	Coppermine trail	RSM-66A	AS, AR	03-11-18	24-11-18			21
Regional surveys	Coppermine trail	RSM-66B	AS, AR	03-11-18	24-11-18			21
Regional surveys	Coppermine trail	RSM-66C	CK, IC	16-01-19	04-02-19			19
Regional surveys	Coppermine trail	RSM-66D	CK, IC	16-01-19	04-02-19			19
Remote cameras - large	Marica	RCL01-0593	CK , GM	10-02-18	13-03-18			31
Remote cameras - large	Marica	RCL01-9048	CK , GM	10-02-18	14-03-18			32
Remote cameras - large	Port Phillip Track	RCL01-0759	CK , GM	12-02-18	13-03-18			29
Remote cameras - large	Port Phillip Track	RCL01-0561	CK , GM	12-02-18	13-03-18			29
Remote cameras - large	Tantagara South	RCL01-0411	CK , GM	12-02-18	13-03-18			29
Remote cameras - large	Tantagara South	RCL01-8914	CK , GM	12-02-18	13-03-18			29
Remote cameras - large	Gooandra	RCL01-8909	CK , GM	12-02-18	13-03-18			29

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Remote cameras - large	Gooandra	RCL01-0743	CK , GM	12-02-18	13-03-18			29
Remote cameras - large	Lobs Hole	RCL02-0561	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-0593	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-0411	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-0759	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-9048	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-8914	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-8909	CK , DJ	15-03-18	20-04-18			36
Remote cameras - large	Lobs Hole	RCL02-0743	CK , DJ	15-03-18	20-04-18			36
Arboreal trapping	Lobs Hole Ravine	TA02	GM , LH	04-12-17	08-12-17			4
Arboreal trapping	Lobs Hole	TAT01	NG , ED	12-12-17	16-12-17			4
Arboreal trapping	Talbingo Reservoir (south of boat ramp)	TAT02	SW, DJ , KS	17-03-18	22-03-18			4
Arboreal trapping	Plateau	TAT04	SW , KS	06-02-18	10-02-18			4
Arboreal trapping	Marica	TAT05	NG , ED	08-12-17	12-12-17			4
Arboreal trapping	Lobs Hole Ravine Road	TAT06	NG , ED	12-12-17	16-12-17			4
Arboreal trapping	Talbingo Intake	TAT07	SW, DJ , KS	17-03-18	22-03-18			4
Arboreal trapping	Yarrangobilly River	TAT08	SW, DJ , KS	17-03-18	22-03-18			4
Arboreal trapping	Link Rd	TAT09	SW, DJ , KS	17-03-18	22-03-18			4
Arboreal trapping	Marica	TT04	NG , ED	08-12-17	12-12-17			4
Arboreal trapping	Lobs Hole Ravine rd	TT-10	CK, GM	14-10-18	18-10-18			4
Arboreal trapping	Lobs Hole Ravine rd	TT-11	CK, GM	14-10-18	18-10-18			4
Arboreal trapping	Lobs Hole Ravine rd	TT-12	CK, GM	14-10-18	18-10-18			4
Arboreal trapping	Tantangara Camp	TT-13	JB, AS	12-03-19	16-03-19			4

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Arboreal trapping	Tantangara south	TT-14	AR, ER	29-11-18	03-12-18			4
Arboreal trapping	Tantangara south	TT-15	AR, ER	29-11-18	03-12-18			4
Arboreal trapping	Tantangara North	TT-16	JB, AS	12-03-19	16-03-19			4
Arboreal trapping	Three mile dam	TT-24	GM, PF	23-10-18	27-10-18			4
Arboreal trapping	Tantangara	TT-25	GM, PF	27-10-18	31-10-18			4
Arboreal trapping	Tantangara	TT-27	GM, PF	27-10-18	31-10-18			4
Arboreal trapping	Tantangara	TT-28	GM, PF	27-10-18	31-10-18			4
Arboreal trapping	Talbingo	TT-29	PF, AS	18-11-18	26-11-18			4
Arboreal trapping	Talbingo	TT-30	PF, AS	18-11-18	26-11-18			4
Arboreal trapping	Talbingo	TT-31	PF, AS	18-11-18	26-11-18			4
Arboreal trapping	Talbingo	TT-32	PF, AS	18-11-18	26-11-18			4
Arboreal trapping	Marica	TT-33	BR, LH	29-11-18	03-12-18			4
Arboreal trapping	Marica	TT-34	BR, LH	29-11-18	03-12-18			4
Arboreal trapping	Marica	TT-35	BR, LH	29-11-18	03-12-18			4
Arboreal trapping	Sawmill / Alpine powerline track	TT-39	GM, AM	12-02-19	16-02-19			4
Arboreal trapping	Sawmill / Alpine powerline track	TT-40	GM, AM	12-02-19	16-02-19			4
Arboreal trapping	Schofields track	TT-42	GM, AM	16-02-19	20-02-19			4
Arboreal trapping	Brayshaws trail	TT-44	GM, AM	16-02-19	20-02-19			4
Arboreal trapping	Circuit trail	TT-45	AR, ER	29-11-18	03-12-18			4
Arboreal trapping	Circuit trail	TT-46	AR, ER	29-11-18	03-12-18			4
Arboreal trapping	Lobs Hole Ravine rd	TT-5	DJ, KS	12-10-18	16-10-18			4
Arboreal trapping	Lobs Hole Ravine, Wallace's creek	TT-53	DK, CW	09-04-19	13-04-19			4
Arboreal trapping	Lobs Hole Ravine	TT-55	DK, CW	09-04-19	13-04-19			4

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Arboreal trapping	Marica	TT-56	CW, MP	13-04-19	17-04-19			4
Arboreal trapping	Lobs Hole Ravine	TT-57	DK, CW	09-04-19	13-04-19			4
Arboreal trapping	Lobs Hole Ravine	TT-58	DK, CW	10-04-19	14-04-19			4
Arboreal trapping	Rock Forest	TT-59	JB OM	05-04-19	09-04-19			4
Arboreal trapping	Lobs Hole Ravine rd	TT-6	DJ, KS	12-10-18	16-10-18			4
Arboreal trapping	Lobs Hole Ravine rd	TT-7	DJ, KS	12-10-18	16-10-18			4
Arboreal trapping	Lobs Hole Ravine rd	TT-8	DJ, KS	12-10-18	16-10-18			4
Arboreal trapping	Lobs Hole Ravine rd	TT-9	JB, AS	16-03-19	20-03-19			4
Spotlighting	Wallace Creek		GM , LH	13-12-17	13-12-17	21:00	23:00	2:00
Spotlighting	Yarrangobilly River		GM , LH	13-12-17	14-12-17	23:50	1:50	2:00
Spotlighting	O'Hares Firetrail		GM , LH	14-12-17	15-12-17	23:30	1:30	2:00
Spotlighting	Lobs Hole Ravine		GM , LH	14-12-17	14-12-17	2:30	4:30	2:00
Spotlighting	Lobs Hole Ravine		GM , LH	25-01-18	25-01-18	0:45	1:45	1:00
Spotlighting	Lobs Hole Ravine		AR , DL	27-01-18	27-01-18	1:45	2:30	0:45
Spotlighting	O'Hares Firetrail		AR , DL	27-01-18	28-01-18	23:20	0:20	1:00
Spotlighting	Marica		GM , LH	27-01-18	27-01-18	0:45	1:45	1:00
Spotlighting	Lobs Hole Ravine		AR , DL	28-01-18	28-01-18	1:05	2:05	1:00
Spotlighting	Marica		GM , LH	28-01-18	28-01-18	0:20	1:20	1:00
Spotlighting	Marica		AR , ACM	29-01-18	29-01-18	2:20	3:00	0:40
Spotlighting	Marica		GM , LH	29-01-18	29-01-18	21:30	22:45	1:15
Spotlighting	Lobs Hole Ravine		AR , ACM	29-01-18	29-01-18	21:00	22:30	1:30
Spotlighting	Lobs Hole Ravine		AR , ACM	29-01-18	30-01-18	22:55	0:05	1:10
Spotlighting	Lobs Hole Ravine		AR , ACM	30-01-18	30-01-18	0:40	1:55	1:15
Spotlighting	Lobs Hole Ravine		GM , CK	08-02-18	08-02-18	21:00	22:00	1:00
Spotlighting	Marica		GM, CK, KS , CW	13-02-18	13-02-18	21:00	21:30	0:30
Spotlighting	Wallace Creek		SW , DJ	19-03-18	20-03-18	23:28	1:00	1:32
Spotlighting	Boat Ramp		SW , DJ	19-03-18	19-03-18	21:07	22:30	1:23
Spotlighting	Proposed campsite		SW , DJ	20-03-18	20-03-18	2:30	3:30	1:00
Spotlighting	Proposed campsite		SW , DJ	20-03-18	20-03-18	3:45	4:05	0:20
Spotlighting	Talbingo Reservoir		SW , KS	22-03-18	23-03-18	19:30	0:00	4:30
Spotlighting	Lobs Hole Ravine		SW , KS	23-03-18	24-03-18	23:30	1:00	1:30
Spotlighting	Lobs Hole Ravine		SW , KS	23-03-18	23-03-18	22:00	23:00	1:00
Spotlighting	Alternate access to Link rd		SW , DJ	23-03-18	23-03-18	20:00	21:00	1:00

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Spotlighting	Alpine Hill Powerline	SL-7	GD, EL	07-11-18	07-11-18	20:28	21:57	1:29
Spotlighting	Tantangara South	SL-21	CK, BR, PF	07-11-18	07-11-18	21:00	22:00	1:00
Spotlighting	Tantangara South	SL-22	CK, BR, PF	07-11-18	07-11-18	20:08	20:57	0:49
Spotlighting	Lobs Hole Ravine rd	SL-13	EL, BR	08-11-18	08-11-18	20:33	21:53	1:20
Spotlighting	Yarrangobilly River	SL-10	JB, JW	15-12-18	16-12-18	23:21	0:22	1:01
Spotlighting	Yarrangobilly River	SL-10	JB, JW	16-12-18	16-12-18	21:55	0:14	2:19
Spotlighting	Mines trail	SL-12	JB, JW	16-12-18	16-12-18	0:20	0:58	0:38
Spotlighting	Mines trail	SL-12	JB, JW	17-12-18	17-12-18	0:20	0:58	0:38
Spotlighting	Yarrangobilly River	SL-10	JB, JW	18-12-18	18-12-18	20:55	21:46	0:51
Spotlighting	Lobs Hole Ravine rd	SL-11	JB, JW	20-12-18	20-12-18	21:12	22:02	0:50
Spotlighting	Mines trail	SL-12	JB, JW	09-01-19	09-01-19	1:02	1:42	0:40
Spotlighting	Lobs Hole Ravine rd	SL-11	JB, JW	10-01-19	10-01-19	0:44	1:26	0:42
Spotlighting	Wallace's creek trail	SL-1	JB, JW	11-01-19	12-01-19	23:40	0:22	0:42
Spotlighting	Wallace's creek trail	SL-2	JB, JW	11-01-19	11-01-19	23:14	23:39	0:25
Spotlighting	Talbingo	SL-5	JB, JW	11-01-19	11-01-19	20:59	21:13	0:14
Spotlighting	Talbingo	SL-6	JB, JW	11-01-19	11-01-19	21:36	21:53	0:17
Spotlighting	Lobs Hole Ravine rd	SL-11	JB, JW	11-01-19	11-01-19	0:11	1:30	1:19
Spotlighting	Tantangara South	SL-23	JB, JW	12-01-19	12-01-19	21:07	22:03	0:56
Spotlighting	Tantangara South	SL-24	JB, JW	12-01-19	12-01-19	22:10	23:24	1:14
Spotlighting	Boundary Trail	SL-15	JB, JW	13-01-19	13-01-19	21:12	22:12	1:00
Spotlighting	Boundary Trail	SL-16	JB, JW	13-01-19	13-01-19	22:14	23:19	1:05
Spotlighting	Boundary Trail	SL-17	JB, JW	13-01-19	13-01-19	23:21	23:55	0:34
Spotlighting	Schofield trail	SL-18	JB, JW	14-01-19	14-01-19	21:00	22:12	1:12
Spotlighting	Tantangara North	SL-19	JB, JW	14-01-19	14-01-19	22:56	23:56	1:00
Spotlighting	Tantangara South	SL-25	JB, JW	14-01-19	14-01-19	21:00	22:03	1:03
Spotlighting	Tantangara North	SL-20	JB, JW	15-01-19	15-01-19	23:13	23:50	0:37
Spotlighting	Alpine Hill Powerline	SL-7	JB, CW	16-01-19	16-01-19	21:23	22:10	0:47
Spotlighting	Tantangara South	SL-21	JW, GS	03-02-19	04-02-19	23:00	0:12	1:12
Spotlighting	Tantangara South	SL-22	GS, JW	03-02-19	03-02-19	21:40	22:21	0:41
Spotlighting	Alpine Hill Powerline	SL-7	JB, DF	04-02-19	04-02-19	20:37	21:18	0:41
Spotlighting	Alpine Hill Powerline	SL-8	JB, DF	04-02-19	04-02-19	21:21	21:56	0:35
Spotlighting	Tantangara North	SL-19	JW, GS	04-02-19	04-02-19	20:45	21:40	0:55
Spotlighting	Talbingo	SL-5	JB, DF	05-02-19	05-02-19	22:54	23:02	0:08
Spotlighting	Talbingo	SL-6	JB, DF	05-02-19	05-02-19	22:03	22:27	0:24
Spotlighting	Boundary Trail	SL-15	JB, DF	07-02-19	07-02-19	21:10	22:13	1:03
Spotlighting	Boundary Trail	SL-16	JB, DF	07-02-19	07-02-19	22:13	23:25	1:12
Spotlighting	Boundary Trail	SL-17	JB, DF	07-02-19	07-02-19	23:25	0:00	0:35
Spotlighting	Schofield trail	SL-18	DF, JB	08-02-19	08-02-19	20:37	21:32	0:55
Spotlighting	Tantangara South	SL-21	JB, DF	08-02-19	08-02-19	22:41	23:50	1:09
Spotlighting	Alpine Hill Powerline	SL-8	JB, DF	09-02-19	09-02-19	1:04	1:45	0:41
Spotlighting	Tantangara South	SL-23	JB, DF	09-02-19	09-02-19	21:18	22:09	0:51

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Spotlighting	Lobs Hole Ravine rd	SL-13	JB, DF	10-02-19	10-02-19	21:53	23:25	1:32
Spotlighting	Lobs Hole Ravine rd	SL-14	JB, JD	10-02-19	11-02-19	23:27	0:39	1:12
Spotlighting	Tantangara South	SL-24	JB, DF	10-02-19	10-02-19	1:04	2:03	0:59
Spotlighting	Tantangara South	SL-25	JB, DF	10-02-19	10-02-19	0:03	1:03	1:00
Spotlighting	Wallace's creek trail	SL-1	JB, DF	11-02-19	11-02-19	21:45	22:39	0:54
Spotlighting	Wallace's creek trail	SL-2	JB, DF	11-02-19	11-02-19	21:14	21:45	0:31
Spotlighting	Wallace's creek trail	SL-4	JB, DF	11-02-19	11-02-19	22:40	23:00	0:20
Spotlighting	Talbingo	SL-5	JB, DF	13-02-19	13-02-19	22:41	22:53	0:12
Spotlighting	Talbingo	SL-6	JB, DF	13-02-19	13-02-19	21:47	22:09	0:22
Spotlighting	Alpine Hill Powerline	SL-8	JB	14-02-19	14-02-19	0:09	1:17	1:08
Spotlighting	Schofield trail	SL-18	AR, EL	18-02-19	18-02-19	21:05	22:45	1:40
Spotlighting	Tantangara North	SL-19	AR, EL	19-02-19	19-02-19	0:00	1:00	1:00
Spotlighting	Lobs Hole Ravine rd	SL-13	AR, EL	20-02-19	21-02-19	22:40	0:20	1:40
Spotlighting	Lobs Hole Ravine rd	SL-14	AR, EL	20-02-19	20-02-19	0:20	2:35	2:15
Spotlighting	Tantangara North	SL-20	AR, EL	21-02-19	21-02-19	2:00	2:35	0:35
Spotlighting	Tantangara South	SL-22	JB, JW	07-01-19	07-01-19	21:47	22:32	0:45
Spotlighting	Tantangara	SL-20	JB, AS	20-03-19	21-03-19	20:05	21:05	1:00
Spotlighting	Marica	SL-1	JB, OM	10-04-19	10-04-19	20:02	21:28	1:26
Spotlighting	Marica	SL-2	JB, OM	10-04-19	10-04-19	19:11	20:00	0:49
Spotlighting	Marica	SL-4	JB, OM	10-04-19	10-04-19	21:29	21:59	0:30
Spotlighting	Rock Forest	SL-33	JB, GS	08-05-19	08-05-19	19:39	21:02	1:23
Spotlighting	Rock Forest	SL-33	JB, OM	09-04-19	09-04-19	22:00	22:51	0:51
Spotlighting	Rock Forest	SL-33	JB, DK	13-05-19	13-05-19	20:23	21:21	0:58
Spotlighting	Lobs Hole Ravine rd	SL-14	JB, DK	15-05-19	15-05-19	17:40	19:59	2:19
Spotlighting	Lobs Hole Ravine rd	SL-30	JB, DK	15-05-19	15-05-19	23:14	23:57	0:43
Spotlighting	Lobs Hole Ravine rd	SL-31	JB, DK	15-05-19	15-05-19	21:16	21:56	0:40
Spotlighting	Lobs Hole Ravine rd	SL-32	JB, DK	15-05-19	15-05-19	20:32	20:55	0:23
Spotlighting	Tantangara	SL-24	JB, PF	30-05-19	31-05-19	23:54	0:44	0:50
Spotlighting	Tantangara	SL-25	JB, PF	30-05-19	30-05-19	22:28	23:17	0:49
Spotlighting	Tantangara	SL-23	JB, PF	30-05-19	30-05-19	20:35	21:47	1:12
Spotlighting	Lobs Hole Ravine rd	SL-30	JB, DK	17-06-19	17-06-19	18:18	18:56	0:38
Spotlighting	Lobs Hole Ravine rd	SL-31	JB, DK	17-06-19	17-06-19	20:52	21:13	0:21
Spotlighting	Lobs Hole Ravine rd	SL-32	JB, DK	17-06-19	17-06-19	19:01	19:29	0:28
Spotlighting	Marica	SL-4	JB, DK	18-06-19	18-06-19	23:04	23:39	0:35
Spotlighting	Lobs Hole Ravine rd	SL-30	JB, DK	19-06-19	19-06-19	21:36	22:17	0:41
Spotlighting	Lobs Hole Ravine rd	SL-31	JB, DK	19-06-19	19-06-19	18:33	19:13	0:40
Spotlighting	Lobs Hole Ravine rd	SL-32	JB, DK	19-06-19	19-06-19	20:48	21:26	0:38
Koala SAT	Talbingo Dam	EW1	CK , PF	18-05-18	18-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW10	CW , DK	02-05-18	02-05-18			
Koala SAT	Lobs Hole Ravine rd	EW100	CK , PF	16-05-18	16-05-18			

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Koala SAT	Talbingo	EW101	CK, CW , PF	19-05-18	19-05-18			
Koala SAT	Lobs Hole Ravine rd	EW102	CK , PF	15-05-18	15-05-18			
Koala SAT	Talbingo	EW111	CK, CW , PF	19-05-18	19-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW12	CW , DK	02-05-18	02-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW130	DK , CW	03-05-18	03-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW132	DK , CW	03-05-18	03-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW136	DK , CW	03-05-18	03-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW139	DK , CW	03-05-18	03-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW15	CW , DK	02-05-18	02-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW16	CW , DK	01-05-18	01-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW17	CW , DK	01-05-18	01-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW18	CW , DK	01-05-18	01-05-18			
Koala SAT	Talbingo North	EW2	DK , JB	21-04-18	21-04-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW21	CW , DK	01-05-18	01-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW22	CW , DK	01-05-18	01-05-18			
Koala SAT	Talbingo	EW23	CK , PF	19-05-18	19-05-18			
Koala SAT	Talbingo	EW25	CK , PF	20-05-18	20-05-18			
Koala SAT	Talbingo North	EW26	DK , JB	21-04-18	21-04-18			
Koala SAT	Talbingo North	EW27	DK , JB	21-04-18	21-04-18			
Koala SAT	Talbingo	EW28	CK , PF	20-05-18	20-05-18			
Koala SAT	Talbingo	EW29	CK , PF	20-05-18	20-05-18			
Koala SAT	Talbingo North	EW30	DK , JB	21-04-18	21-04-18			
Koala SAT	Talbingo	EW31	CK , PF	18-05-18	18-05-18			
Koala SAT	Talbingo	EW32	CK, CW , PF	20-05-18	20-05-18			
Koala SAT	Talbingo	EW33	CK, CW , PF	20-05-18	20-05-18			
Koala SAT	Talbingo	EW35	CK, CW , PF	19-05-18	19-05-18			
Koala SAT	Talbingo North	EW38	DK , JB	21-04-18	21-04-18			
Koala SAT	Talbingo	EW39	CK, CW , PF	19-05-18	19-05-18			

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Koala SAT	Yarrangobilly River	EW41	CK , PF	18-05-18	18-05-18			
Koala SAT	Yarrangobilly River	EW42	CK , PF	17-05-18	17-05-18			
Koala SAT	Yarrangobilly River	EW43	CK , PF	17-05-18	17-05-18			
Koala SAT	Yarrangobilly River	EW45	CK , PF	17-05-18	17-05-18			
Koala SAT	Yarrangobilly River	EW46	CK , PF	18-05-18	18-05-18			
Koala SAT	Yarrangobilly River	EW48	CK , PF	17-05-18	17-05-18			
Koala SAT	Lobs Hole Ravine rd	EW49	CK , PF	17-05-18	17-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW5	CW , DK	03-05-18	03-05-18			
Koala SAT	Lobs Hole Ravine rd	EW50	CK , PF	17-05-18	17-05-18			
Koala SAT	Construction camp	EW51	DK , CW	04-05-18	04-05-18			
Koala SAT	Construction camp	EW52	DK , CW	04-05-18	04-05-18			
Koala SAT	Construction camp	EW53	DK , CW	05-05-18	05-05-18			
Koala SAT	Construction camp	EW54	DK , CW	05-05-18	05-05-18			
Koala SAT	Talbingo	EW55	CK , PF	18-05-18	18-05-18			
Koala SAT	Lobs Hole Ravine rd	EW56	CK , PF	17-05-18	17-05-18			
Koala SAT	Construction camp	EW57	DK , CW	04-05-18	04-05-18			
Koala SAT	Construction camp	EW58	DK , CW	05-05-18	05-05-18			
Koala SAT	Construction camp	EW59	DK , CW	05-05-18	05-05-18			
Koala SAT	Construction camp	EW62	DK , CW	04-05-18	04-05-18			
Koala SAT	Construction camp	EW63	DK , CW	05-05-18	05-05-18			
Koala SAT	Construction camp	EW64	DK , CW	06-05-18	06-05-18			
Koala SAT	Talbingo	EW68	CK , PF	18-05-18	18-05-18			
Koala SAT	Construction camp	EW69A	DK , CW	06-05-18	06-05-18			
Koala SAT	Lobs Hole Ravine rd	EW69B	CK , PF	16-05-18	16-05-18			
Koala SAT	Construction camp	EW70	DK , CW	06-05-18	06-05-18			
Koala SAT	Construction camp	EW71A	DK , CW	06-05-18	06-05-18			
Koala SAT	Lobs Hole Ravine rd	EW71B	CK , PF	16-05-18	16-05-18			
Koala SAT	Construction camp	EW72	DK , CW	06-05-18	06-05-18			
Koala SAT	Construction camp	EW77A	DK , CW	06-05-18	06-05-18			
Koala SAT	Lobs Hole Ravine rd	EW77B	CK , PF	16-05-18	16-05-18			
Koala SAT	Lobs Hole Ravine rd	EW78	CK , PF	17-05-18	17-05-18			
Koala SAT	Upper Lob's Hole Ravine rd	EW8	CW , DK	03-05-18	03-05-18			
Koala SAT	Talbingo	EW85	CK , PF	19-05-18	19-05-18			
Koala SAT	Lobs Hole Ravine rd	EW86	CK , PF	16-05-18	16-05-18			
Koala SAT	Lobs Hole Ravine rd	EW87	CK , PF	16-05-18	16-05-18			
Koala SAT	Lobs Hole Ravine rd	EW94	CK , PF	15-05-18	15-05-18			
Koala SAT	Lobs Hole Ravine rd	EW95	CK , PF	17-05-18	17-05-18			
Koala SAT	Lobs Hole Ravine rd	EW97	CK , PF	15-05-18	15-05-18			
Koala SAT	Lobs Hole Ravine rd	EW98	CK , PF	15-05-18	15-05-18			

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Koala SAT	Lobs Hole Ravine rd	EW99	CK , PF	15-05-18	15-05-18			
Songmeters	Talbingo	KSM1	CK, GM	16-10-18	16-12-18			61
Songmeters	Lobs Hole Ravine rd	KSM2	DJ, KS	16-10-18	17-12-18			62
Songmeters	Lobs Hole Ravine rd	KSM3	DJ, KS	16-10-18	17-12-18			62
Songmeters	Wallace's creek trail	KSM4	DJ, KS	16-10-18	17-12-18			62
Songmeters	Marica	KSM5	DJ, KS	16-10-18	16-12-18			61
Microbat acoustic detection	Nungar Trail	MB-Nungar 2	JB, OM	06-04-19	10-04-19			4
Microbat acoustic detection	Nungar Trail	MB-Nungar 1	JB, OM	06-04-19	10-04-19			4
Microbat acoustic detection	Tantangara	MB-Tantangara 2	JB, OM	07-04-19	11-04-19			4
Microbat acoustic detection	Tantangara	MB-Tantangara 1	JB, OM	07-04-19	11-04-19			4
Microbat acoustic detection	Gooandra track	MB-Eucumbene	JB, OM	10-04-19	12-04-19			2
Microbat acoustic detection	Link Road	MB-Bullocks	JB, OM	10-04-19	17-04-19			7
Microbat acoustic detection	Middle Creek	MB-Middle	CW, DK	11-04-19	17-04-19			6
Microbat acoustic detection	Wallace's Creek	MB-WC	CW, MP	13-04-19	17-04-19			4
Microbat acoustic detection	Yarrangobilly River	MB-YR1	CW, MP	13-04-19	17-04-19			4
Microbat acoustic detection	Yarrangobilly River	MB-YR2	CW, MP	13-04-19	17-04-19			4
Booroolong Frog surveys	Bottom of Yarra 1	Yarra 1	JB, JW	11-12-18	12-12-18	21:43	1:35	3:52
Booroolong Frog surveys	Top of Yarra 1 & Wallace Creek	Yarra 1 & Yarra 2	JB, JW	12-12-18	13-12-18	20:41	0:25	3:44
Booroolong Frog surveys	Wallace Creek	Yarra 2	JB, JW	15-12-18	15-12-18	21:29	22:29	1:00
Booroolong Frog surveys	Yarrangobilly River & Wallace Creek	Yarra 2	JB, JW	16-12-18	17-12-18	21:54	1:26	3:32
Booroolong Frog surveys	Yarrangobilly River	Yarra 1	JB, JW	17-12-18	18-12-18	21:02	3:02	6:00

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Booroolong Frog surveys	Yarrangobilly River & Wallace Creek	Yarra 2	JB, JW	18-12-18	19-12-18	21:44	1:19	3:35
Booroolong Frog surveys	Bottom of Yarra 1	Yarra 1	JB, JW	19-12-18	20-12-18	22:03	0:42	2:39
Booroolong Frog surveys	Yarrangobilly River	Yarra 1 & Yarra 2	JB, JW	08-01-19	09-01-19	20:56	0:25	3:29
Booroolong Frog surveys	Yarrangobilly River	Yarra 1	JB, JW	09-01-19	10-01-19	21:03	0:19	3:16
Booroolong Frog surveys	Yarrangobilly River & Wallace Creek	Yarra 2	JB, JW	10-01-19	10-01-19	21:38	23:50	2:12
Booroolong Frog surveys	Sheepstation Creek		GM , LH	14-12-17	14-12-17	21:00	22:40	1:40
Booroolong Frog surveys	O'Hares Creek		GM , LH	14-12-17	15-12-17	23:30	2:00	2:30
Booroolong Frog surveys	Yarrangobilly River		NG , CD	11-01-18	12-01-18	21:12	3:20	6:08
Booroolong Frog surveys	Yarrangobilly River		NG , KS	12-01-18	12-01-18	21:13	23:52	2:39
Booroolong Frog surveys	Wallace Creek		NG , KS	12-01-18	12-01-18	0:45	2:13	1:28
Booroolong Frog surveys	Wallace creek		NG , AR	19-01-18	19-01-18	21:21	22:36	1:15
Booroolong Frog surveys	Yarrangobilly River		NG , AR	20-01-18	20-01-18	0:04	2:01	1:57
Booroolong Frog surveys	Wallace creek		AR , DL	23-01-18	23-01-18	21:40	22:45	1:05
Booroolong Frog surveys	Yarrangobilly River		AR , DL	23-01-18	24-01-18	23:40	1:50	2:10
Booroolong Frog surveys	O'Hares creek		GM , LH	24-01-18	24-01-18	21:30	23:00	1:30
Booroolong Frog surveys	Sheepstation Creek		GM , LH	24-01-18	25-01-18	23:57	0:40	0:43
Booroolong Frog surveys	O'Hares Creek		AR , DL	27-01-18	27-01-18	22:00	23:20	1:20
Alpine Tree Frog surveys	Bullocks creek	BULLOCKS	GS, JW	31-01-19	01-02-19	20:38	0:17	3:39
Alpine Tree Frog surveys	Bullocks creek	BULLOCKS HEA	GS, JW	05-02-19	05-02-19	20:56	22:41	1:45
Alpine Tree Frog surveys	Tantangara Trib 1	TANTANG TRIB	JW, DF	06-02-19	06-02-19	20:14	20:49	0:35
Alpine Tree Frog surveys	Tantangara Trib 2	TANTANG TRIB	JW, DF	06-02-19	06-02-19	20:49	23:42	2:53
Alpine Tree Frog surveys	Eucumbene river-tributary	EUC TRIBUTAR	GS, JW	06-02-19	06-02-19	1:03	1:24	0:21
Alpine Tree Frog surveys	Eucumbene river	EUC DOWNSTREA	GS, JW	06-02-19	06-02-19	0:00	0:35	0:35

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Alpine Tree Frog surveys	Nungar Trib 1	NUNGAR 1	JW, DF	07-02-19	07-02-19	1:19	1:37	0:18
Alpine Tree Frog surveys	Nungar Trib 2	NUNGAR TRIB	GS, JW	07-02-19	07-02-19	21:07	21:37	0:30
Alpine Tree Frog surveys	Tantangara Trib 3	TANTANG TRIB	JW, DF	07-02-19	07-02-19	0:17	0:55	0:38
Alpine Tree Frog surveys	Nungar 2 & 3		NG , CD	09-01-18	09-01-18	22:12	23:55	1:43
Alpine Tree Frog surveys	Murrumbidgee River 3		NG , CD	10-01-18	11-01-18	21:40	0:06	2:26
Alpine Tree Frog surveys	Kelly's Plain Creek		NG , CD	11-01-18	11-01-18	1:03	3:05	2:02
Alpine Tree Frog surveys	Murrumbidgee River 4		SW , LH	12-01-18	12-01-18	21:30	22:30	1:00
Alpine Tree Frog surveys	Boundary creek 2		SW , LH	12-01-18	13-01-18	23:15	0:30	1:15
Alpine Tree Frog surveys	Mufflers creek 1		SW , LH	12-01-18	12-01-18	1:20	2:20	1:00
Alpine Tree Frog surveys	Eucumbene 2		NG , LH	14-01-18	14-01-18	22:22	23:53	1:31
Alpine Tree Frog surveys	Tantangara 1		NG , AR	17-01-18	18-01-18	22:06	0:01	1:55
Alpine Tree Frog surveys	Gooandra 1		NG , AR	18-01-18	18-01-18	0:01	0:55	0:54
Alpine Tree Frog surveys	Gooandra 2		NG , AR	18-01-18	18-01-18	1:48	2:07	0:19
Alpine Tree Frog surveys	Boundary creek 2		NG , AR	18-01-18	19-01-18	23:08	0:16	1:08
Alpine Tree Frog surveys	Tantangara North		NG , AR	18-01-18	18-01-18	21:28	22:29	1:01
Alpine Tree Frog surveys	Murrumbidgee river 4		NG , AR	19-01-18	19-01-18	0:31	1:29	0:58
Alpine Tree Frog surveys	Tantangara 2		NG , AR	19-01-18	19-01-18	2:12	2:56	0:44
Alpine Tree Frog surveys	Eucumbene 1		NG , AR	21-01-18	21-01-18	21:43	22:31	0:48
Alpine Tree Frog surveys	Murrumbidgee River 2		NG , AR	21-01-18	22-01-18	23:32	1:07	1:35
Alpine Tree Frog surveys	Nungar 1		NG , AR	22-01-18	22-01-18	22:01	23:04	1:03
Alpine Tree Frog surveys	Murrumbidgee river 4		AR , DL	24-01-18	24-01-18	22:40	23:45	1:05
Alpine Tree Frog surveys	Tantangara 2		AR , DL	24-01-18	24-01-18	21:00	21:35	0:35
Alpine Tree Frog surveys	Tantangara North		AR , DL	25-01-18	25-01-18	0:42	2:10	1:28

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Alpine Tree Frog surveys	Murrumbidgee 1		AR, DL , GM	25-01-18	26-01-18	21:20	1:30	4:10
Alpine Tree Frog surveys	Kelly's Plain Creek		AR , DL	26-01-18	26-01-18	21:30	22:30	1:00
Alpine Tree Frog surveys	Tantangara south		AR , DL	26-01-18	26-01-18	23:00	0:00	1:00
Alpine Tree Frog surveys	Mufflers Creek		GM , LH	26-01-18	26-01-18	21:30	23:10	1:40
Alpine Tree Frog surveys	Kelly's Plain Creek		GM , LH	27-01-18	27-01-18	21:20	23:00	1:40
Alpine Tree Frog surveys	Tantangara North & Mufflers Creek		GM , LH	28-01-18	28-01-18	21:00	22:30	1:30
Alpine Tree Frog surveys	Kelly's Plain Creek		AR , ACM	28-01-18	28-01-18	21:10	22:00	0:50
Alpine Tree Frog surveys	Tantangara south		AR , ACM	28-01-18	29-01-18	22:30	0:30	2:00
Alpine Tree Frog surveys	Rock Forest		JB, OM	09-04-19	09-04-19	23:04	23:11	3:00
Alpine Tree Frog surveys	Rock Forest - Camerons		JB, OM	09-04-19	09-04-19	20:00	21:40	4:00
Northern Corroboree Frog surveys	Plateau		GM, ED, AR, DK, HB	19-02-18	19-02-18			
Northern Corroboree Frog surveys	Tantangara south		AR, HB, ED	20-02-18	20-02-18			
Northern Corroboree Frog surveys	Tantangara north		GM, ED, AR, DK, HB, LH	21-02-18	21-02-18			
Northern Corroboree Frog surveys	Gooandra track		ED, DK	22-02-18	22-02-18			
Northern Corroboree Frog surveys	Bullocks Hill		GM, LH, ED, HB, CW	23-02-18	23-02-18			
Northern Corroboree Frog surveys	Murrumbidgee (west)		GM, LH	24-02-18	24-02-18			
Northern Corroboree Frog surveys	Tantangara south		LH, GM	25-02-18	25-02-18			
Northern Corroboree Frog surveys	Marica		LH, GM	26-02-18	26-02-18			
Tile grids	Hains Hut track	TG01	LH	22-12-17	10-10-18			292
Tile grids	Gooandra	TG02	NG & ED	09-12-17	17-01-18			39
Tile grids	Tantagara North	TG03	LH	23-12-17	10-10-18			291

Table C.1 **Fauna survey efforts summary**

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Tile grids	Goandra	TG04	ED, GM & LH	10-12-17	19-10-18			313
Tile grids	Gooandra	TG05	ED, GM & LH	10-12-17	29-01-18			50
Tile grids	Tantagara Rd South	TG06	ED, GM & LH	10-12-17	11-10-18			305
Tile grids	Gooandra	TG07	NG & ED	09-12-17	12-01-18			34
Tile grids	Port Phillip Track	TG08	LH	11-12-17	18-10-18			311
Tile grids	Bullocks Hill track	TG09	SW & LH	22-12-17	18-10-18			300
Tile grids	Tantagara Rd South	TG10	ED, GM & LH	10-12-17	09-10-18			303
Tile grids	Tantagara Rd South	TG11	ED, GM & LH	10-12-17	09-10-18			303
Tile grids	Tantagara North	TG12	LH	23-12-17	10-10-18			291
Tile grids	Snowy Mountains Hwy	TG13	NG & ED	09-12-17	13-01-18			35
Tile grids	Port Phillip Track	TG14	LH	23-12-17	10-10-18			291
Tile grids	Goandra	TG15	ED, GM & LH	10-12-17	11-10-18			305
Tile grids	Bullocks Hill Fire Trail	TG16	NG & ED	09-12-17	17-01-18			39
Tile grids	Snowy Mountains Hwy	TG17	NG & ED	09-12-17	09-10-18			304
Tile grids	Bullocks Hill track	TG18	NG & ED	09-12-17	09-10-18			304
Tile grids	Bullocks Hill track	TG19	NG & ED	09-12-17	18-10-18			313
Tile grids	Snowy Mountains Hwy	TG20	LH, SW, KS & HB	13-01-18	09-10-18			269
Tile grids	Port Phillip Track	TG21	LH	11-12-17	29-01-18			49
Tile grids	Gooandra	TG22	SW & LH	12-01-18	18-10-18			279
Tile grids	Gooandra	TG23	NG & AR	17-01-18	29-01-18			12
Tile grids	Bullocks Hill track	TG24	NG & AR	17-01-18	18-10-18			274
Tile grids	Gooandra	TG25	LH & GM	29-01-18	09-10-18			253
Tile grids	Gooandra	TG26	LH & GM	29-01-18	25-02-18			27
Tile grids	Port Phillip Track	TG27	LH & GM	29-01-18	18-10-18			262
Tile grids	Lobs Hole Ravine Road	TG28	DK & JB	06-03-18	10-10-18			218
Tile grids	Lobs Hole Ravine Road	TG29	JB & DK	07-03-18	04-11-18			242
Tile grids	Wallace's creek fire trail	TG30	JB & DK	07-03-18	18-10-18			225
Tile grids	Wallace's creek fire trail	TG31	JB & DK	06-03-18	18-10-18			226
Tile grids	Wallace's creek fire trail	TG32	JB & DK	06-03-18	18-10-18			226
Tile transects	Tantangara south	TG10		09-10-18	14-04-19			187

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Tile transects	Tantangara south	TG11		09-10-18	14-04-19			187
Tile transects	Wallace's creek trail	TG17		09-10-18	26-02-19			140
Tile transects	East of Snowy Mountains HWY	TG25		09-10-18	11-04-19			184
Tile transects	Prt Phillip Trail	TG14		10-10-18	14-12-18			65
Tile transects	Tantangara road below powerline easement	TG06		11-10-18	08-04-19			179
Tile transects	Gooandara trail	TG15		11-10-18	07-04-19			178
Tile transects	East of Snowy Mountains HWY	TG22		18-10-18	11-04-19			175
Tile transects	Prt Phillip Trail	TG27		18-10-18	14-12-18			57
Tile transects	Wallace's creek trail	TG30		18-10-18	12-02-19			117
Tile transects	Wallace's creek trail	TG31		18-10-18	11-04-19			175
Tile transects	Wallace's creek trail	TG32		18-10-18	11-04-19			175
Tile transects	Connors Hill west slope	TG33		18-10-18	05-03-19			138
Tile transects	Old Kiandra gold fields	TG34		18-10-18	21-11-18			34
Tile transects	Kiandra old highway	TG35		18-10-18	12-02-19			117
Tile transects	Kiandra Ticket Both	TG36		18-10-18	15-04-19			179
Tile transects	Link Road	TG37		18-10-18	05-03-19			138
Tile transects	Wallace's Creek Trail	TG38		18-10-18	27-11-18			40
Tile transects	Three Mile Dam	TG39		18-10-18	27-11-18			40
Tile transects	Three Mile Dam	TG40		18-10-18	27-11-18			40
Tile transects	Wallace's creek trail	TG41		18-10-18	27-11-18			40
Tile transects	Bullocks Hill Trail	TG43		18-10-18	07-04-19			171
Tile transects	Bullocks Hill Trail	TG44		18-10-18	27-11-18			40
Tile transects	Nungar Trail	TG45		18-10-18	27-11-18			40
Tile transects	Nungar Trail	TG46		18-10-18	08-04-19			172
Tile transects	Port Phillip Trail	TG48		18-10-18	14-12-18			57
Tile transects	Gooandra trail	TG04		19-10-18	19-11-18			31
Tile transects	Murrumbidgee River and Nungar Creek	TG47		19-10-18	15-04-19			178
Tile transects	Prt Phillip Trail	TG49		19-10-18	29-11-18			41
Tile transects	West of Currango Homestead	TG50		19-10-18	29-11-18			41
Tile transects	Tantangara dam wall	TG51		19-10-18	18-02-19			122
Tile transects	Gulf Creek Trail	TG52		19-10-18	18-02-19			122
Tile transects	Gulf Creek Trail	TG53		19-10-18	18-02-19			122
Tile transects	Bugtown road south	TG54		19-10-18	17-05-19			210
Tile transects	Tantangara south	TG029		20-10-18	17-02-19			120
Tile transects	Tantangara south	TG030		20-10-18	17-02-19			120

Table C.1 Fauna survey efforts summary

Survey type	Site name	Location	Surveyors	Start date	End date	Start time	End time	Total effort
Tile transects	Tantangara south	TG034		20-10-18	18-02-19			121
Tile transects	Tantangara road powerline easement	TG035		20-10-18	15-01-19			87
Tile transects	Nungar Trail	TG036		20-10-18	10-01-19			82
Tile transects	Tantangara south	TG037		20-10-18	14-04-19			176
Tile transects	Tantangara south	TG038		20-10-18	14-04-19			176
Tile transects	Kings Cross Road	TG001		24-10-18	14-01-19			82
Tile transects	Dip creek, Snowy Hwy	TG006		24-10-18	11-04-19			169
Tile transects	Gooandara trail	TG022		24-10-18	07-04-19			165
Tile transects	Gooandara trail	TG027		24-10-18	07-04-19			165
Tile transects	Gooandara trail	TG028		24-10-18	07-04-19			165
Tile transects	Circuits trail	TG031		24-10-18	17-02-19			116
Tile transects	Circuits trail	TG032		24-10-18	17-02-19			116
Tile transects	Circuits trail	TG033		24-10-18	17-02-19			116
Tile transects	Tantangara dam firetrail	TG039		24-10-18	15-04-19			173
Tile transects	Lobs Hole Ravine Rd	TG29		04-11-18	21-03-19			137
Tile transects	Kings Cross Road	TG55		05-11-18	05-03-19			120
Tile transects	Tantangara Dam rd	TG56		08-11-18	06-04-19			149
Tile transects	Gooandra Hill	TG57		20-12-18	16-04-19			117
Tile transects	Gooandra Hill	TG58		20-12-18	16-04-19			117
Tile transects	Rock Forest	TG59		06-04-19	17-05-19			41
Tile transects	Rock Forest	TG60		06-04-19	17-05-19			41
Tile transects	Rock Forest	TG61		06-04-19	17-05-19			41

Annexure D

Targeted survey weather conditions

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
04-12-17	4.3	10	1.6	ESE	61
05-12-17	4.7	10.6	22.6	ESE	70
06-12-17	6	11.4	0.2	WSW	41
07-12-17	7.3	16.1	0.8	W	59
08-12-17	5.4	12.9	3.4	NNW	46
12-12-17	12.2	21.8	0	NW	37
13-12-17	14.7	23.8	0	W	50
14-12-17	17.1	21.9	0	NW	57
15-12-17	12.9	20.6	1.4	W	41
16-12-17	13.6	21.9	0	WNW	35
09-01-18	12.2	18.2	36	NW	52
10-01-18	8.7	21	2.4	E	30
11-01-18	12.1	21.8	0	N	37
12-01-18	15.1	22	0	WSW	70
13-01-18	9.6	13	37.2	W	76
14-01-18	1.4	12.7	31	S	56
17-01-18	7.6	20.3	0	ESE	48
18-01-18	12.3	23.9	0	W	24
19-01-18	16.4	27.5	0	ENE	44
20-01-18	20.1	29.6	0	E	52
21-01-18	20.1	27	0	NNE	48
22-01-18	20.4	25	0	W	72
23-01-18	15.7	25.7	1	NW	74
24-01-18	15.5	19.7	11.4	N	44
25-01-18	15.5	21.8	0.8	NNW	30
26-01-18	15.7	24.7	0.8	E	43
27-01-18	15.2	22	0	E	46
28-01-18	14.8	24.9	0	ENE	39
29-01-18	15	24.5	2.4	ENE	35
30-01-18	17	18.6	0	WNW	46
07-02-18	13.1	24.2	0	WNW	39
08-02-18	16.8	26.5	0	E	43
19-02-18	11.9	15.6	0	ESE	83
20-02-18	6.7	16.8	0	ESE	93
21-02-18	7.6	19.2	0	ESE	30
22-02-18	12.7	21.3	0	E	28
23-02-18	14.2	23.3	0	WNW	31
24-02-18	16.2	23.3	0	WNW	70
25-02-18	15.3	16	31.6	ESE	80
26-02-18	5.8	14.6	3.2	E	81
27-02-18	4.7	20.8	0	E	39

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
28-02-18	12	22.1	0	WNW	91
01-03-18	9.5	20.2	0	ESE	48
02-03-18	7	19.1	0	E	41
03-03-18	9.5	22.1	0	WNW	44
04-03-18	13.4	22.5	0	WNW	44
05-03-18	8.9	19.6	0	ESE	63
06-03-18	4.7	14.5	0	ESE	65
07-03-18	6.9	20.2	0	ESE	44
08-03-18	9.5	21.9	0	E	41
09-03-18	11.9	22.7	0	ESE	28
10-03-18	12	22.8	0	W	26
11-03-18	13.1	23.3	0	SE	35
12-03-18	14	22.9	0	ESE	50
13-03-18	5.9	20	0	ESE	41
14-03-18	8.5	19.8	0	ESE	44
15-03-18	11.9	20.5	0	NW	43
16-03-18	8.5	20.2	0	WNW	39
17-03-18	8.9	22.2	1.4	W	43
18-03-18	13.4	19.3	0	WNW	83
19-03-18	6.1	17.3	0	W	35
20-03-18	6.7	16.8	0	ESE	93
21-03-18	5.4	11.3	0	ESE	80
22-03-18	4.8	14	0	ESE	89
23-03-18	14.2	23.3	0	WNW	31
24-03-18	8.5	15	0	NNW	39
25-03-18	11.4	13.7	1.8	W	83
26-03-18	-0.6	6	21.6	WNW	91
27-03-18	-0.5	14.9	0	NNE	26
28-03-18	5.3	18.5	0	WNW	30
29-03-18	11.9	21.4	0	NW	46
30-03-18	13	19.8	0	WNW	37
31-03-18	10.4	19.9	0	NW	33
01-04-18	9.9	18.7	0	W	30
02-04-18	12.7	20.2	0	W	46
03-04-18	6.9	19.3	0	E	35
04-04-18	10.8	20.1	0	E	24
05-04-18	11.9	20.2	0	NW	41
06-04-18	12.6	19.8	0	WNW	41
07-04-18	9.8	18.5	0	WNW	39
08-04-18	11.1	19.8	0	WSW	41
09-04-18	13.1	19.6	0	W	50

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
10-04-18	12.4	20.6	0	W	41
11-04-18	14.7	23.3	0	N	39
12-04-18	15	21.7	0	NW	80
13-04-18	11.1	17.6	0	NNW	89
14-04-18	5.2	10	13.8	WNW	106
15-04-18	1.8	8.2	18.8	WNW	91
16-04-18	2.5	9.5	26.2	W	81
17-04-18	5.1	14.7	1.6	WSW	39
18-04-18	6.9	14.7	0	ENE	22
19-04-18	8.4	16.3	0	WSW	30
20-04-18	9.4	17.2	0	ESE	31
21-04-18	9.8	16.9	0	WNW	26
01-05-18	6.5	15.2	0	ESE	26
02-05-18	8.8	12.3	0	NNW	41
03-05-18	8.1	15.2	0	NNW	57
04-05-18	4.4	4.9	36.6	WNW	89
05-05-18	0.8	8	13.6	W	57
06-05-18	3.1	11	0	SSW	30
07-05-18	5.2	11.3	0	WNW	52
08-05-18	5.8	12.4	0	WSW	31
09-05-18	5.6	10.2	0	NW	41
10-05-18	2.3	2.4	1	W	72
11-05-18	-3.3	4.6	11.8		
12-05-18	-2.9	3.4	0.2		
15-05-18	3.5	8.6	0	ESE	33
16-05-18	-0.3	7.3	0	ESE	50
17-05-18	1.2	8.1	0	WNW	24
18-05-18	0.3	7.4	0	WSW	30
19-05-18	0.9	5.4	0.2	WNW	28
20-05-18	-1.2	4.2	0	W	43
01-10-18	4	14	0	W	28
02-10-18	6.9	15.5	0	WNW	31
03-10-18	10.1	10.6	0	NW	50
04-10-18	5	9.5	18.8	ESE	67
05-10-18	2.3	8.1	0	ESE	67
06-10-18	-0.1	13.8	0	ESE	54
07-10-18	4.6	15.2	0	ESE	52
08-10-18	6.2	16.3	0	WNW	30
09-10-18	7.2	15.3	0	WNW	37
10-10-18	2.4	5.8	18	ESE	83
11-10-18	-0.7	8.5	0	ESE	91

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
12-10-18	0.2	10.3	0	ESE	76
13-10-18	1.4	14.4	0	ESE	65
14-10-18	5.5	14.2	0	NE	54
15-10-18	5.8	17.2	0	NE	52
16-10-18	7.3	19.1	0	NE	52
17-10-18	8.7	11.9	5.2	NW	41
18-10-18	7.6	13.3	14.8	NW	50
19-10-18	7.1	17.2	0	NNW	31
20-10-18	9.4	15.6	0	WNW	74
21-10-18	1.4	12.6	1.2	ESE	33
22-10-18	6.5	16.3	0	W	31
23-10-18	8.8	19.3	0	WNW	59
24-10-18	3.4	15.5	0	ESE	43
25-10-18	3.2	14.4	0	E	35
26-10-18	5.3	15.1	0	WSW	35
27-10-18	7.9	15	0	W	65
28-10-18	1.5	15.7	0	WNW	26
29-10-18	7.4	17.3	0	WSW	30
30-10-18	7.4	17.5	0	W	43
31-10-18	10.1	20.5	0	SW	48
01-11-18	13.1	24.3	0	NNW	61
02-11-18	14.9	20.8	0	NNW	83
03-11-18	5.3	14.5	1.8	W	67
04-11-18	5.6	17.2	0	WSW	39
05-11-18	9.8	15.9	0	NNW	52
06-11-18	11.5	12.9	8	WNW	70
07-11-18	9.4	9.7	66.2	WNW	65
08-11-18	-1.3	8.5	10.6	W	35
09-11-18	1.3	9.9	0	WNW	39
10-11-18	4.1	13.8	0	W	37
11-11-18	7.7	17	0	ESE	35
12-11-18	8.6	19.4	0	W	31
13-11-18	13.5	16.9	0	N	39
14-11-18	9.8	14	8.4	NNW	50
15-11-18	9.9	16.7	16.6	ESE	54
16-11-18	2.7	15.4	0	ESE	46
17-11-18	5.6	14.8	0	ESE	63
18-11-18	3.6	17.5	0	ESE	65
19-11-18	6.3	17.8	0	E	30
20-11-18	10.8	18.3	0	N	57
21-11-18	10.8	12	24.2	W	63

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
22-11-18	-0.4	2.5	34	W	91
23-11-18	-0.1	4.2	33.2	WNW	70
24-11-18	1.2	8.6	61.4	SW	46
25-11-18	3	11.3	3	WSW	37
26-11-18	3.7	15.5	0	ESE	50
27-11-18	6.1	15.7	0	ENE	35
28-11-18	7.6	10.6	1	ESE	76
29-11-18	4.8	14.3	0.2	ESE	63
30-11-18	6.7	16	0.6	WNW	50
01-12-18	8.7	19.7	0	WNW	44
02-12-18	11.2	11.3	0.2	WNW	76
03-12-18	2.4	11.7	9	W	70
04-12-18	4.3	18	0	ESE	48
05-12-18	6.8	19	0	E	43
06-12-18	9.6	21.2	0	WNW	35
07-12-18	14.2	23.3	0	WNW	31
08-12-18	15.6	23.5	0	SE	54
09-12-18	15.9	21.2	0	ESE	43
10-12-18	9.8	20.5	13.2	ESE	43
11-12-18	10.3	20.3	0	NE	41
12-12-18	11.3	20.8	0	NE	37
13-12-18	11.3	16.4	16	ENE	74
14-12-18	9.6	17.8	20.2	E	56
15-12-18	10.9	17.1	8.8	NE	54
16-12-18	10.9	15.1	0	N	37
17-12-18	10.3	20	0.4	NW	39
18-12-18	10.8	22.6	0	ESE	44
19-12-18	12.8	20.7	0		
20-12-18	14.4	22.9	0	E	41
21-12-18	9.1	17.8	0	SE	63
22-12-18	4.2	13.7	2.6	ESE	70
23-12-18	3.7	17.3	0	ESE	44
24-12-18	9.2	20.7	0	WNW	30
25-12-18	14.1	23.4	0	WNW	33
26-12-18	16.2	26.2	0	WNW	54
27-12-18	17	28.2	0	N	37
28-12-18	19.1	25.2	0	N	46
29-12-18	19.1	27.5	0	WNW	50
30-12-18	18.2	23.5	0	NNE	43
31-12-18	16.2	21.8	0.4	WNW	57
01-01-19	14.7	25.6	1.4	W	33

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
02-01-19	18.5	27.5	0	WNW	61
03-01-19	15.9	26.2	0	N	44
04-01-19	18.1	29.1	0.6	WNW	44
05-01-19	19.8	23.2	0	NNW	54
06-01-19	6.7	21.5	1.4	E	46
07-01-19	9.5	21.7	0	ESE	44
08-01-19	13.8	21.4	0	WNW	87
09-01-19	11.5	20.8	19.8	W	59
10-01-19	9.3	21.9	0	E	46
11-01-19	12.2	21.2	0	SW	57
12-01-19	13.2	25.4	9.4	NNE	35
13-01-19	13.4	27.3	0	ESE	50
14-01-19	13.2	27.6	0	ESE	39
15-01-19	20.3	30.6	0	ESE	44
16-01-19	20.8	32.3	0	ESE	63
17-01-19	20.1	30.4	0	ESE	69
18-01-19	18.3	28.3	0.4	ESE	69
19-01-19	14.6	26.6	7.8	SW	39
20-01-19	14.1	26.1	0	ESE	57
21-01-19	13.7	26.5	0	ESE	56
22-01-19	18.3	26.9	0	NW	31
23-01-19	19.6	27.9	2.8	ESE	48
24-01-19	15.4	28.3	0	E	35
25-01-19	19.7	30.6	0	WNW	43
26-01-19	21.7	29.3	0	N	61
27-01-19	14.7	17.4	4.6	W	41
28-01-19	13.1	17.5	2.2	NE	33
29-01-19	13.2	24.6	3.6	NNW	37
30-01-19	15.1	24.8	4.6	N	54
31-01-19	16.5	23.7	8	NNW	65
01-02-19	7.5	19.7	0	ESE	56
02-02-19	10.1	22.4	0	ENE	46
03-02-19	14.8	25.1	0	WSW	44
04-02-19	14.3	25.5	5.6	E	57
05-02-19	13.3	18.8	18.6		
06-02-19	13.4	24.1	6.8	ESE	57
07-02-19	12.7	18.9	0	ENE	35
08-02-19	13.6	17.6	8.8	NW	43
09-02-19	9.5	11.9	4.8	W	81
10-02-19	2.9	16.2	2.8	SW	39
11-02-19	7.1	18.7	0	W	50

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
12-02-19	11.4	17.9	0	WNW	96
13-02-19	2.3	12.2	0	W	48
14-02-19	3.9	18.1	0	ESE	50
15-02-19	7.8	23	0	ESE	48
16-02-19	13.2	21.4	0	NW	28
17-02-19	14.6	22.9	0	NW	50
18-02-19	16.4	24.7	0	WNW	91
19-02-19	13	20.5	3.8	NNW	48
20-02-19	7.1	20.2	0	ESE	35
21-02-19	8.6	21.5	0	ESE	54
22-02-19	8.5	22.4	0	ESE	46
23-02-19	8.8	20.4	0	ESE	63
24-02-19	6.4	20.7	0	ESE	76
25-02-19	10.4	22.5	0	ESE	44
26-02-19	12.9	23.2	0	ESE	46
27-02-19	13.6	24.9	0	ESE	46
28-02-19	13.7	23.2	0	ENE	28
01-03-19	13.7	25.1	0	ENE	39
02-03-19	11.5	23.6	0	ENE	35
03-03-19	14.4	24.3	0	WSW	35
04-03-19	16.9	26.1	0	ENE	43
05-03-19	12.8	20.2	14.4	N	67
06-03-19	8.6	10.3	15.4	NNW	67
07-03-19	0.1	17.1	2.4	ESE	35
08-03-19	4.1	18.6	0	WNW	37
09-03-19	10.6	20.6	1.6	WSW	37
10-03-19	12.2	17.8	0	WNW	61
11-03-19	9.1	17.4	5.6	WNW	41
12-03-19	9.2	15.3	0	WNW	48
13-03-19	6.2	16.9	0	NNW	35
14-03-19	7.9	18.2	0	ESE	43
15-03-19	8.1	17.9	0	ESE	76
16-03-19	8.5	18.2	0	ESE	74
17-03-19	9.9	16.8	0	ESE	74
18-03-19	8.7	15.5	0.2	SE	67
19-03-19	11.3	19.2	0.2	ESE	43
20-03-19	11.8	19.8	7.6	ESE	41
21-03-19	12.6	21.5	8	ESE	39
22-03-19	12.8	17.1	4.8	E	37
23-03-19	10.1	16.6	19	N	28
24-03-19	10.5	16.5	0.6	NW	57

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
25-03-19	10.9	11.9	23.2	WNW	74
26-03-19	0.5	9.6	16.4	WSW	50
27-03-19	1.2	16.8	0	ESE	33
28-03-19	8.6	16.4	0	NNW	31
29-03-19	11.2	13.5	0	W	52
30-03-19	5.4	5.5	35.6	W	61
31-03-19	-1.3	7.1	15.4	W	54
01-04-19	-0.3	13.4	0.2	NW	30
02-04-19	6.1	14.8	0	ENE	30
03-04-19	8.9	15.5	0	ESE	48
04-04-19	7.7	10.9	0	ESE	48
05-04-19	8.2	15.6	3.4	E	44
06-04-19	9.5	16.3	0	N	43
07-04-19	8.4	15.3	0	WNW	46
08-04-19	10.2	15	0	WNW	52
09-04-19	6.4	9.6	0	WNW	52
10-04-19	-0.1	11.4	0	ESE	39
11-04-19	3.3	12.8	0	E	30
12-04-19	6.1	13.5	0	WNW	33
13-04-19	7.9	14.1	0	ESE	46
14-04-19	5.3	16.8	0	E	39
15-04-19	7	15.5	0	E	43
16-04-19	9.4	16.5	0	W	28
17-04-19	9.6	16	0	W	28
01-05-19	8.8	11.8	0	NNW	63
02-05-19	8.4	12.8	2.8	N	57
03-05-19	9.7	11.6	42	NW	70
04-05-19	2.7	6.2	2.6	WNW	39
05-05-19	2.3	8.8	0.2	SE	46
06-05-19	1	8.8	0.2	SE	50
07-05-19	1.6	7.1	0	NW	35
08-05-19	0.8	2.6	10.8	WNW	76
09-05-19	0.9	5.3	2.6	W	33
10-05-19	2.1	4.2	0	NW	41
11-05-19	-0.3	5.5	9	SW	35
12-05-19	1.2	7.9	0	SSW	30
13-05-19	1	10.1	0	NNW	20
14-05-19	3.8	10.8	0	W	22
15-05-19	4.9	11.8	0	N	17
16-05-19	5	11.5	0	NNE	20
17-05-19	3.7	10.6	0	W	30

Table D.1 **Weather conditions during surveys for Snowy 2.0**

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	Max wind direction	Max wind speed (km/hr)
18-05-19	5.7	12.3	0	ESE	28
19-05-19	5.6	12.1	0	NNE	28
20-05-19	6.6	11.6	0	NNW	39
21-05-19	7.1	9.9	1.2	NNW	39
22-05-19	6.4	12.9	0	NW	28
23-05-19	6.4	11.8	0	WNW	19
24-05-19	5.2	9.8	0	WNW	30
25-05-19	5.9	10.9	1.2	WNW	76
26-05-19	1.2	4.1	22.8	WNW	72
27-05-19	-2.4	-0.7	11.2	WNW	80
28-05-19	-2.7	1.9	2.2	NW	76
29-05-19	-1.7	-0.8	33	WNW	93
30-05-19	-3.9	0.6	5.8	WNW	31
31-05-19	-3.6	3.6	0.2	SSW	35
16-06-19	0.9	6.5	0	ESE	39
17-06-19	-0.4	7.8	0	ESE	50
18-06-19	1.6	4.6	0	WNW	56
19-06-19	-3	2.5	2.4	NNW	20
20-06-19	-3.5	2.6	0	N	31
21-06-19	-4.7	2.9	0	SE	50
22-06-19	-3.3	3.8	0	SE	57
23-06-19	-2.6	2.6	0	ESE	70
24-06-19	-2	6.6	0	ESE	70
25-06-19	-0.4	8.9	0	ESE	46
26-06-19	1.2	9.7	0	ESE	33

Annexure E

Water Quality Results

E.1 Plateau

The below baseline data has been assigned to one of the following categories:

- **Summer and autumn dry weather conditions** – Streamflow over summer/autumn is proportionally an order of magnitude lower than winter/spring. During dry weather conditions, summer/autumn streamflow is predominantly groundwater fed (ie baseflow). The water quality of summer/autumn streamflow reflects the groundwater origins of the water and generally exhibits higher salinity and carbonate levels than winter/spring streamflow. Minor watercourses with intermittent flow regimes will typically be dry from mid-summer to the end of autumn.
- **Winter and spring dry weather conditions** – Dry weather streamflow during winter/spring is interpreted to be a combination of interflow and groundwater inflows. The water quality generally exhibits lower salinity and carbonate levels than summer/autumn streamflow. Minor watercourses with intermittent flow regimes will typically maintain a constant flow over winter and spring.
- **Wet weather conditions** – Water quality during wet weather conditions is poorly understood, with minimal data collected from watercourses in the plateau.

For further detailed assessment please refer to EMM (2019f).

Table E.1 Baseline water quality results summary: Eucumbene River (PL_SW_003, PL_SW_006, PL_SW_007)

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Field Parameters														
Temperature	°C	-	14/0	9.8	13.3	22.3	18/0	5.4	9.6	13.9	-	-	-	-
Dissolved oxygen	%	90-110 ¹	11/11	69	81	87	13/11	39	69	105	-	-	-	-
Electrical conductivity	µS/cm	30-350 ¹	14/0	36	38	41	18/0	19	30	37	-	-	-	-
pH	-	6.5-8.0 ¹	14/1	6.6	7.3	7.7	17/4	6.4	7.4	7.8	-	-	-	-
Oxidising and reducing potential	-	-	14/0	-14	80	116	17/0	63	99	173	-	-	-	-
Turbidity	NTU	2-25 ¹	12/0	1.1	1.5	2.5	16/0	1.0	1.5	3.2	-	-	-	-
Analytical results – general														
Suspended solids	mg/L	-	14/0	<5	<5	5	18/0	<5	<5	8	-	-	-	-
Total hardness (as CaCO ₃)	mg/L	-	14/0	9	12	16	18/0	4	9	12	-	-	-	-
Total alkalinity (as CaCO ₃)	mg/L	-									-	-	-	-

Table E.1 Baseline water quality results summary: Eucumbene River (PL_SW_003, PL_SW_006, PL_SW_007)

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Analytical results – nutrients														
Ammonia	mg/L	0.013	14/0	<0.01	<0.01	<0.01	18/3	<0.01	<0.01	0.03	-	-	-	-
Oxidised nitrogen	mg/L	0.015	14/9	0.01	0.03	0.05	18/7	<0.01	0.01	0.05	-	-	-	-
Total kjeldahl nitrogen	mg/L	-	14/0	<0.1	<0.1	<0.1	18/0	<0.1	<0.1	<0.1	-	-	-	-
Total nitrogen	mg/L	0.25	14/1	<0.1	<0.1	<0.1	18/0	<0.1	<0.1	<0.1	-	-	-	-
Reactive phosphorus	mg/L	0.015	14/0	<0.01	<0.01	<0.01	18/0	<0.01	<0.01	<0.01	-	-	-	-
Total phosphorus	mg/L	0.020	14/2	<0.01	<0.01	0.04	18/1	<0.01	<0.01	0.01	-	-	-	-
Total organic carbon	mg/L	-	14/0	<1	<1	2	18/0	<1	1	2	-	-	-	-
Dissolved organic carbon	mg/L	-	14/0	<1	1	2	18/0	<1	1	3	-	-	-	-
Analytical results – inorganics														
Cyanide	mg/L	0.004	12/0	<0.004	<0.004	<0.004	12/0	<0.004	<0.004	<0.004	-	-	-	-

Table E.1 Baseline water quality results summary: Eucumbene River (PL_SW_003, PL_SW_006, PL_SW_007)

	Unit	Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions				
		WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	
Analytical results – metals (dissolved)															
Aluminium (Al)	mg/L	0.027	14/4	0.01	0.02	0.03	18/5	0.01	0.02	0.03	-	-	-	-	
Arsenic (As)	mg/L	0.0008 ^{2,6}	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-	
Barium (Ba)	mg/L	-	14/0	0.002	0.003	0.004	18/0	0.002	0.003	0.008	-	-	-	-	
Beryllium (Be)	mg/L	-	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-	
Boron (B)	mg/L	0.09	14/1	<0.05	<0.05	<0.05	18/0	<0.05	<0.05	<0.05	-	-	-	-	
Cadmium (Cd)	mg/L	0.00006 ⁶	14/0	<0.0001	<0.0001	<0.0001	18/0	<0.0001	<0.0001	<0.0001	-	-	-	-	
Total chromium (Cr)	mg/L	0.00001 ^{3,6}	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-	
Cobalt (Co)	mg/L	0.0014 ⁴	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-	
Copper (Cu)	mg/L	0.001	14/1	<0.001	<0.001	0.001	18/0	<0.001	<0.001	0.001	-	-	-	-	
Iron (Fe)	mg/L	0.3 ⁴	14/0	<0.05	0.06	0.09	18/0	<0.05	<0.05	0.05	-	-	-	-	
Lead (Pb)	mg/L	0.001	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-	
Manganese (Mn)	mg/L	1.2	14/0	0.002	0.004	0.006	18/0	<0.001	0.002	0.004	-	-	-	-	
Mercury (Hg)	mg/L	0.00006 ⁶	14/0	<0.0001	<0.0001	<0.0001	18/0	<0.0001	<0.0001	<0.0001	-	-	-	-	
Nickel (Ni)	mg/L	0.008	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-	
Selenium (Se)	mg/L	0.005 ⁶	14/0	<0.01	<0.01	<0.01	18/0	<0.01	<0.01	<0.01	-	-	-	-	

Table E.1 Baseline water quality results summary: Eucumbene River (PL_SW_003, PL_SW_006, PL_SW_007)

	Unit	Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
		WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Silver (Ag)	mg/L	0.00002 ⁶	14/0	<0.001	<0.001	<0.001	18/0	<0.001	<0.001	<0.001	-	-	-	-
Vanadium (V)	mg/L	0.006 ^{4,6}	14/0	<0.01	<0.01	<0.01	18/0	<0.01	<0.01	<0.01	-	-	-	-
Zinc (Zn)	mg/L	0.0024 ⁶	14/0	<0.005	<0.005	<0.005	18/3	<0.005	<0.005	0.006	-	-	-	-

Notes:

1. The WQO values for field parameters and nutrients refer to the WQO values for physical and chemical stressors in south-east Australia (upland river) that are reported in Tables 3.3.2 and 3.3.3 of ANZECC/ARMCANZ (2000). Toxicant trigger values are for the protection of 99% of aquatic species.
2. For As (V).
3. For Cr (VI).
4. Refers to a low reliability WQO value.
5. If less than 10 samples are available, the minimum value is reported instead of the 10th percentile value and the maximum value is reported instead of the 90th percentile value.
6. Denotes WQO lower than Limit of Reporting (LOR) (or laboratory detection limits). Exceedances below LOR are not identified in the baseline data.
7. An exceedance refers to any result that is above detection limit and exceeds the WQO value. Where a range is given for the WQO value, exceedances are determined in relation to the upper limit for turbidity and electrical conductivity, the lower limit for dissolved oxygen and the lower and upper limit for pH.
8. Where more than one LOR has been used in the reporting of an analyte, the lowest and highest LOR are considered in calculating 10th percentile, median and 90th percentile values.

Bold denotes WQO value is exceeded.

E.2 Ravine

The below baseline data has been assigned to one of the following categories:

- **Summer and autumn dry weather conditions** – Streamflow over summer/autumn is proportionally an order of magnitude lower than winter/spring. During dry weather conditions, summer/autumn streamflow is predominantly groundwater fed (ie baseflow). The water quality of summer/autumn streamflow reflects the groundwater origins of the water and generally exhibits higher salinity and carbonate levels than winter baseflow. Minor watercourses with intermittent flow regimes will typically be dry from mid-summer to the end of autumn.
- **Winter and spring dry weather conditions** – Dry weather streamflow during winter/spring is interpreted to be a combination of interflow and groundwater inflows. The water quality generally exhibits lower salinity and carbonate levels than summer/autumn streamflow. Minor watercourses with intermittent flow regimes will typically maintain a constant streamflow over winter/spring.
- **Wet weather conditions** – Water quality during wet weather conditions is poorly understood, with data from only two sampling rounds available since the commencement of sampling in 2018.

For further detailed assessment please refer to EMM (2019f).

Table E.4 Baseline water quality results summary: Yarrangobilly River (PN_SW_001, LH_SW_004, LH_SW_006, LH_SW_007)

Summer/autumn dry weather conditions							Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Field Parameters														
Temperature	°C	-	27/0	13.4	20.9	23.6	31/0	4.0	9.3	18.7	5/0	14.5	15.8	17.8
Dissolved oxygen	%	90-110 ¹	27/22	39	78	93	31/21	2	77	112	5/4	0	61	92
Electrical conductivity	µS/cm	30-350 ¹	27/0	66	160	187	31/0	26	70	109	5/0	89	116	155
pH	-	6.5-8.0 ¹	27/15	7.5	8.0	8.5	31/11	7.1	7.8	8.2	5/1	6.2	7.3	7.9
Oxidising and reducing potential	-	-	27/0	-20	108	149	27/0	51	164	210	5/0	78	96	157
Turbidity	NTU	2-25 ¹	23/0	0.0	0.4	1.7	21/0	0.8	1.6	4.4	5/1	6.4	13.7	42.1
Analytical results – general														
Suspended solids	mg/L	-	27/0	<2 ⁸	<5 ⁸	5	31/0	<5	<5	<5	5/0	<5	10	148
Total hardness (as CaCO ₃)	mg/L	-	20/0	22	75	88	31/0	7	32	53	5/0	43	51	78
Total alkalinity (as CaCO ₃)	mg/L	-	7/0	29	86	109	1/0	16	16	16	-	-	-	-
Analytical results – nutrients														
Ammonia	mg/L	0.013	27/2	<0.01 ⁸	<0.01 ⁸	<0.1 ⁸	30/7	<0.01	<0.01	0.02	5/0	<0.01	<0.01	<0.01
Oxidised nitrogen	mg/L	0.015	23/14	<0.01	0.02	0.05	31/11	<0.01	<0.01	0.03	5/1	<0.01	<0.01	0.03
Total kjeldahl nitrogen	mg/L	-	23/0	<0.1	<0.1	<0.1	30/0	<0.1	<0.1	0.1	5/0	<0.1	0.1	2.1
Total nitrogen	mg/L	0.25	27/1	<0.1	<0.1	0.1	30/0	<0.1	<0.1	0.1	5/2	<0.1	0.1	2.1

Table E.4 Baseline water quality results summary: Yarrangobilly River (PN_SW_001, LH_SW_004, LH_SW_006, LH_SW_007)

	Unit	WQO value ¹	Summer/autumn dry weather conditions				Winter/spring dry weather conditions				Wet weather conditions			
			# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Reactive phosphorus	mg/L	0.015	20/0	<0.01	<0.01	<0.01	31/1	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01
Total phosphorus	mg/L	0.020	27/1	<0.01	<0.01	0.01	30/1	<0.01	<0.01	0.01	5/2	<0.01	0.02	0.20
Total organic carbon	mg/L	-	20/0	1	2	7	30/0	<1	2	3	5/0	2	2	4
Dissolved organic carbon	mg/L	-	20/0	<1	2	2	30/0	1	2	5	5/0	2	3	4
Analytical results – inorganics														
Cyanide	mg/L	0.004	16/0	<0.004	<0.004	<0.004	16/0	<0.004	<0.004	<0.004	5/0	<0.004	<0.004	<0.004
Analytical results – metals (dissolved)														
Aluminium (Al)	mg/L	0.027	20/5	<0.01	<0.01	0.04	30/19	0.01	0.03	0.11	5/0	<0.01	<0.01	0.01
Arsenic (As)	mg/L	0.0008 ^{2,6}	20/0	<0.001	<0.001	<0.001	30/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001
Barium (Ba)	mg/L	-	20/0	0.018	0.026	0.036	30/0	0.011	0.016	0.026	5/0	0.013	0.024	0.029
Beryllium (Be)	mg/L	-	20/0	<0.001	<0.001	<0.001	30/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001
Boron (B)	mg/L	0.09	20/0	<0.05	<0.05	<0.05	30/0	<0.05	<0.05	<0.05	5/0	<0.05	<0.05	<0.05
Cadmium (Cd)	mg/L	0.00006 ⁶	20/0	<0.0001	<0.0001	<0.0001	30/0	<0.0001	<0.0001	<0.0001	5/0	<0.0001	<0.0001	<0.0001
Total chromium (Cr)	mg/L	0.00001 ^{3,6}	20/1	<0.001	<0.001	<0.001	30/1	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001
Cobalt (Co)	mg/L	0.0014 ⁴	20/0	<0.001	<0.001	<0.001	30/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001
Copper (Cu)	mg/L	0.001	20/0	<0.001	<0.001	<0.001	30/2	<0.001	<0.001	0.001	5/5	0.002	0.006	0.027
Iron (Fe)	mg/L	0.3 ⁴	20/0	<0.05	<0.05	0.08	30/0	<0.05	<0.05	0.07	5/0	<0.05	<0.05	<0.05
Lead (Pb)	mg/L	0.001	20/0	<0.001	<0.001	<0.001	30/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001

Table E.4 Baseline water quality results summary: Yarrangobilly River (PN_SW_001, LH_SW_004, LH_SW_006, LH_SW_007)

	Unit	Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
		WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Manganese (Mn)	mg/L	1.2	20/0	<0.001	0.002	0.002	30/0	<0.001	0.001	0.002	5/0	0.002	0.004	0.006
Mercury (Hg)	mg/L	0.00006 ⁶	20/0	<0.0001	<0.0001	<0.0001	30/0	<0.0001	<0.0001	<0.0001	5/0	<0.0001	<0.0001	<0.0001
Nickel (Ni)	mg/L	0.008	20/0	<0.001	<0.001	<0.001	30/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001
Selenium (Se)	mg/L	0.005 ⁶	20/0	<0.01	<0.01	<0.01	30/0	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01
Silver (Ag)	mg/L	0.00002 ⁶	20/0	<0.001	<0.001	<0.001	30/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001
Vanadium (V)	mg/L	0.006 ^{4,6}	20/0	<0.01	<0.01	<0.01	30/0	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01
Zinc (Zn)	mg/L	0.0024 ⁶	20/0	<0.005	<0.005	<0.005	30/7	<0.005	<0.005	0.006	5/2	<0.005	<0.005	0.006

- Notes:
1. The WQO values for field parameters and nutrients refer to the WQO values for physical and chemical stressors in south-east Australia (upland river) that are reported in Tables 3.3.2 and 3.3.3 of ANZECC/ARMCANZ (2000). Toxicant trigger values are for the protection of 99% of aquatic species.
 2. For As (V).
 3. For Cr (VI).
 4. Refers to a low reliability WQO value.
 5. If less than 10 samples are available, the minimum value is reported instead of the 10th percentile value and the maximum value is reported instead of the 90th percentile value.
 6. Denotes WQO lower than Limit of Reporting (LOR) (or laboratory detection limits). Exceedances below LOR are not identified in the baseline data.
 7. An exceedance refers to any result that is above detection limit and exceeds the WQO value. Where a range is given for the WQO value, exceedances are determined in relation to the upper limit for turbidity and electrical conductivity, the lower limit for dissolved oxygen and the lower and upper limit for pH.
 8. Where more than one LOR has been used in the reporting of an analyte, the lowest and highest LOR are considered in calculating 10th percentile, median and 90th percentile values.
- Bold** denotes WQO value is exceeded.

Table E.5 Baseline water quality results summary: Wallace's Creek (LH_SW_001, LH_SW_002, LH_SW_003)

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Field Parameters														
Temperature	°C	-	9/0	13.0	14.6	19.4	10/0	3.5	6.4	13.6	-	-	-	-
Dissolved oxygen	%	90-110 ¹	8/7	72	80	92	10/7	62	77	105	-	-	-	-
Electrical conductivity	µS/cm	30-350 ¹	9/0	65	163	185	10/0	36	64	89	-	-	-	-
pH	-	6.5-8.0 ¹	9/2	6.2	7.5	8.4	10/1	6.8	7.8	8.0	-	-	-	-
Oxidising and reducing potential	-	-	9/0	12	101	167	9/0	-19	170	210	-	-	-	-
Turbidity	NTU	2-25 ¹	7/0	0.2	0.4	0.7	7/1	0.1	1.3	152.0	-	-	-	-
Analytical results – general														
Suspended solids	mg/L	-	9/0	<2 ⁸	<5 ⁸	5	10/0	<5	<5	<5	-	-	-	-
Total hardness (as CaCO ₃)	mg/L	-	6/0	42	67	94	10/0	16	28	55	-	-	-	-
Total alkalinity (as CaCO ₃)	mg/L	-	3/0	38	99	104	-	-	-	-	-	-	-	-
Analytical results – nutrients														
Ammonia	mg/L	0.013	9/0	<0.01 ⁸	<0.01 ⁸	<0.1 ⁸	10/1	<0.01	<0.01	0.01	-	-	-	-
Oxidised nitrogen	mg/L	0.015	6/3	<0.01	0.02	0.04	10/3	<0.01	<0.01	0.02	-	-	-	-
Total kjeldahl nitrogen	mg/L	-	6/0	<0.1	<0.1	<0.1	10/0	<0.1	<0.1	0.1	-	-	-	-
Total nitrogen	mg/L	0.25	9/0	<0.05 ⁸	<0.1 ⁸	0.15	10/1	<0.1	<0.1	0.1	-	-	-	-
Reactive phosphorus	mg/L	0.015	6/0	<0.01	<0.01	<0.01	10/2	<0.01	<0.01	0.02	-	-	-	-

Table E.5 Baseline water quality results summary: Wallace's Creek (LH_SW_001, LH_SW_002, LH_SW_003)

	Unit	Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
		WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Total phosphorus	mg/L	0.020	9/0	<0.01	0.01	0.02	10/0	<0.01	<0.01	0.02	-	-	-	-
Total organic carbon	mg/L	-	6/0	<1	2	25	10/0	<1	1	2	-	-	-	-
Dissolved organic carbon	mg/L	-	6/0	1	1	2	10/0	1	2	4	-	-	-	-
Analytical results – inorganics														
Cyanide	mg/L	0.004	4/0	<0.004	<0.004	<0.004	4/0	<0.004	<0.004	<0.004	-	-	-	-
Analytical results – metals (dissolved)														
Aluminium (Al)	mg/L	0.027	6/0	<0.01	<0.01	<0.01	10/0	<0.01	<0.01	0.02	-	-	-	-
Arsenic (As)	mg/L	0.0008 ^{2,6}	6/0	<0.001	<0.001	<0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Barium (Ba)	mg/L	-	6/0	0.060	0.082	0.106	10/0	0.029	0.044	0.057	-	-	-	-
Beryllium (Be)	mg/L	-	6/0	<0.001	<0.001	<0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Boron (B)	mg/L	0.09	6/0	<0.05	<0.05	<0.05	10/0	<0.05	<0.05	<0.05	-	-	-	-
Cadmium (Cd)	mg/L	0.00006 ⁶	6/0	<0.0001	<0.0001	<0.0001	10/0	<0.0001	<0.0001	<0.0001	-	-	-	-
Total chromium (Cr)	mg/L	0.00001 ^{3,6}	6/0	<0.001	<0.001	<0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Cobalt (Co)	mg/L	0.0014 ⁴	6/0	<0.001	<0.001	<0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Copper (Cu)	mg/L	0.001	6/1	<0.001	<0.001	0.003	10/2	<0.001	<0.001	0.002	-	-	-	-
Iron (Fe)	mg/L	0.3 ⁴	6/0	<0.05	<0.05	<0.05	10/0	<0.05	<0.05	0.06	-	-	-	-
Lead (Pb)	mg/L	0.001	6/0	<0.001	<0.001	<0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Manganese (Mn)	mg/L	1.2	6/0	0.001	0.002	0.002	10/0	<0.001	<0.001	0.001	-	-	-	-
Mercury (Hg)	mg/L	0.00006 ⁶	6/0	<0.0001	<0.0001	<0.0001	10/0	<0.0001	<0.0001	<0.0001	-	-	-	-

Table E.5 Baseline water quality results summary: Wallace's Creek (LH_SW_001, LH_SW_002, LH_SW_003)

	Unit	Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
		WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Nickel (Ni)	mg/L	0.008	6/0	<0.001	<0.001	0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Selenium (Se)	mg/L	0.005 ⁶	6/0	<0.01	<0.01	<0.01	10/0	<0.01	<0.01	<0.01	-	-	-	-
Silver (Ag)	mg/L	0.00002 ⁶	6/0	<0.001	<0.001	<0.001	10/0	<0.001	<0.001	<0.001	-	-	-	-
Vanadium (V)	mg/L	0.006 ^{4,6}	6/0	<0.01	<0.01	<0.01	10/0	<0.01	<0.01	<0.01	-	-	-	-
Zinc (Zn)	mg/L	0.0024 ⁶	6/1	<0.005	<0.005	0.006	10/3	<0.005	<0.005	0.008	-	-	-	-

Table E.6 Baseline water quality results summary: Lick Hole Gully (LH_SW_005)

Summer/autumn dry weather conditions							Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Field Parameters														
Temperature	°C	-	1/0	16.9	16.9	16.9	5/0	8.6	13.2	13.9	1/0	16.7	16.7	16.7
Dissolved oxygen	%	90-110 ¹	1/1	60	60	60	5/5	48	62	70	1/1	1	1	1
Electrical conductivity	µS/cm	30-350 ¹	1/1	801	801	801	5/5	403	640	814	1/1	783	783	783
pH	-	6.5-8.0 ¹	1/0	7.8	7.8	7.8	5/0	7.1	7.5	7.8	1/0	6.8	6.8	6.8
Oxidising and reducing potential	-	-	1/0	136	136	136	4/0	131	159	221	1/0	116	116	116
Turbidity	NTU	2-25 ¹	1/1	198.0	198.0	198.0	3/1	0.4	3.4	73.4	1/0	0.7	0.7	0.7

Table E.6 **Baseline water quality results summary: Lick Hole Gully (LH_SW_005)**

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Analytical results – general														
Suspended solids	mg/L	-	1/0	172	172	172	5/0	<5	12	168	1/0	5	5	5
Total hardness (as CaCO ₃)	mg/L	-	1/0	474	474	474	5/0	305	310	497	1/0	402	402	402
Total alkalinity (as CaCO ₃)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical results – nutrients														
Ammonia	mg/L	0.013	1/0	<0.01	<0.01	<0.01	5/2	<0.01	<0.01	0.02	1/0	<0.01	<0.01	<0.01
Oxidised nitrogen	mg/L	0.015	1/0	<0.01	<0.01	<0.01	5/2	<0.01	0.01	0.11	1/0	<0.01	<0.01	<0.01
Total kjeldahl nitrogen	mg/L	-	1/0	0.4	0.4	0.4	5/0	<0.1	<0.1	0.2	1/0	0.2	0.2	0.2
Total nitrogen	mg/L	0.25	1/1	0.4	0.4	0.4	5/0	<0.1	0.1	0.2	1/0	0.2	0.2	0.2
Reactive phosphorus	mg/L	0.015	1/0	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01	1/0	<0.01	<0.01	<0.01
Total phosphorus	mg/L	0.020	1/1	0.16	0.16	0.16	5/1	<0.01	<0.01	0.08	1/0	<0.01	<0.01	<0.01
Total organic carbon	mg/L	-	1/0	3	3	3	5/0	<1	1	2	1/0	3	3	3
Dissolved organic carbon	mg/L	-	1/0	3	3	3	5/0	<1	2	5	1/0	5	5	5

Table E.6 Baseline water quality results summary: Lick Hole Gully (LH_SW_005)

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Analytical results – inorganics														
Cyanide	mg/L	0.004	1/0	<0.004	<0.004	<0.004	3/0	<0.004	<0.004	<0.004	1/0	<0.004	<0.004	<0.004
Analytical results – metals (dissolved)														
Aluminium (Al)	mg/L	0.027	1/0	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01	1/0	<0.01	<0.01	<0.01
Arsenic (As)	mg/L	0.0008 ^{2,6}	1/0	<0.001	<0.001	<0.001	5/1	<0.001	<0.001	0.001	1/0	<0.001	<0.001	<0.001
Barium (Ba)	mg/L	-	1/0	0.153	0.153	0.153	5/0	0.108	0.116	0.128	1/0	0.113	0.113	0.113
Beryllium (Be)	mg/L	-	1/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001	1/0	<0.001	<0.001	<0.001
Boron (B)	mg/L	0.09	1/0	<0.05	<0.05	<0.05	5/0	<0.05	<0.05	<0.05	1/0	<0.05	<0.05	<0.05
Cadmium (Cd)	mg/L	0.00006 ⁶	1/0	<0.0001	<0.0001	<0.0001	5/0	<0.0001	<0.0001	<0.0001	1/0	<0.0001	<0.0001	<0.0001
Total chromium (Cr)	mg/L	0.00001 ^{3,6}	1/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001	1/0	<0.001	<0.001	<0.001
Cobalt (Co)	mg/L	0.0014 ⁴	1/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001	1/0	<0.001	<0.001	<0.001
Copper (Cu)	mg/L	0.001	1/1	0.011	0.011	0.011	5/5	0.002	0.003	0.008	1/1	0.010	0.010	0.010
Iron (Fe)	mg/L	0.3 ⁴	1/0	<0.05	<0.05	<0.05	5/0	<0.05	<0.05	<0.05	1/0	<0.05	<0.05	<0.05
Lead (Pb)	mg/L	0.001	1/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001	1/0	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	1.2	1/0	0.009	0.009	0.009	5/0	0.002	0.002	0.015	1/0	0.002	0.002	0.002
Mercury (Hg)	mg/L	0.00006 ⁶	1/0	<0.0001	<0.0001	<0.0001	5/0	<0.0001	<0.0001	<0.0001	1/0	<0.0001	<0.0001	<0.0001
Nickel (Ni)	mg/L	0.008	1/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	0.002	1/0	0.002	0.002	0.002
Selenium (Se)	mg/L	0.005 ⁶	1/0	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01	1/0	<0.01	<0.01	<0.01
Silver (Ag)	mg/L	0.00002 ⁶	1/0	<0.001	<0.001	<0.001	5/0	<0.001	<0.001	<0.001	1/0	<0.001	<0.001	<0.001
Vanadium (V)	mg/L	0.006 ^{4,6}	1/0	<0.01	<0.01	<0.01	5/0	<0.01	<0.01	<0.01	1/0	<0.01	<0.01	<0.01
Zinc (Zn)	mg/L	0.0024 ⁶	1/0	<0.005	<0.005	<0.005	5/1	<0.005	<0.005	0.006	1/1	0.006	0.006	0.006

Notes: 1. The WQO values for field parameters and nutrients refer to the WQO values for physical and chemical stressors in south-east Australia (upland river) that are reported in Tables 3.3.2 and 3.3.3 of ANZECC/ARMCANZ (2000). Toxicant trigger values are for the protection of 99% of aquatic species.

2. For As (V).
 3. For Cr (VI).
 4. Refers to a low reliability WQO value.
 5. If less than 10 samples are available, the minimum value is reported instead of the 10th percentile value and the maximum value is reported instead of the 90th percentile value.
 6. Denotes WQO lower than Limit of Reporting (LOR) (or laboratory detection limits). Exceedances below LOR are not identified in the baseline data.
 7. An exceedance refers to any result that is above detection limit and exceeds the WQO value. Where a range is given for the WQO value, exceedances are determined in relation to the upper limit for turbidity and electrical conductivity, the lower limit for dissolved oxygen and the lower and upper limit for pH.
- Bold** denotes WQO value is exceeded.

Table E.7 **Baseline water quality results summary: Minor watercourses (LH_SW_008, LH_SW_009)**

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Field Parameters														
Temperature	°C	-	3/0	12.4	14.0	21.3	7/0	8.4	11.1	20.5	2/0	14.0	14.3	14.5
Dissolved oxygen	%	90-110 ¹	3/3	39	39	45	7/7	35	63	75	2/2	57	58	59
Electrical conductivity	µS/cm	30-350 ¹	3/0	79	87	107	7/0	42	63	83	2/0	70	72	74
pH	-	6.5-8.0 ¹	3/1	6.7	7.8	8.3	7/1	6.5	7.1	7.9	2/0	7.1	7.4	7.7
Oxidising and reducing potential	-	-	3/0	113	118	162	6/0	151	179	223	2/0	165	169	173
Turbidity	NTU	2-25 ¹	3/0	0.1	0.4	1.0	7/0	0.2	0.9	5.7	2/0	5.2	5.7	6.3
Analytical results – general														
Suspended solids	mg/L	-	3/0	<5	<5	5	7/0	<5	<5	8	2/0	<5	<5	<5
Total hardness (as CaCO ₃)	mg/L	-	3/0	35	39	45	7/0	21	28	39	2/0	28	29	30
Total alkalinity (as CaCO ₃)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E.7 Baseline water quality results summary: Minor watercourses (LH_SW_008, LH_SW_009)

		Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
	Unit	WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Analytical results – nutrients														
Ammonia	mg/L	0.013	3/0	<0.01	<0.01	<0.01	7/3	<0.01	0.01	0.03	2/0	<0.01	<0.01	<0.01
Oxidised nitrogen	mg/L	0.015	3/0	<0.01	<0.01	<0.01	7/0	<0.01	<0.01	0.01	2/0	<0.01	<0.01	<0.01
Total kjeldahl nitrogen	mg/L	-	3/0	<0.1	<0.1	<0.1	7/0	<0.1	<0.1	2.4	2/0	0.3	0.3	0.3
Total nitrogen	mg/L	0.25	3/0	<0.1	<0.1	<0.1	7/1	<0.1	<0.1	2.4	2/2	0.3	0.3	0.3
Reactive phosphorus	mg/L	0.015	3/0	<0.01	<0.01	<0.01	7/0	<0.01	<0.01	<0.01	2/0	<0.01	<0.01	<0.01
Total phosphorus	mg/L	0.020	3/2	<0.01	0.04	0.06	7/1	<0.01	<0.01	1.12	2/1	0.02	0.03	0.03
Total organic carbon	mg/L	-	3/0	<1	<1	1	7/0	<1	<1	2	2/0	7	8	8
Dissolved organic carbon	mg/L	-	3/0	1	1	1	7/0	<1	2	5	2/0	7	8	8
Analytical results – inorganics														
Cyanide	mg/L	0.004	3/0	<0.004	<0.004	<0.004	5/0	<0.004	<0.004	<0.004	2/0	<0.004	<0.004	<0.004
Analytical results – metals (dissolved)														
Aluminium (Al)	mg/L	0.027	3/0	<0.01	<0.01	<0.01	7/1	<0.01	0.02	0.10	2/2	0.10	0.14	0.17
Arsenic (As)	mg/L	0.0008 ^{2,6}	3/0	<0.001	<0.001	<0.001	7/1	<0.001	<0.001	0.002	2/0	<0.001	<0.001	<0.001
Barium (Ba)	mg/L	-	3/0	0.014	0.015	0.020	7/0	0.010	0.011	0.017	2/0	0.012	0.013	0.013
Beryllium (Be)	mg/L	-	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	<0.001	2/0	<0.001	<0.001	<0.001
Boron (B)	mg/L	0.09	3/0	<0.05	<0.05	<0.05	7/0	<0.05	<0.05	<0.05	2/0	<0.05	<0.05	<0.05
Cadmium (Cd)	mg/L	0.00006 ⁶	3/0	<0.0001	<0.0001	<0.0001	7/0	<0.0001	<0.0001	<0.0001	2/0	<0.0001	<0.0001	<0.0001

Table E.7 Baseline water quality results summary: Minor watercourses (LH_SW_008, LH_SW_009)

	Unit	Summer/autumn dry weather conditions					Winter/spring dry weather conditions				Wet weather conditions			
		WQO value ¹	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵	# Samples/ exceedances ⁷	Min/10P ⁵	Median	Max/90P ⁵
Total chromium (Cr)	mg/L	0.00001 ^{3,6}	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	<0.001	2/0	<0.001	<0.001	<0.001
Cobalt (Co)	mg/L	0.0014 ⁴	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	<0.001	2/0	<0.001	<0.001	<0.001
Copper (Cu)	mg/L	0.001	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	0.001	2/0	<0.001	<0.001	<0.001
Iron (Fe)	mg/L	0.3 ⁴	3/0	<0.05	<0.05	<0.05	7/0	<0.05	<0.05	0.06	2/0	0.14	0.18	0.21
Lead (Pb)	mg/L	0.001	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	<0.001	2/0	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	1.2	3/0	<0.001	<0.001	0.020	7/0	<0.001	<0.001	0.001	2/0	0.002	0.002	0.002
Mercury (Hg)	mg/L	0.00006 ⁶	3/0	<0.0001	<0.0001	<0.0001	7/0	<0.0001	<0.0001	<0.0001	2/0	<0.0001	<0.0001	<0.0001
Nickel (Ni)	mg/L	0.008	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	0.002	2/0	<0.001	<0.001	<0.001
Selenium (Se)	mg/L	0.005 ⁶	3/0	<0.01	<0.01	<0.01	7/0	<0.01	<0.01	<0.01	2/0	<0.01	<0.01	<0.01
Silver (Ag)	mg/L	0.00002 ⁶	3/0	<0.001	<0.001	<0.001	7/0	<0.001	<0.001	<0.001	2/0	<0.001	<0.001	<0.001
Vanadium (V)	mg/L	0.006 ^{4,6}	3/0	<0.01	<0.01	<0.01	7/0	<0.01	<0.01	<0.01	2/0	<0.01	<0.01	<0.01
Zinc (Zn)	mg/L	0.0024 ⁶	3/0	<0.005	<0.005	<0.005	7/0	<0.005	<0.005	<0.005	2/0	<0.005	<0.005	<0.005

Notes:

1. The WQO values for field parameters and nutrients refer to the WQO values for physical and chemical stressors in south-east Australia (upland river) that are reported in Tables 3.3.2 and 3.3.3 of ANZECC/ARMCANZ (2000). Toxicant trigger values are for the protection of 99% of aquatic species.
2. For As (V).
3. For Cr (VI).
4. Refers to a low reliability WQO value.
5. If less than 10 samples are available, the minimum value is reported instead of the 10th percentile value and the maximum value is reported instead of the 90th percentile value.
6. Denotes WQO lower than Limit of Reporting (LOR) (or laboratory detection limits). Exceedances below LOR are not identified in the baseline data.
7. An exceedance refers to any result that is above detection limit and exceeds the WQO value. Where a range is given for the WQO value, exceedances are determined in relation to the upper limit for turbidity and electrical conductivity, the lower limit for dissolved oxygen and the lower and upper limit for pH.

Bold denotes WQO value is exceeded.

Annexure F

Baseline Stygofauna Assessment

Snowy 2.0 Project

Baseline Stygofauna Study



PREPARED FOR



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Table of Contents

Glossary	2
Summary	3
Acknowledgements	4
Project scope	5
Objective	5
Background	6
Overview of groundwater ecosystems	6
Aquifers of the Snowy 2.0 Project area	7
Methods	9
Sampling locations	9
Aquifer sampling	9
Alpine bog and fen sampling	9
Sample collection and processing	11
eDNA analysis	12
Results	15
Fractured rock aquifers	15
Alpine bogs and fens	16
Aquifer eDNA analysis	18
Discussion	23
Threats of change to groundwater levels	25
Conclusion and recommendations	26
Reference List	27
Appendices	30
Appendix 1. List of primers and tags used to mark samples for eDNA sequencing.	30
Appendix 2. Images of selected invertebrates	32
Appendix 3. Nearest match for sequenced 18S OTUs in Genbank	34
Appendix 4. Nearest match for sequenced CO1 OTUs in Genbank	35

Cover Photo: Kathryn Korbel

Glossary

18S rDNA	18S ribosomal DNA is the DNA sequence of eukaryotic genome that encodes small subunit RNA in the ribosome of the cell. 18S rDNA is applied in the classification above species level.
Alpine bogs and fens	Wetlands occurring in the Snowy Mountains region in which saturated sediments give rise to peat formation.
CO1	Mitochondrial Cytochrome Oxidase 1 (CO1) gene. CO1 is a gene that is often used as a DNA barcode to identify animal species and can distinguish closely related species.
eDNA	Environmental DNA - DNA isolated directly from an environmental sample (e.g. sediment, soil, water).
EIS	Environmental Impact Statement
GDE	Groundwater Dependent Ecosystem
Metazoan	Multi-celled animal
OEHS	Office of Environment and Heritage (NSW)
OTU	Operational Taxonomic Unit - a label for similar or related taxa based on DNA sequence similarity of a specific taxonomic marker gene.
PCR	Polymerase chain reactions - The sequence of chemical reactions to generate many copies of targeted pieces of DNA
Stygobiont	A species strongly bound to groundwater habitats and typically adapted morphologically to the groundwater environment (adj. Stygobiotic)
Stygofauna	Collective term for any fauna that live in groundwater systems

Summary

Snowy Hydro Limited is proposing to build the Snowy 2.0 Project to increase the hydro power generation capacity of the Snowy Hydro scheme. EMM Consulting is preparing the Main Works Environmental Impact Statement (EIS) and supporting technical studies. As part of the consultation process for the Project, the NSW Office of Environment and Heritage (OEH) requested a baseline stygofauna study be completed in this unique alpine area.

In November 2018, EMM engaged Macquarie University to undertake a baseline stygofauna study, involving field sampling in the shallow and deep fractured rock aquifers and alpine bogs and fens across the Snowy 2.0 Project area, to provide a baseline on the presence or absence of stygofauna. A total of 11 monitoring bores accessing fractured rock aquifers and five drive point piezometers accessing alpine bogs and fens were sampled and analysed using traditional counts and morphological identifications, as well as analyses of environmental DNA (eDNA) derived from water samples.

Morphological analyses identified harpacticoid copepods in the Gooandra Volcanics aquifer that are likely to be obligate groundwater invertebrates (stygobionts). These are also likely to be new, undescribed taxa. Seven other taxa were identified from other aquifers and alpine bog and fen locations but it is unclear whether these are stygobiotic. The eDNA identified an ostracod (Cyprididae) in both the Gooandra Volcanics and adjoining Ravine formation, and a number of other metazoan taxa, many of which are likely to be surface species or taxa common in groundwater but not specifically adapted to the groundwater environment. Likely stygobiotic copepods and potentially stygobiotic ostracods were found in two of the five alpine bogs and fens sampled.

As a baseline stygofauna study, this sampling has identified the occurrence of obligate groundwater invertebrates in the fractured rock aquifers and colluvial aquifers associated with the alpine bogs and fens of the Snowy 2.0 Project area. Importantly, the sampling program has not been exhaustive and further sampling is needed before definitive statements of the absence of stygofauna in certain areas (or beyond certain depths) can be made.

Acknowledgements

This report was prepared by Prof Grant Hose. Aquifer sampling was undertaken by Dr Kathryn Korbel and Tess Nelson. Aquifer sample processing was done by Dr Kathryn Korbel with QA/QC by Grant Hose. Alpine bog and fen samples were collected by EMM staff and processed by Grant Hose. Grant Hose identified, enumerated and photographed the specimens found. Environmental DNA (eDNA) samples were collected by Dr Kathryn Korbel and Tess Nelson. eDNA extraction and amplification was done by Dr Ammara Sajjad. Bioinformatic processing of eDNA sequence data was done by Dr Anthony Chariton.

Project scope

Snowy Hydro Limited is proposing to build the Snowy 2.0 Project to increase the hydro power generation capacity of the Snowy Hydro scheme in the area north of Cabramurra in the Snowy Mountains between Tantangara Reservoir in the east and Talbingo Reservoir in the west. EMM Consulting is responsible for all the environmental and water studies for the Snowy 2.0 environmental impact statement (EIS) and has just completed evaluating the submissions on the Exploratory Works EIS. As part of the consultation process for the Project, the NSW OEH requested a baseline stygofauna study be completed in this unique alpine area.

In November 2018, EMM engaged Macquarie University to undertake field sampling and to provide a baseline report on the presence or absence of stygofauna in the shallow and deep fractured rock aquifers and alpine bogs and fens across the Snowy 2.0 Project area.

EMM identified and provided a list of 16 sites from which they requested samples to be collected. These include existing monitoring bores accessing fractured rock aquifers at various depths and in different lithologies, as well as alpine swamps.

Objective

The objective of the sampling program was to determine the presence or absence of stygofauna in aquifers and alpine bogs and fens associated with the Snowy 2.0 Project.

Background

Aquifers across Australia can support a diverse range of surface and subsurface ecosystems that are groundwater dependent. Surface groundwater dependent ecosystems (GDEs) include the red gum forests of the Murray River flood plain, the artesian mound springs in the central arid zone of Australia, and peat swamps along the Great Dividing Range. In subsurface GDEs, the presence of groundwater creates unique environments, inhabited by potentially diverse subterranean fauna communities, containing species (referred to as stygofauna) not found in surface water environments. All of these above and below ground systems depend on groundwater to maintain the structure and function of the ecosystem.

Changes to the availability and quality of groundwater resulting from surface activities, changes in aquifer recharge or water losses from an aquifer due to groundwater abstraction or aquifer interference can significantly impact subsurface GDEs. Tunneling activities, proposed to be undertaken as part of the Snowy Hydro 2.0 project, have the potential to change the movement and availability of groundwater to GDEs across parts of the project area. In light of the potential risk that this poses to GDEs, a survey of the stygofauna diversity of aquifers in the project area was commissioned as part of the supporting technical documentation required for the Main Works EIS.

Overview of groundwater ecosystems

Groundwater ecosystems differ greatly from surface water environments in terms of biota and key ecological variables and processes. There is no light underground and, consequently, there are usually no primary producers in groundwater ecosystems. Overall, vertebrates are rare in groundwater and the fauna typically comprise invertebrates, and microbes, including bacteria, fungi and protozoa. In aquifers where pore spaces are large enough, microinvertebrates from groups such as Turbellaria (non-parasitic flatworms), Rotifera (pseudocoelomates), Nematoda (roundworms) and Protozoa (single-celled organisms) may be present (Humphreys 2006). Meiofauna may also be present, and comprises predominantly crustaceans from the groups Copepoda, Syncarida, Amphipoda, Isopoda and Ostracoda, but may include insects, molluscs, oligochaetes and mites (Humphreys 2006). It is common for crustaceans to dominate total species abundance and diversity of the groundwater invertebrate community (Korbel & Hose 2011) whereas insects are relatively uncommon (Humphreys 2006).

Most biota found in groundwater ecosystems are highly-evolved, obligate groundwater-dwelling invertebrates (stygo-bionts) that are not found in surface water environments. Stygo-bionts have evolved the common morphological traits of lack of eyes, hardened body parts, lack of body pigments, worm-like body shapes and enhanced non-ocular sensory appendages in response to the pressures of the groundwater environment (Humphreys 2006). As a result, many species are morphologically very similar, requiring specialist taxonomic expertise, or genetic analysis to distinguish different species. In addition to stygo-bionts, groundwater ecosystems may also contain non-groundwater adapted species (stygo-philes) and accidental or transient surface-dwelling species (stygo-xenes) (Sket 2008).

Stygo-fauna are typically sparsely and heterogeneously distributed within an aquifer, and specimen collection is limited to sampling within bores and wells (Larned 2012). As a result, sampling of stygo-fauna using nets or pumps to collect whole organisms can be 'hit and miss', particularly when sampled only once. Environmental DNA (eDNA) provides a means to improve the efficacy of sampling of cryptic biota or in difficult to access habitats (such as stygo-fauna in aquifers) because rather than requiring a whole organism for detection, the presence of an organism may be determined from DNA shed in the environment sampled, thus demonstrating the presence of the organism without requiring its capture or collection (Creer *et al.* 2016; Niemiller *et al.* 2018). It should be noted that eDNA analyses have limitations that include uncertainty of the persistence and mobility of DNA in the environment, potential contamination, and database deficiencies that complicate the assignment of taxonomy (Deiner *et al.* 2017; Cristescu & Hebert 2018). However, combining traditional collection methods and morphological identification with analyses of eDNA provides a comprehensive picture of the diversity of groundwater ecosystems (Korbel *et al.* 2017).

Aquifers of the Snowy 2.0 Project area

It is proposed, as part of the Snowy 2.0 Project, that a tunnel is constructed linking Tantangara and Talbingo Reservoirs, with the tunnel passing through several geological formations in which the fractures and fissures in the rock are saturated and form fractured rock aquifers. Fractured rock aquifers commonly support stygo-fauna, with the size and nature of the voids or fractures and water chemistry being key determinants of the suitability of those aquifers as habitat for stygo-fauna (Hose *et al.* 2014). It is likely that different formations (even overlying formations) may support different populations

of stygofauna, particularly where they are disconnected (i.e., there is no water flow between them). Accordingly, the sampling regime for this baseline stygofauna study focused on sampling aquifers in a range of different geological formations.

In addition to fractured rock aquifers, there are a number of colluvial aquifers that sustain alpine bogs and fens on the surface. The degree of connectivity between these aquifers is still under investigation but the current conceptual modelling suggests there is negligible connection (EMM Water Characterisation Report, in prep). Alpine bogs and fens are common across the Kosciuszko National Park, yet there are several variants based on vegetation and soil stratigraphy (Hope *et al.* 2012). All are listed as an Endangered Ecological Community (Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions) under the NSW *Threatened Species Conservation Act 1995*, and as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Alpine bogs and fens are considered highly sensitive to environmental change (Hope *et al.* 2012) although their hydrology remains, in most cases, poorly studied. The alpine bogs and fens also contain unique flora and fauna (Hope *et al.* 2012), which could include stygofauna that may inhabit the saturated bog and fen sediments (e.g. Hose *et al.* 2017).

Methods

Sampling locations

Samples of groundwater were collected from monitoring bores accessing various shallow and deep aquifers, and from drive point piezometers accessing alpine bogs and fens across the Snowy 2.0 Project area (Figure 1). Sites were chosen by EMM, and were focused within 2 km of the proposed tunneling and shaft excavation works, as numerical modelling suggested this is the area in which aquifer drawdown, if caused, is most likely. Two sites outside the assumed area of potential impact (one north and one south of the tunnel alignment) were also included as reference sites.

Aquifer sampling

Sampling methods varied between sites depending on the location of existing in-bore infrastructure and the rate of replenishment of the groundwater in the bore. Sample collection methods are outlined in Table 1. All monitoring bores accessing the aquifers (except PBO1) were constructed from 50 mm PVC pipes with 1 mm slotted screens. All PVC monitoring bores had 2-3 mm gravel pack between the annulus of the bore hole and PVC screen. PBO1 was an open hole with no screen or gravel pack.

Physico-chemical water quality in each monitoring bore was recorded at the time of sampling using hand held meters. These data were collected and provided by EMM.

Alpine bog and fen sampling

A single drive point piezometer was installed in each of five alpine bogs and fens. The drive point was driven through the colluvial swamp sediments as far as possible. Water was collected from these drive points using a low flow pump. Bogs and fens sampled, depths of drive points and sample volumes are provided in Table 1. The alpine bog and fen habitat may be considered as either a surface water or groundwater system, or as the hyporheic ecotone (where surface and groundwater systems intersect), depending on the inputs and connectivity to groundwater in each bog or fen. With the limited knowledge of bog/fen-groundwater interactions at the time the study commenced, we have assumed that all alpine bogs and fens are potentially groundwater connected.

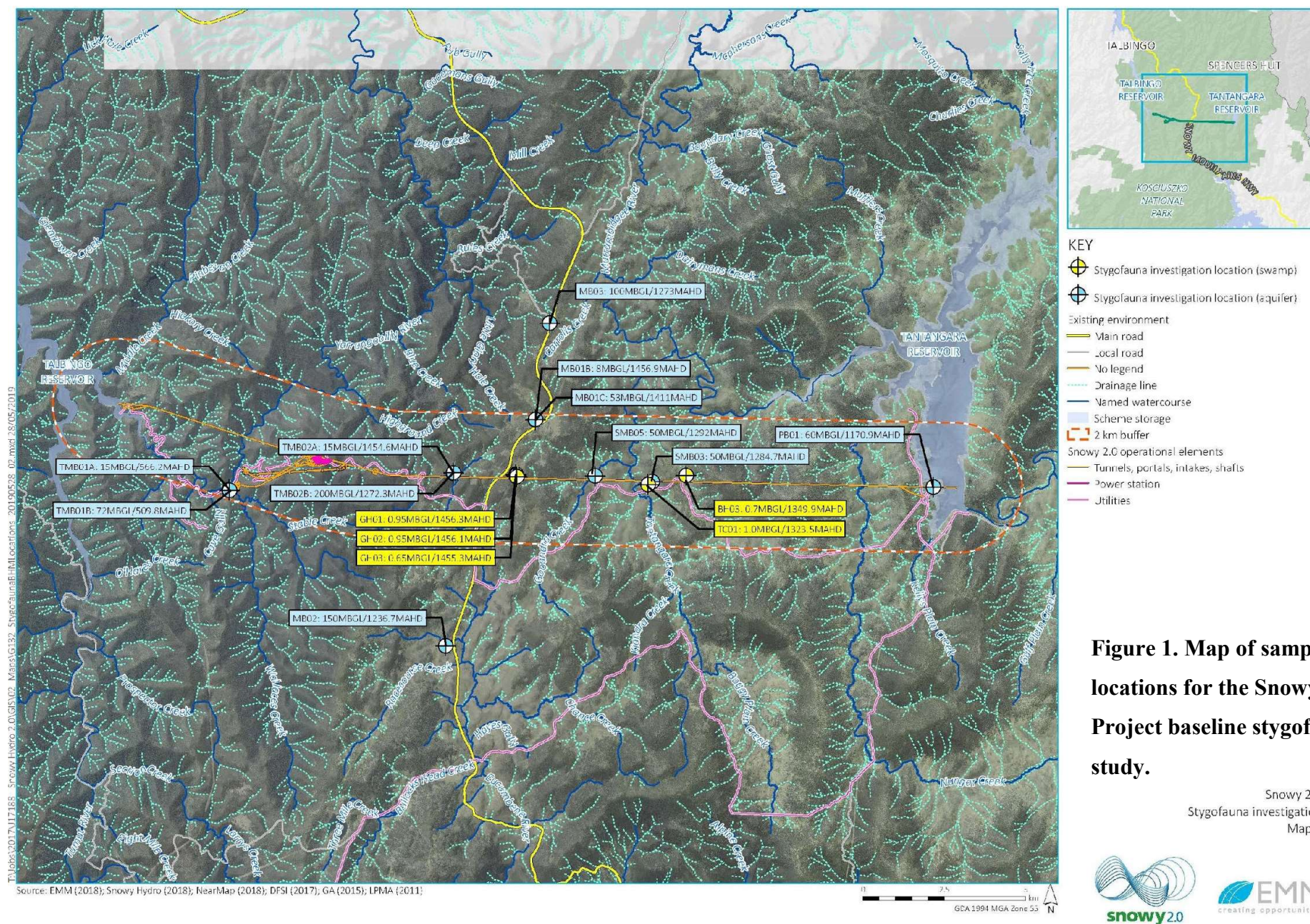


Figure 1. Map of sampling locations for the Snowy 2.0 Project baseline stygofauna study.

Table 1. Sampling methods used for each monitoring bore/piezometer.

Bore/ Piezometer	Habitat	Formation	Depth (m)	Screen Depth (m)	Bailer Volume (L)	Low-flow pump volume (L)*	Number of net hauls
PBo1	Aquifer	Kellys Plain Volcanics	60	Open hole	2	-	5
TMB02A	Aquifer	Gooandra Volcanics	15	11-14	-	33 (>2 h)	-
TMB02B	Aquifer	Gooandra Volcanics	200	191-197	-	60	-
SMB05	Aquifer	Gooandra Volcanics	50	40-49	2		5
SMB03	Aquifer	Temperance Formation	50	40-49	2		5
MBo3	Aquifer	Gooandra Volcanics	101	92-98	-	50	-
MBo1B	Aquifer	Tertiary Basalt	7.5	5.3-6.8	50 (until empty)		-
MBo1C	Aquifer	Gooandra Volcanics	52	45-51	-	55 (2 h)	-
MBo2	Aquifer	Gooandra Volcanics	150	141-147	-	4 (2 h)	-
TMB01A	Aquifer	Boraig Group	14	11-14	-	50 (2 h)	5
TMB01B	Aquifer	Ravine Formation	72	63-69	-	40 (2 h)	-
BHo3	Alpine bog/fen	-	0.7	0.4-0.7	-	2	-
GHo1	Alpine bog/fen	-	0.95	0.55-0.95	-	10	-
GHo2	Alpine bog/fen	-	0.95	0.55-0.95	-	10	-
GHo3	Alpine bog/fen	-	0.65	0.35-0.65	-	10	-
TC01	Alpine bog/fen	-	1.0	0.6-0.1	-	1	-

* (2 h) Indicates pumping ceased after 2 h

Sample collection and processing

Several methods were employed and tailored to each sampling location to ensure adequate sampling was achieved. Low flow pumps (Solinst Model 408 double valve gas driven pump, Solinst, Canada) had been installed permanently in several monitoring bores as part of routine water quality sampling for the Snowy 2.0 project. Where present, these low flow pumps were used to collect samples for stygofauna analysis. Low flow pump intakes were located opposite known fractures in the fractured rock groundwater system. Pumps were operated with the aim of collecting 100 L of water, or for 2 h whichever came first. For shallow monitoring bores that were emptied by pumping, sampling was continued for 2 h in order to collect water that replenished the

monitoring bore. Monitoring bores in which pumps were not installed were sampled using a combination of plankton nets (50- μ m mesh) and bailers. Plankton nets were lowered as far as possible into the monitoring bore and hauled through the water column to collect any fauna. This process was repeated five times. Where a bailer was used, the bailer was lowered as far as possible into the monitoring bore and hauled through the water column, with the intention of collecting 10 L of water. The contents of the plankton nets and bailers from each location were combined.

The water removed from the aquifer monitoring bores and swamp drive points by pumping, net hauls and bailers was sieved through a 50 μ m mesh sieve. The contents of the sieve were carefully transferred to sample jars and preserved in 100% undenatured ethanol. All sampling equipment was washed between sites and carefully inspected to avoid contamination between samples. All equipment used for collection of samples for eDNA analysis was rinsed with bleach (sodium hypochlorite solution) between samples.

Preserved samples were analysed in the laboratory and all invertebrates removed, identified and enumerated. Samples were stained using Rose Bengal, which stains stygofauna pink and makes them easier to find among debris and sediment in the samples. Quality assurance of the sample processing procedure was done by double processing three (SMB03, TMB02B and PBO1) of the 16 samples (20%). Re-processing was done by an independent operator to ensure that no stygofauna were missed through laboratory processing.

All specimens collected were identified to the lowest practicable level using morphological traits and keys. Relatively little is known of the distribution and detailed taxonomy of stygofauna in eastern Australia (compared to western Australia, Hose *et al.* 2015) and few taxonomic keys are available for the morphological identification of specimens beyond family level. Preliminary morphological identifications of Harpacticoida copepods were done using the key by Wells (2007). Each specimen was classified based on the likelihood of it being an obligate groundwater organism using the classification of Sket (2008) based on the presence of typical stygobiotic traits such as a lack of eyes and body pigmentation, and enhanced sensory appendages.

eDNA analysis

After invertebrate samples were collected, additional samples of groundwater were collected from each of the 11 aquifer monitoring bores for the purpose of eDNA analysis.

After collection, samples were placed immediately on ice and at 0-4°C until processing within 6 hours of collection.

Aquifer samples were analysed to characterise the eukaryotic community of the groundwater using high throughput amplicon sequencing targeting informative regions of the 18S ribosomal DNA and mitochondrial Cytochrome Oxidase 1 (CO1) genes. The 18S rDNA gene provides broad taxonomic coverage across the eukaryote (non-bacterial) domain but can provide limited taxonomic resolution (Clarke *et al.* 2017). In contrast, CO1 gene provides greater taxonomic resolution of metazoans, enhanced by large reference databases. CO1 primers were chosen as they efficiently detect zooplankton, including crustacea (Leray *et al.* 2013; Clarke *et al.* 2017), which are common in groundwater (Humphrey 2006).

Groundwater samples collected from the aquifers were processed by vacuum filtration using sterile 0.2 µm mixed cellulose membranes (Pall Corp., Port Washington, USA). Water was added in 100 mL increments until the membrane became clogged with sediment and the passage of water was limited. As such the volume of filtered water varied (350 mL – 500 mL). Membranes were transferred using sterilised forceps into sterile petri dishes and stored at -20°C for transport and then at -80°C until DNA extraction. The filtration apparatus was sterilised between samples by rinsing with 100% ethanol and flaming.

Filters were thawed under sterile laboratory conditions and 0.25 mg of sediment and 1 cm² of finely shredded filter paper from each sample were used for subsequent analyses. DNA was extracted from membranes using MoBio PowerSoil DNA kits, following the manufacturer's directions, with the exception on an increase in the incubation time (30 min instead of 5 min) to maximise the extraction process. For each extract, two primers were targeted: a 200-500-bp fragment of the 18S rDNA gene which designed to capture a wide breadth of eukaryotes (Hardy *et al.* 2010); and a region on the mitochondrial gene CO1, designed to target metazoans (Leray *et al.* 2013). Primers and tags used are listed in Appendix 1. Polymerase chain reactions (PCR) was performed on the 18S rDNA gene using the protocols described in Korbel *et al.* (2017) and using the protocol of Deagle *et al.* (2018) for the CO1 gene. In addition to the groundwater samples a positive control (*Crocodylus*) and one negative water control was included in each PCR.

In preparation for sequencing, the labelled products for each gene were mixed in equimolar concentrations, with a final clean-up performed using AMPure XP. The

Illumina MiSeq sequencing was performed by the Ramaciotti Centre, UNSW. Illumina data was processed using an in-house custom pipeline, GHAP, based on USearch (Edgar 2013). The GHAP hybrid pipeline takes files of reads and produces tables of classified OTUs and their associated read counts across all samples. The raw Miseq Illumina data was de-multiplexed, de-replicated and then clustered at 97% similarity to generate OTUs. A representative sequence from each OTU was then classified by comparison against a curated set of 18S reference sequences derived from the SILVA SSU reference set. For both the datasets (18S rDNA and CO1), potentially erroneous sequences (OTUs) were removed using a two-step process. The initial stage involved removing all OTUs with poor matches to the database (average identify <80). Secondly, for each gene, the amount of potential cross-contamination between samples (tag-jumping) and false reads were estimated by the proportion of false sequences in the positive controls. For the 18S rDNA dataset, this resulted in all OTUS which contributed to less than 0.0013 % of the total reads in a sample being removed, with the value increased to 0.017% for the CO1 dataset.

Results

Fractured rock aquifers

Physico-chemical water quality was variable across the project area (Table 2). The pH ranged from slightly acidic (5.9) at TMB02A to slightly basic at PBo1 (9.25) and MBo1B (10.63) (Table 2). With the exception of TMB01B in the ravine formation ($EC = 1641 \mu S/cm$), the electrical conductivity of the groundwater was below $360 \mu S/cm$.

The dissolved oxygen concentrations were variable across the project area and showed no clear trend with depth from which the samples were collected (mid screen depth) or the sampling method used (Tables 1,2). Oxidation-reduction potential (ORP) values were indicative of mildly to strongly reducing environments across all sites.

Table 2. Physico-chemical water quality parameters for aquifer samples. Data provided by EMM for sampling event in November 2018.

Site	Units	PBo1	TMB02 A	TMB02 B	SMB05	SMB03	MBo3	MBo1B	MBo1C	MBo2	TMB01 A	TMB01 B
pH		9.25	5.90	8.52	7.09	7.71	6.43	10.63	7.52	6.78	6.71	7.59
Electrical conductivity	$\mu S/cm$	102.4	19.6	84.9	213.3	231.6	104.3	234.4	53.4	32.4	354	1641
Dissolved Oxygen	mg/L	1.67	7.87	6.27	2.75	2.89	8.94	5.69	0.99	0.06	0.25	0.33
Temperature	$^{\circ}C$	13.9	8.8	8.4	12.9	11.2	9.8	13.1	9.1	10.4	14.5	14.1
Oxidation-reduction potential	mV	-104.6	172	98.2	-145.7	-141.3	171.4	70.4	17	127	-67.2	-230.2
Mid screen depth	m	Open Hole	12.5	194	44.5	44.5	95	6.5	48	144	12.5	66

A total of eight aquatic invertebrate taxa were collected from several locations in the Gooandra Volcanics formation, the Kellys Plain formation and the Temperance formation but not from other geological settings. Specimens assumed to be stygofauna were collected from four of the 11 sites (Table 3), with the harpacticoid copepods (TMB02A) likely to be stygobiotic (Table 3). The specimens collected had the typical characteristics of stygobiotic species; lack of eyes and pigmentation and enhanced sensory appendages. Preliminary morphological identification of the harpacticoid copepod suggests it is of the family Parastenocarididae. The copepod nauplii collected at TMB02A is potentially stygobiotic, although it is difficult to identify taxa at this early life stage.

The nematode, rotifer and oligochaete specimens (from four sites) may be stygobiotic. Specimens from these groups are common in soil and surface water and it is difficult to establish their specific affinity with groundwater, particularly considering the lack of taxonomic resolution possible. Although commonly associated with aquatic habitats, the Collembola collected in sample MB01B are not considered to be stygofauna, and instead reside on the water surface (see Deharveng et al. 2008). They are not truly aquatic and not stygobiotic.

Three samples, SMB03, TMB02B and PBO1 were double processed as part of quality assurance procedures. No animals were identified in any of the samples during the second processing (Table 3).

Alpine bogs and fens

A total of eight aquatic invertebrates were collected from four of the five alpine bog/fens (excluding BHO3; Table 3). Only a small sample volume was collected from BHO3 which may explain the lack of fauna found. The bog/fen samples contained several potentially stygobiotic taxa (Table 3), with harpacticoid copepods collected from two sites (GHO1 and GHO2). These specimens had the morphological traits typical of stygobiotic species (Appendix 2) and are likely to be obligate groundwater species. Preliminary morphological identification of these copepods suggests they are of the family Canthocamptidae.

Ostracods were found in samples from the alpine bogs and fens GHO1 and GHO2 (Table 2). The ostracod specimens were damaged during collection making morphological identification beyond class (Ostracoda) difficult.

Table 3. Abundance of invertebrates collected in samples from fractured rock aquifers and alpine bogs and fens.

Site	Stygobioti c	Fracture Rock Aquifers											Alpine Bogs and Fens					
		TMB02 A	TMB02 B	SMB05	MB03	MB01C	MB02	PB01	SMB03	MB01B	TMB01A	TMB01B	BH03	GH01	GH02	GH03	TC01	
Annelida																		
Clitellata																		
Oligochaeta sp.	Y?	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	
Arthropoda																		
Chelicerata																		
Arachnida																		
Acarina sp.	Y?	-	-	-	-	-	-	1	-	-	-	-	-	2	1	-	1	
Hexapoda																		
Collembola																		
Poduromorpha																		
Hypogastruridae sp.	N	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	
Symphypleona																		
Sminthuridae sp.	N	-	-	-	-	-	-	-	-	19	-	-	-	-	1	-	-	
Crustacea																		
Copepoda																		
Copepod nauplii	?	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Parastenocarididae sp.	Y	2	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
Canthocamptidae sp.	Y	0	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	
Ostracoda																		
Ostracoda sp.	Y?	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-	-	
Rotifera																		
Rotifera sp.	Y?	-	-	-	-	2	-	-	2	-	-	-	-	-	-	1	-	
Nematoda																		
Nematoda sp.	Y?	52	-	-	-	1	-	2	-	-	-	-	-	4	7	1	-	
Total Diversity		3	0	0	0	2	0	3	1	2	0	0	0	4	7	2	1	
Total Abundance		56	0	0	0	3	0	4	2	20	0	0	0	9	16	2	1	
QA/QC Samples		-	✓	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	

Y = Stygobiotic, Y? = likely to be stygobiotic, N = unlikely to be stygobiotic, ✓ = No specimens detected.

Aquifer eDNA analysis

All samples amplified for the 18S gene, and all but one amplified for the CO1 gene (Figure 2). Sample PBO1 did not amplify for CO1 as indicated by the missing bright band highlighted in Figure 2. Negative and positive controls responded as expected (Figure 2).

18S sequencing

The 18S analysis provides a different view of the metazoan communities in the aquifer. Full data from the 18S sequencing is provided in Table 4; however, those data should be interpreted with caution, particularly for microorganisms, since these monitoring bores were not purged prior to sampling. Accordingly, we are focusing here only on the metazoan (multi-celled) animals.

All samples amplified for the 18S gene and had on average 80,000 sequence reads. A total of 25 distinct metazoan taxa were identified (Table 4), which reflected most of the higher taxa (e.g. Collembola, Nematoda and Rotifera) also recorded in the manually processed samples (Table 3). Interestingly, the 18S analysis did not detect the stygobiotic copepod found in TMB02A, but rather the only metazoan in that sample was a nematode. The only crustaceans identified in the 18S analysis were ostracods (family Cyprididae). This family of ostracods contains many stygobiotic species, so it is possible that the taxon collected is also stygobiotic. The analysis of the 18S gene also identified a suite of meiofauna, including nematodes, rotifers and gastrotrichs (worm-like, pseudocoelomate invertebrates) which may be stygobiotic, but which are also found in soils. The insects detected are unlikely to be stygobiotic and are most likely surface taxa that have fallen in to the monitoring bores during collection. This is particularly problematic for monitoring bores, such as those sampled here, that do not have a casing extending above ground level.

Cytochrome Oxidase 1 sequencing

Sequences for the CO1 gene were obtained for all samples except PBO1. A total of 53 distinct OTUs representing invertebrate metazoans were identified from the 10 samples (Table 5). The CO1 analysis identified a large number of OTUs that were matched most closely to sequences of unknown invertebrates – caution should be exercised when inferring taxonomy from low (<~90%) matches. There were no crustaceans identified in

any samples using CO1. There were a number of rotifer and nematode taxa in all monitoring bores which are potentially stygobiotic.

Many of the insects detected in the samples were Collembola, which are commonly found on the water surface in the monitoring bores, as well as thrips which are likely to have fallen into the monitoring bore during collection. There are numerous taxa for which only very coarse level taxonomy could be defined (Table 5), which reflects current limitation in the coverage of CO1 reference databases and does not reflect the quality of the sequences analysed.

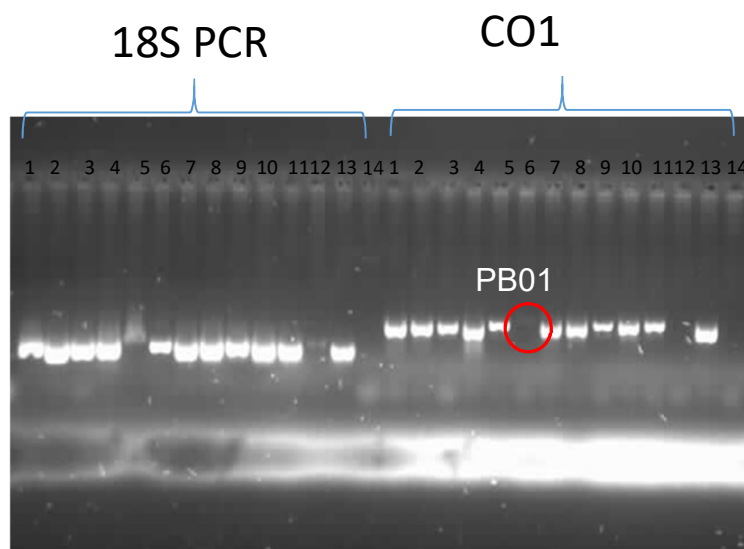


Figure 2. Photo of gel electrophoresis for 18S and CO1 genes extracted and amplified from aquifer samples.

Table 4. Metazoan taxa identified from aquifer samples using next generation sequencing of the 18S gene. Values reported for each taxon reflect sequence read numbers.

OTU	Kingdom	Phylum	Class	Order	Family	MB01B	MB01C	MB02	MB03	PB01	SMB03	SMB05	TBB02A	TMB01A	TMB01B	TMB02B
OTU_33	Metazoa	Annelida	Clitellata	Haplotaxida	Aeolosomatidae	25	0	0	6222	0	0	0	0	0	0	0
OTU_1035	Metazoa	Annelida	Clitellata	Haplotaxida	Enchytraeidae	41	0	0	0	0	0	0	0	0	0	0
OTU_222	Metazoa	Annelida	Clitellata	Haplotaxida	Enchytraeidae	0	0	0	0	0	0	0	0	540	0	0
OTU_243	Metazoa	Arthropoda	Collembola	Entomobryomorpha	Isotomidae	54	13	0	0	0	0	428	0	29	0	0
OTU_332	Metazoa	Arthropoda	Collembola	Entomobryomorpha	Paronellidae	0	0	0	0	0	0	0	0	292	0	0
OTU_1670	Metazoa	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	121	0	0	0	0	16	0	0	98	0	0
OTU_179	Metazoa	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	257	18	0	0	360	0	0	0	114	0	0
OTU_780	Metazoa	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	0	0	0	0	0	32	0	0	17	0	0
OTU_238	Metazoa	Arthropoda	Collembola	Symphyleona	Sminthuridae	0	0	0	0	0	0	0	0	644	0	0
OTU_363	Metazoa	Arthropoda	Collembola	Symphyleona	Sminthuridae	0	0	0	0	210	0	19	0	0	0	0
OTU_367	Metazoa	Arthropoda	Insecta	Orthoptera	Lentulidae	0	0	0	0	204	0	0	0	0	0	0
OTU_566	Metazoa	Arthropoda	Insecta	Thysanoptera	Thripidae	0	0	0	0	0	0	0	0	101	0	0
OTU_939	Metazoa	Arthropoda	Ostracoda	Podocopida	Cyprididae	0	0	0	0	0	0	0	0	0	20	27
OTU_343	Metazoa	Gastrotricha	Gastrotricha ic	Chaetonotida	-	0	0	268	0	0	0	0	0	0	0	0
OTU_115	Metazoa	Gastrotricha	Gastrotricha ic	Chaetonotida	Chaetonotidae	0	0	0	1516	0	0	0	0	0	0	0
OTU_2143	Metazoa	Nematoda	Chromadorea	Araeolaimida	Plectidae	0	0	0	12	0	0	0	0	0	0	0
OTU_356	Metazoa	Nematoda	Chromadorea	Araeolaimida	Plectidae	537	0	0	0	0	0	0	0	0	0	0
OTU_99	Metazoa	Nematoda	Chromadorea	Araeolaimida	Plectidae	2325	0	0	0	0	0	0	0	0	0	0
OTU_166	Metazoa	Nematoda	Chromadorea	Monhysterida	-	806	0	0	0	0	0	0	0	0	0	0
OTU_9	Metazoa	Nematoda	Chromadorea	Rhabditida	Filaroididae	0	0	0	0	0	23	0	15787	0	0	30
OTU_203	Metazoa	Nematoda	Chromadorea	Tylenchida	Tylenchidae	680	0	0	0	0	0	0	0	0	0	0
OTU_376	Metazoa	Nematoda	Enoplea	Dorylaimida	Nordiidae	229	0	0	0	0	0	0	0	0	0	0
OTU_161	Metazoa	Nematoda	Enoplea	Mermithida	-	872	0	0	0	0	0	0	0	0	0	0
OTU_174	Metazoa	Rotifera	Bdelloidea	Adinetida	-	826	0	0	16	17	0	0	0	16	0	0
OTU_1839	Metazoa	Rotifera	Bdelloidea	Philodinida	Philodinidae	116	0	0	0	0	0	0	33	0	0	0

Table 5. Metazoan taxa identified from aquifer samples using next generation sequencing of the CO1 gene.

OTU	Phylum	Subphylum	Class	Order	Family	Genus	MB01B	MB01C	MB02	MB03	SMB03	SMB05	TBB02A	TMB01A	TMB01B	TMB02B
OTU_1547	metazoan uk						0	0	14	0	0	0	0	0	0	0
OTU_1636	metazoan uk						0	0	0	16	0	0	0	0	0	0
OTU_362	metazoan uk						9	0	18	0	0	0	0	19	0	0
OTU_404	metazoan uk						0	0	15	0	0	0	40	0	0	37
OTU_326	metazoan uk						11	0	0	5	0	0	68	0	0	45
OTU_211	metazoan uk						13	0	0	0	0	0	32	0	0	103
OTU_351	metazoan uk						0	0	0	0	0	0	81	0	0	70
OTU_195	metazoan uk						0	0	0	121	0	0	0	0	0	38
OTU_2129	metazoan uk						0	0	0	0	37	0	55	0	0	97
OTU_169	metazoan uk						0	0	0	0	19	0	102	0	0	92
OTU_291	metazoan uk						0	0	178	5	19	0	0	0	59	0
OTU_94	metazoan uk						7	0	0	0	0	0	0	0	0	488
OTU_100	metazoan uk						167	0	392	6	0	0	0	204	0	0
OTU_15	metazoan uk						59	940	135	17	0	0	417	0	0	589
OTU_11	metazoan uk						0	6	691	14	1068	2	836	0	0	1055
OTU_1642	Annelida	Annelida ic					0	0	12	0	0	0	0	0	0	0
OTU_370	Annelida	Annelida ic					0	0	0	0	0	0	78	18	0	43
OTU_553	Arthropoda	Chelicerata					13	0	0	0	0	0	0	0	0	43
OTU_105	Arthropoda	Hexapoda					0	0	316	3	0	0	0	7	0	0
OTU_1535	Arthropoda	Chelicerata	Arachnida				0	6	0	0	0	0	0	0	0	0
OTU_59	Arthropoda	Hexapoda	Collembola				1260	24	0	0	0	0	0	52	0	0
OTU_151	Arthropoda	Hexapoda	Collembola	Poduromorpha	Hypogastruridae	-	427	8	0	0	13	0	0	14	0	0
OTU_204	Arthropoda	Hexapoda	Collembola	Poduromorpha	Hypogastruridae	Ceratophysella	72	0	0	0	128	0	0	0	0	0
OTU_82	Arthropoda	Hexapoda	Collembola	Poduromorpha	Hypogastruridae	Ceratophysella	25	0	16	0	971	3	0	0	0	0
OTU_628	Arthropoda	Hexapoda	Insecta				0	0	0	0	0	35	0	0	0	0
OTU_580	Arthropoda	Hexapoda	Insecta				0	0	0	0	0	87	0	0	0	0
OTU_259	Arthropoda	Hexapoda	Insecta				0	9	32	0	0	0	51	112	0	40
OTU_262	Arthropoda	Hexapoda	Insecta				235	16	0	0	0	2	0	0	0	0
OTU_60	Arthropoda	Hexapoda	Insecta				9	0	0	0	0	95	0	0	570	0
OTU_1265	Arthropoda	Hexapoda	Insecta	Thysanoptera			9	0	0	0	0	0	0	10	0	0
OTU_513	Arthropoda	Hexapoda	Insecta	Thysanoptera			0	0	50	11	0	0	0	10	0	0
OTU_103	Arthropoda	Hexapoda	Insecta	Thysanoptera			17	0	13	14	0	0	0	175	182	0
OTU_27	Arthropoda	Hexapoda	Insecta	Thysanoptera			63	0	175	41	0	0	0	48	1350	0
OTU_28	Arthropoda	Hexapoda	Insecta	Thysanoptera			15	0	0	9	0	0	0	1189	473	34

OTU_12	Arthropoda	Hexapoda	Insecta	Thysanoptera			19	0	0	0	0	2	0	392	2444	0
OTU_276	Arthropoda	Hexapoda	Insecta	Thysanoptera	Phlaeothripidae		0	0	159	0	0	2	0	9	0	0
OTU_44	Arthropoda	Hexapoda	Insecta	Thysanoptera	Phlaeothripidae		0	0	0	0	0	0	0	245	779	15
OTU_594	Cnidaria	Cnidaria ic	Hydrozoa				0	0	0	0	0	19	0	27	0	0
OTU_545	Cnidaria	Cnidaria ic	Hydrozoa				0	24	0	0	0	0	23	0	0	23
OTU_45	Cnidaria	Cnidaria ic	Scyphozoa				0	0	0	0	0	0	0	0	890	0
OTU_570	Nematoda	Nematoda ic	Chromadorea				0	0	0	0	0	31	0	7	0	0
OTU_789	Nematoda	Nematoda ic	Chromadorea	Tylenchida			0	0	0	0	0	11	0	19	0	0
OTU_48	Nematoda	Nematoda ic	Chromadorea	Tylenchida			7	841	0	11	0	2	0	0	0	0
OTU_495	Nematoda	Nematoda ic	Enoplea				0	0	0	0	0	0	0	0	52	0
OTU_3443	Nematoda	Nematoda ic	Enoplea				0	0	0	0	0	0	41	0	143	0
OTU_190	Nematoda	Nematoda ic	Enoplea				46	8	172	0	0	0	0	0	0	0
OTU_93	Nematoda	Nematoda ic	Enoplea				26	0	0	0	342	0	102	25	0	15
OTU_640	Rotifera	Rotifera ic	Monogononta				0	0	0	0	0	0	28	0	0	19
OTU_665	Rotifera	Rotifera ic	Monogononta				0	0	46	17	0	0	0	0	0	39

Discussion

The stygofauna found in the aquifers in the Snowy 2.0 Project area are similar to those encountered in other fractured rock systems in NSW, in which harpacticoid copepods are relatively common (Hose & Lategan 2012; Hose *et al.* 2016). Copepods are among the most common crustaceans encountered in groundwater (Galassi *et al.* 2009). Other fauna, including the ostracods, nematodes and rotifers are also common elements of aquifer fauna in Australia and elsewhere (Hose *et al.* 2014).

Likely stygobiotic copepods were found in the Gooandra Volcanics (monitoring bore TMBo2A) and likely stygobiotic ostracods (based on eDNA analysis) were identified in both the Gooandra Volcanics (monitoring bore TMBo2B) and the adjoining Ravine formation (TMBo1B). A desktop review of available literature indicates that limited stygofauna studies have been undertaken within fractured rock aquifers of the region, thus there is limited data for comparison. There were no records available from the nearby Yarrangobilly Karst (Eberhard & Spate 1994), although undescribed copepods have been recorded in the Cooleman Plain Karst in the Kosciuszko National Park.

Ostracods were identified from monitoring bore depths up to 200 m, with the majority of other taxa collected from monitoring bores shallower than 75 m. The identification of ostracods in TMBo2B, which is screened at 191-197 m below ground level, is unexpected because stygofauna are generally rare at depths beyond 70 m (Hose *et al.* 2014). The detection of ostracods at this depth may reflect strong vertical permeability in the aquifer which allows rapid recharge from shallow to deep aquifers. Since only eDNA, and no whole specimens were detected at TMBo2B, it may be that recharge water containing the DNA signature of stygobionts has migrated to depth but the actual stygobiont populations all occur at shallower depth.

The tendency for stygofauna to be more abundant and common in shallower aquifers is generally due to oxygen and nutrient concentrations being greatest in shallow aquifers and decreasing with depth (Humphreys 2006). Interestingly, the dissolved oxygen concentration in water from TMBo2B was relatively high for groundwaters (6.2 mg/L, Appendix 2) and well above the concentration considered to be limiting to stygofauna broadly (Hose *et al.* 2014, Hahn 2006). This high concentration at depth may also reflect the vertical permeability and rapid recharge in the aquifer and could also explain the identification of fauna in the deep sample. However, the dissolved oxygen

concentration from TMB01B was relatively low (0.3 mg/L) and yet ostracods were identified from the sample.

Potentially-stygobiotic copepods, and a variety of meiofauna including ostracods, were collected in the bog/fen samples. Initial analyses of the copepods suggest that they were from a different family to those found in the aquifer, although the bog/fen copepods had all the traits expected of stygobiotic taxa and are thus may be obligate groundwater fauna. The groundwater associations of all other taxa are not clear. Based on collections of copepods from peat-like swamps in the southern highlands of NSW (Hose 2008), it is likely that the species in different bogs/fens are genetically distinct, and potentially different species. However, this can only be confirmed by undertaking DNA analysis of actual specimens. There are no records of invertebrate fauna surveys of the alpine bogs and fens; however, the stygofauna collected were similar to those recorded in the peat-like swamps further north along the Great Dividing Range (Hose 2008, Hose *et al.* 2017, Hardwick 2019).

The absence of likely stygofauna in some aquifer samples may reflect the challenges of sample collection, that include the low permeability strata at that location, the recent installation of the monitoring bores, and the sampling methods possible. Although a reasonable volume of sample was collected from each aquifer monitoring bore (Table 1), the varying methods make comparison among samples difficult. Future surveys should attempt to standardise the sampling approach across sites, which was unfortunately not possible in this study due to existing infrastructure in some aquifer monitoring bores, and very low permeability of the aquifers that limited the amount of sample that could be collected in a reasonable time period. However, the results suggest that each method (or combination) was effective in collecting fauna. In the bog/fen samples particularly, the small sample volume may be problematic, particularly for sites BHo3 and TCo1. Furthermore, the bog/fen samples were collected shortly after the piezometers were installed and, ideally, piezometers and monitoring bores should be allowed to settle in for some months before sampling (WA EPA 2016). Consequently, these results should not be interpreted as strong evidence of the absence of fauna in these swamps. Further sampling is needed before drawing this conclusion.

The lack of stygofauna in the reference sites north and south of the proposed tunnel alignment does not mean that stygofauna do not exist in these areas. Both monitoring bores were deep and it is possible that stygofauna would have been detected at these sites if shallow monitoring bores existed and were able to be sampled. The lack of fauna

in some samples should not be taken as evidence of them not occurring in that aquifer or swamp. Importantly, several repeat samples may be needed to adequately characterise groundwater communities (Eberhard *et al.* 2009; Hose & Lategan 2012). For example, Hose and Lategan (2012) showed that in fractured rock systems in NSW, new stygofauna taxa were collected after sampling a particular monitoring bore five times. Further, more detailed taxonomic resolution of the fauna identified in both morphological and eDNA analyses is desirable to inform the significance of the fauna in a regional context.

Threats of change to groundwater levels

Changes to the hydrological regime of the groundwater poses a major threat to GDEs (Kath *et al.* 2018), which include both the aquifers and potentially the alpine swamps if they are hydraulically connected. The lowering of water tables may result in a loss of habitat and changed environmental conditions in both the aquifer and alpine bog/fen habitats that remains, although there is limited knowledge of how complex fractured rock aquifers will be affected. Recent reviews have highlighted that ecological responses to groundwater depletion is a key knowledge gap, and should be afforded the highest research priority (Larned 2012, Kath *et al.* 2018).

Declining water levels can leave organisms stranded or isolated in unsaturated areas. In laboratory studies, 20 to 100% of stygofauna were stranded following rapid groundwater declines (Tomlinson 2008; Stumpp & Hose 2013), with large differences in the response and thus vulnerability of different taxa. In particular, Stumpp & Hose (2013) showed that the majority of cyclopoid copepods (collected from alluvial aquifers) were stranded in unsaturated sediments when water tables were lowered. A similar, high proportion of alluvial groundwater amphipods were stranded when water tables were lowered in laboratory experiments (Tomlinson 2008). Following drawdown, the survival of stygobiotic amphipods and syncarids in unsaturated sediments is limited beyond 48 hours (Tomlinson 2008; Stumpp & Hose 2013). Predicting the response of biota to drawdown will depend heavily on the hydrogeological properties of the aquifer, particularly the void size and ability of the matrix to hold water (through capillary forces) as the water table declines.

Conclusion and recommendations

The baseline stygofauna study of the Snowy 2.0 Project has demonstrated that obligate groundwater organisms (stygobionts) are present in the fractured rock aquifers and shallow colluvial aquifers associated with the alpine bogs and fens of the region. This has been a preliminary examination and is unlikely to have detailed the full diversity and distribution of stygofauna in the study area. A more complete picture of the diversity and distribution of stygofauna in the study and threats to them could be achieved through:

- further sampling by government and industry to resolve the taxonomy of stygofauna present in fractured rock aquifers and alpine bogs and fens (where relevant);
- further sampling by government and industry to determine the spatial distribution of stygofauna in areas remote from any impacts of the project, to inform conservation and protection measures (this may require installation and sampling of additional shallow monitoring bores);
- further sampling by government and industry, including repeat sampling, to strengthen conclusions about the presence or absence of stygofauna across the project area, characterising depth limitations (where possible); and
- developing a more detailed understanding of the connectivity of alpine bogs/fens and fractured rock aquifers to determine the likely risks to alpine bogs and fens and stygofauna as a result of impacts to aquifers associated with the Snowy 2.0 Project.

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Appendices

Appendix 1. List of primers and tags used to mark samples for eDNA sequencing.

#	Samples	18S-F Primer ¹	18S-R Reverse ¹	F Primer ²	R Reverse ²
1	TMB01A	All18SF-bo1	All18SR-bo3	mICOLint_F-bo1	mICOLint_R-bo3
2	TMB01B	All18SF-bo2	All18SR-bo3	mICOLint_F-bo2	mICOLint_R-bo3
3	TMB02B	All18SF-bo3	All18SR-bo3	mICOLint_F-bo3	mICOLint_R-bo3
4	MB01B	All18SF-bo4	All18SR-bo3	mICOLint_F-bo4	mICOLint_R-bo3
5	MB01C	All18SF-bo5	All18SR-bo3	mICOLint_F-bo5	mICOLint_R-bo3
6	PB01	All18SF-bo6	All18SR-bo3	mICOLint_F-bo6	mICOLint_R-bo3
7	MB03	All18SF-bo7	All18SR-bo3	mICOLint_F-bo7	mICOLint_R-bo3
8	MB02	All18SF-bo8	All18SR-bo3	mICOLint_F-bo8	mICOLint_R-bo3
9	TBB02A	All18SF-bo9	All18SR-bo3	mICOLint_F-bo9	mICOLint_R-bo3
10	SMB03	All18SF-b10	All18SR-bo3	mICOLint_F-b10	mICOLint_R-bo3
11	SMB05	All18SF-b11	All18SR-bo3	mICOLint_F-b11	mICOLint_R-bo3
12	-ve control	All18SF-b12	All18SR-bo3	mICOLint_F-b12	mICOLint_R-bo3
13	+ve control croc	All18SF-b13	All18SR-bo3	mICOLint_F-b13	mICOLint_R-bo3
14	-ve control	All18SF-b14	All18SR-bo3	mICOLint_F-b14	mICOLint_R-bo3

¹ Hardy *et al.* (2010), ² Leray *et al.* (2013)

Appendix 2. Images of selected invertebrates

Fig A3.1 TMB02A (fractured rock aquifer) Harpacticoida: Parastenocarididae

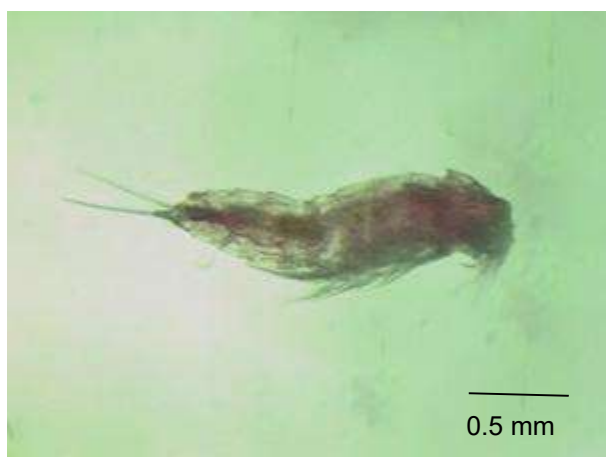


Fig A3.4 SMBo3 (fractured rock aquifer) Bdelloid rotifer

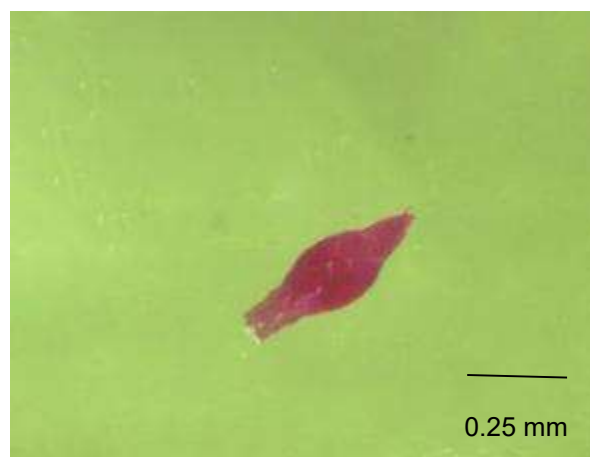


Fig A3.2 TMB02A (fractured rock aquifer) Nematoda



Fig A3.5 GH01 (alpine bog/fen) Harpacticoida: Canthocamptidae



Fig A3.3 TMB02A (fractured rock aquifer) Copepod nauplii

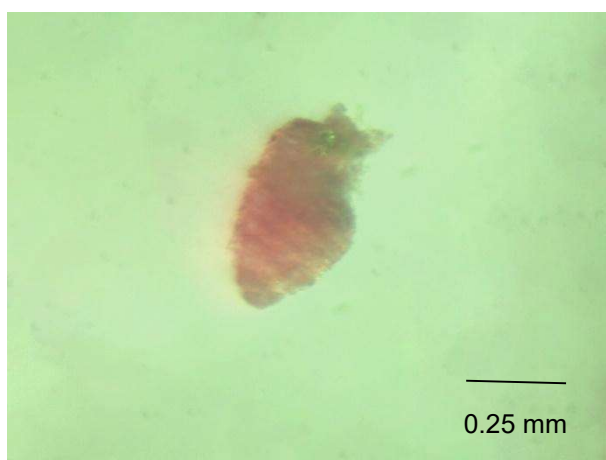


Fig A3.6 GH01 (alpine bog/fen) Ostracoda



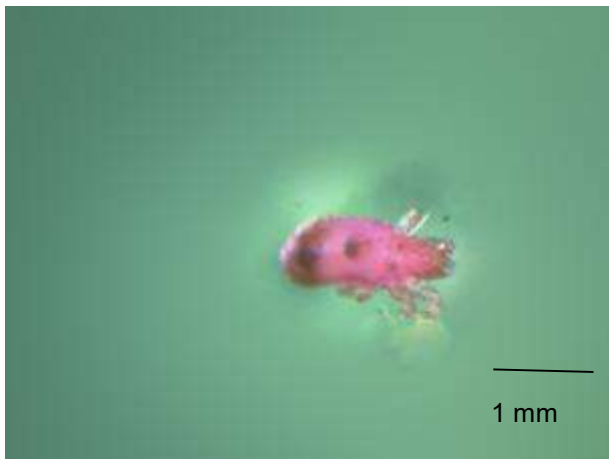
Fig A3.7 GH03 (alpine bog/fen)
Harpacticoida: Canthocamptidae



Fig A3.9 GH03 (alpine bog/fen)
Ostracoda



Fig A3.8 GH03 (alpine bog/fen) Acarina
(mite)



Appendix 3. Nearest match for sequenced 18S OTUs in Genbank

OTU	Species (nearest match)	Accession	Match%
OTU_33	Aeolosoma sp. GG-2011	HQ691213.1.1763	99.3
OTU_222	Haplotaxis cf. gordioides 09.132	HE800206.1.1583	99.3
OTU_1035	Henlea perpusilla	GU901909.1.1743	100
OTU_939	Cypridopsis sp. QY-2003	AY457057.1.1739	100
OTU_238	Sminthuridae environmental sample	EF024572.1.1766	99.3
OTU_243	Desoria tigrina	JN981033.1.1748	99.3
OTU_332	Cyphoderopsis sp. BXW-2014	KM978408.1.1672	98.6
OTU_179	Gomphiocephalus hodgsoni	EU368601.1.1746	98.6
OTU_1670	Hypogastrura sp. CB02	AY338691.1.1731	98.6
OTU_780	Hypogastrura sp. CB02	AY338691.1.1731	97.1
OTU_363	Sphaeridia pumilis	AY145140.1.1748	100
OTU_367	Lentula callani	KM853234.1.1623	100
OTU_566	Thrips imaginis (plague thrips)	KC513018.1.1818	100
OTU_343	uncultured microeukaryote	JN705525.1.1373	100
OTU_115	Chaetonotus cf. oculifer TK188	JQ798576.1.1710	100
OTU_99	Tylocephalus auriculatus	AF202155.1.1734	100
OTU_356	Plectus acuminatus	AF037628.1.1674	100
OTU_2143	Chronogaster typica	KJ636360.1.1698	98.5
OTU_166	Paralamyctes environmental sample	EF024168.1.1785	99.3
OTU_9	(Oslerus osleri)	AY295812.1.1697	94.8
OTU_203	(Neopsilenchus magnidens)	KJ869328.1.1705	96.4
OTU_376	Enchodelus cf. nepalensis 1 JH-2014	KJ636402.1.1704	97.0
OTU_161	Nematoda sp. MQ26	JQ894731.1.1617	99.3
OTU_174	uncultured bdelloid rotifer	GQ922286.1.1635	98.6
OTU_1839	Philodina megalotrocha	KF561102.1.1731	99.3

Appendix 4. Nearest match for sequenced CO1 OTUs in Genbank

OTU	Species (nearest match)	Accession	Match%
OTU_1547	Indet Cecidomyidae	KM634518.1	82.0
OTU_1636	Pleurotus citrinopileatus	GU070911	83.0
OTU_362	Vexillifera sp.	MH349032.1	87.0
OTU_404	Indet. Mycetophilidae	KR460889.1	82.0
OTU_326	Acanthamoeba sp.	MH124198.1	94.0
OTU_211	Parvamoeba sp.	JN202434.1	86.4
OTU_351	Myzocytiopsis sp.	KT257395.1	87.1
OTU_195	Paravannella sp.	KF895382.1	86.1
OTU_2129	Parvamoeba sp.	JN202434.1	84.7
OTU_169	Cunea sp.	KP862852.1	84.2
OTU_291	Indet. metazoan	GU070902	89.4
OTU_94	Vexillifera sp.	MH349032.1	85.3
OTU_100	Indet. metazoan	GU070901	86.6
OTU_15	Indet. metazoan	GU070901	86.7
OTU_11	Indet. metazoan	KX665223.1	87.1
OTU_1642	Verticillium sp.	CP009079.1	89.6
OTU_370	Annelida sp.	EU835658	95.2
OTU_553	Haptoglossa sp. DM2	KT257394.1	83.5
OTU_105	(Heterotarsus_carinula)	KU188332	79.8
OTU_1535	(Orumceikia_sp._ZZ625)	KY778905	80.7
OTU_59	(Protaphorura_sp._LD_11_061_1)	KU508214	83.8
OTU_151	Hypogastruridae_sp._BOLD:AAC8039	KM617463	100
OTU_204	Ceratophysella_denticulata_L3	JX261884	99.0
OTU_82	Ceratophysella_sp._1_CADH-2011	HQ732041	99.7
OTU_628	(Trichobius_johnsonae)	KY882242	82.2
OTU_580	(Insecta_sp._SHSY141205)	KU720137	80.8
OTU_259	(Aguna_aurunce_hypozoneus)	JF761342	80.3
OTU_262	(Insecta_sp._SHSY141205)	KU720137	83.2
OTU_60	(Insecta_sp._SHSY141205)	KU720137	81.8
OTU_1265	(Haplothrips_tenuipennis)	KP845857	89.4
OTU_513	(Haplothrips_tenuipennis)	KP845857	89.1
OTU_103	(Haplothrips_tenuipennis)	KP845857	86.5
OTU_27	(Haplothrips_tenuipennis)	KP845857	88.1
OTU_28	(Haplothrips_tenuipennis)	KP845857	88.4
OTU_12	(Haplothrips_tenuipennis)	KP845857	89.3
OTU_276	(Haplothrips_tenuipennis)	KP845857	91.6

OTU_44	(Haplothrips_tenuipennis)	KP845857	91.0
OTU_594	(Turritopsis_chevalense)	KX096598	80.9
OTU_545	(Xingyurella_xingyuarum)	MF135583	80.6
OTU_45	(Mastigias_sp._IDBEDKK)	KU900918	80.9
OTU_570	(Bursaphelenchus_cocophilus)	AY508039	80.8
OTU_789	(Bursaphelenchus_cocophilus)	AY508039	85.0
OTU_48	(Bursaphelenchus_cocophilus)	AY508039	85.1
OTU_495		KY011951	84.6
OTU_344 3		KY011951	82.0
OTU_190		KY011951	84.5
OTU_93		KY011951	81.7
OTU_640	(Asplanchna_sieboldi)	AF416994	81.9
OTU_665	(Asplanchna_sieboldi)	AF416994	83.3

Annexure G

Assessment of serious and irreversible impacts (SAII)

G.1 SAI assessment – Clover Glycine

Table G.1 SAI assessment – Clover Glycine

Criteria	Discussion
The action and measures taken to avoid the direct and indirect impact on the potential entity for an SAI	Original designs for the Snowy 2.0 Main Works included Circuits Trail, to the east of Tantangara Road. Following targeted surveys within this area, the footprint was altered to avoid these areas and direct impacts to a large population of over 600 Clover Glycine, as well as other threatened flora. Existing access tracks and roads have been utilised for Main Works, with impacts restricted to the removal of some adjacent vegetation to wide some sections. Ultimately reducing direct impacts to intact native vegetation and threatened species habitat. Mitigation measures including monitoring programs for weeds, pathogens and predator and pest species will be implemented to prevent the increase in invasive species and pathogens within the project area. Additional mitigation measures have been designed to reduced indirect impacts to threatened species, including the Clover Glycine.
The size of the local population directly and indirectly impacted by the development, clearing or biodiversity certification	A total 892 individuals of Clover Glycine were recorded across the study area. Out of these, 26 individuals (3% of the local population) will be directly impacted as a result of Main Works.
The extent to which the impact exceeds any threshold for the potential entity that is specified in the Guidance to assist a decision-maker to determine a serious and irreversible impact	The TBDC does not provide a threshold for this species as it is currently under development.
The likely impact (including direct and indirect impacts) that the development, clearing or biodiversity certification will have on the habitat of the local population, including but not limited to: • an estimate of the change in habitat available to the local population as a result of the proposed development; • the proposed loss, modification, destruction or isolation of the available habitat used by the local population; and • modification of habitat required for the maintenance of processes important to the species' life cycle (such as in the case of a plant – pollination, seed set, seed dispersal, germination), genetic diversity and long-term evolutionary development.	Main Works will result in the direct removal of 2.01 ha of Clover Glycine habitat. The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral pigs and rabbits), that may potentially degrade or modify habitat used by the local population. Appropriate mitigation measures will be implemented to ensure the Main Works does not result in any indirect impacts that may modify or destroy available habitat used by the local population.

Table G.1 SAI assessment – Clover Glycine

Criteria	Discussion
The likely impact on the ecology of the local population. At a minimum, address (for flora) how the proposal is likely to affect the ecology and biology of any residual plant population that will remain post development including where information is available: • pollination cycle; • seedbanks; • recruitment; and • interactions with other species (e.g. pollinators, host species, mycorrhizal associations).	The Clover Glycine is known to be a self-pollinating and is also known to be pollinated by bees (Carter and Sutter 2010). The seeds of Clover Glycine are most likely stored in the soil seed bank for future germination. Seeds are likely to germinate after an appropriate fire event. The Clover Glycine can also re-sprout from the tap root post fire. Reproduction may also be vegetative through the rhizome/thickened tap root (Carter and Sutter 2010). The project is unlikely to result in impacts to key pollinators or affect natural fire regimes associated with germination.
A description of the extent to which the local population will become fragmented or isolated as a result of the proposed development	The existing Clover Glycine population is separated into subpopulations by existing tracks and roads throughout the KNP. The Main Works will result in the removal of vegetation adjacent to Tantangara Dam and adjacent to Tantangara Road. The species is not predicted to become further fragmented or isolated as a result of the project.
The relationship of the local population to other population/populations of the species. This must include consideration of the interaction and importance of the local population to other population/populations for factors such as breeding, dispersal and genetic viability/diversity, and whether the local population is at the limit of the species' range	The estimated total population of Clover Glycine is 7,000 plants (Carter & Sutter 2010). The population recorded during targeted surveys for Snowy 2.0 is the only known population in NSW. Other populations occur in Victoria, Tasmania and South Australia. These populations are geographically isolated. Within the local population, 26 plants out of an observed 892 (2.9%) will be directly impacted, with potential for indirect impacts from weeds and pest species if not managed appropriately. Large areas of suitable, high-quality habitat will remain intact.
The extent to which the proposed development will lead to an increase in threats and indirect impacts, including impacts from invasive flora and fauna, that may in turn lead to a decrease in the viability of the local population	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral pigs and rabbits). Known threats to the Clover Glycine include the competition of Ox-eye daisy and trampling by pigs. Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species.
An estimate of the area, or number of populations and size of populations that is in the reserve system in NSW, the IBRA region and the IBRA subregion	There were seven records of the Clover Glycine within NSW prior to targeted surveys. About 140 populations containing approximately 7,000 individuals have been recorded since 1980 (Carter & Sutter 2010). The population of Clover Glycine within the region includes 892 individuals.

Table G.1 SAI assessment – Clover Glycine

Criteria	Discussion
The measure/s proposed to contribute to the recovery of the species in the IBRA subregion	The offset strategy for Snowy 2.0 Main Works included a number of proposed conservation measures to be implemented within KNP to benefit the species and communities being impacted. This includes conservation actions that will directly benefit Clover Glycine. These conservation actions have taken the Clover Glycine Recovery Plan (Carter and Sutter 2010) into consideration.

A.1 SAI assessment – Kiandra Leek Orchid

Table G.2 SAI assessment – Kiandra Leek Orchid

Criteria	Discussion
The action and measures taken to avoid the direct and indirect impact on the potential entity for an SAI	Original designs for the project included construction of the power station complex in the plateau area, including a number of ancillary facilities and impacts. Identification of sensitive biodiversity values, including the Kiandra Leek Orchid, resulted in a strong focus on relocating these project elements. This resulted in a significant reduction in impacts across the plateau, with only the communication cables to be located in this area. Existing access tracks and roads have been utilised for Main Works wherever possible, with impacts limited to the removal of some adjacent vegetation to widen some sections. This has resulted in a reduction of direct impacts to intact native vegetation and threatened species habitat. Mitigation measures including monitoring programs for weeds, pathogens and predator and pest species will be implemented to prevent the increase in invasive species and pathogens within the project area. Additional mitigation measures have been designed to reduced indirect impacts to threatened species, including the Kiandra Leek Orchid.
The size of the local population directly and indirectly impacted by the development, clearing or biodiversity certification	A total 1,463 individuals of Kiandra Leek Orchid were recorded across the survey area. Out of these, 53 individuals (3.6%) will be directly impacted as a result of Main Works.
The extent to which the impact exceeds any threshold for the potential entity that is specified in the Guidance to assist a decision-maker to determine a serious and irreversible impact	The TBDC does not provide a threshold for this species as it is currently under development.
The likely impact (including direct and indirect impacts) that the development, clearing or biodiversity certification will have on the habitat of the local population, including but not limited to: - an estimate of the change in habitat available to the local population as a result of the proposed development; - the proposed loss, modification, destruction or isolation of the available habitat used by the local population; and - modification of habitat required for the maintenance of processes important to the species' life cycle (such as in the case of a plant – pollination, seed set, seed dispersal, germination), genetic diversity and long-term evolutionary development.	Main Works will result in the direct removal of 1.67 ha of Kiandra Leek Orchid habitat. The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral pigs and rabbits), that may potentially degrade or modify habitat used by the local population. Appropriate mitigation measures will be implemented to ensure the Main Works does not result in any indirect impacts that may modify or destroy available habitat used by the local population.

Table G.2 **SAIL assessment – Kiandra Leek Orchid**

Criteria	Discussion
The likely impact on the ecology of the local population. At a minimum, address (for flora) how the proposal is likely to affect the ecology and biology of any residual plant population that will remain post development including where information is available: • pollination cycle; • seedbanks; • recruitment; and • interactions with other species (e.g. pollinators, host species, mycorrhizal associations).	Limited information is available on the ecology of the Kiandra Leek Orchid. <i>Prasophyllum</i> spp. are pollinated by nectar-seeking insects including wasps and bees with some species producing seed without fertilization (Bates 1994) The project is unlikely to result in impacts to key pollinators including bees and wasps.
A description of the extent to which the local population will become fragmented or isolated as a result of the proposed development	The Kiandra Leek Orchid population is separated into subpopulations throughout the survey area. The project area includes existing tracks and roads within the KNP. The Main Works is not considered likely to result in any additional fragmentation of the population.
The relationship of the local population to other population/populations of the species. This must include consideration of the interaction and importance of the local population to other population/populations for factors such as breeding, dispersal and genetic viability/diversity, and whether the local population is at the limit of the species' range	The Kiandra Leek Orchid is known only from the KNP. Limited records of the species were known from within the National Park prior to surveys for Snowy 2.0. with just two records recorded in BioNet. The species has now been recorded across the survey area, spanning from Snowy Mountains Highway to the west, across the Plateau, Tantangara and east of Tantangara along Circuits trail.
The extent to which the proposed development will lead to an increase in threats and indirect impacts, including impacts from invasive flora and fauna, that may in turn lead to a decrease in the viability of the local population	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral pigs and rabbits). Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species.
An estimate of the area, or number of populations and size of populations that is in the reserve system in NSW, the IBRA region and the IBRA subregion	There are nine records of the Kiandra Leek Orchid within NSW prior to targeted surveys. Targeted surveys recorded 1,463 individuals across the survey area. This represents a large portion of the population.
The measure/s proposed to contribute to the recovery of the species in the IBRA subregion.	The offset strategy for Snowy 2.0 Main Works included a number of proposed conservation measures to be implemented within KNP to benefit the species and communities being impacted. This includes conservation actions that will directly benefit Kiandra Leek Orchid.

A.2 SAI assessment – Mauve Burr-daisy

Table G.3 SAI assessment – Mauve Burr-daisy

Criteria	Discussion
The action and measures taken to avoid the direct and indirect impact on the potential entity for an SAI	Original designs for the project included construction of the power station complex in the plateau area, including a number of ancillary facilities and impacts. Identification of sensitive biodiversity values, including the Mauve Burr-daisy, resulted in a strong focus on relocating project elements. This resulted in a significant reduction in impacts across the plateau area, with only the communication cables to be located in this area. Existing access tracks and roads have been utilised for Main Works, including the removal of some adjacent vegetation to wide some sections. Ultimately reducing direct impacts to intact native vegetation and threatened species habitat. Mitigation measures including monitoring programs for weeds, pathogens and predator and pest species will be implemented to prevent the increase in invasive species and pathogens within the project area. Additional mitigation measures have been designed to reduced indirect impacts to threatened species, including the Mauve Burr-daisy.
The size of the local population directly and indirectly impacted by the development, clearing or biodiversity certification	A total 21,142 individuals of Mauve Burr-daisy were recorded across the study area. Out of these, 3,686 individuals will be directly impacted as a result of Main Works.
The extent to which the impact exceeds any threshold for the potential entity that is specified in the Guidance to assist a decision-maker to determine a serious and irreversible impact	The TBDC does not provide a threshold for this species as it is currently under development.
The likely impact (including direct and indirect impacts) that the development, clearing or biodiversity certification will have on the habitat of the local population, including but not limited to: • an estimate of the change in habitat available to the local population as a result of the proposed development; • the proposed loss, modification, destruction or isolation of the available habitat used by the local population; and • modification of habitat required for the maintenance of processes important to the species' life cycle (such as in the case of a plant – pollination, seed set, seed dispersal, germination), genetic diversity and long-term evolutionary development.	Main Works will result in the direct removal of 16.55 ha of Mauve Burr-daisy habitat. The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral pigs and rabbits), that may potentially degrade or modify habitat used by the local population. Appropriate mitigation measures will be implemented to ensure the Main Works does not result in any indirect impacts that may modify or destroy available habitat used by the local population.
The likely impact on the ecology of the local population. At a minimum, address (for flora) how the proposal is likely to affect the ecology and biology of any residual plant population that will remain post development including where information is available: • pollination cycle; • seedbanks; • recruitment; and • interactions with other species (e.g. pollinators, host species, mycorrhizal associations).	Limited information is provided on the ecology of the Mauve Burr-daisy. The species is known to pollinate by the dispersal of burrs stuck to animals. The KNP is home to a large diversity of fauna species throughout the park. The project is unlikely to result in impacts to the pollination of the Mauve Burr-daisy.

Table G.3 SAI assessment – Mauve Burr-daisy

Criteria	Discussion
A description of the extent to which the local population will become fragmented or isolated as a result of the proposed development	The Mauve Burr-daisy is known to occur along road edges and disturbed patches of vegetation and was recorded along existing tracks within the National Park. There are 21,142 individuals of the species across the survey area. The species occurs across a large fragmented landscape, with NP tracks and disturbance from human recreational activities. The species is not predicted to become further fragmented or isolated as a result of the project.
The relationship of the local population to other population/populations of the species. This must include consideration of the interaction and importance of the local population to other population/populations for factors such as breeding, dispersal and genetic viability/diversity, and whether the local population is at the limit of the species' range	The Mauve Burr-daisy is known to occur on the Monaro and Kosciuszko regions as well as in the upper Shoalhaven catchment. The population recorded within the project area is not considered an important local population with the species recorded extensively throughout the survey area and broader KNP.
The extent to which the proposed development will lead to an increase in threats and indirect impacts, including impacts from invasive flora and fauna, that may in turn lead to a decrease in the viability of the local population	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral pigs and rabbits). Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species.
An estimate of the area, or number of populations and size of populations that is in the reserve system in NSW, the IBRA region and the IBRA subregion	Prior to targeted surveys, 133 records of <i>Calotis glandulosa</i> were recorded within the Australian Alps IBRA region with a total of 368 records within NSW. The recorded population within the survey area is over 3,600 individuals.
The measure/s proposed to contribute to the recovery of the species in the IBRA subregion.	The offset strategy for Snowy 2.0 Main Works included a number of proposed conservation measures to be implemented within KNP to benefit the species and communities being impacted. This includes conservation actions that will directly benefit Mauve Burr-daisy.

A.3 SAI assessment – Raleigh Sedge

Table G.4 SAI assessment – Raleigh Sedge

Criteria	Discussion
The action and measures taken to avoid the direct and indirect impact on the potential entity for an SAI	Original designs for the project included construction of the power station complex in the plateau area, including a number of ancillary facilities and impacts. Identification of sensitive biodiversity values, including the Raleigh Sedge, resulted in a strong focus on relocating project elements. This resulted in a significant reduction in impacts across the plateau area, with only the communication cables to be located in this area. Existing access tracks and roads have been utilised for Main Works, including the removal of some adjacent vegetation to wide some sections. Ultimately reducing direct impacts to intact native vegetation and threatened species habitat. Mitigation measures including monitoring programs for weeds, pathogens and predator and pest species will be implemented to prevent the increase in invasive species and pathogens within the project area. Additional mitigation measures have been designed to reduced indirect impacts to threatened species, including the Raleigh Sedge.
The size of the local population directly and indirectly impacted by the development, clearing or biodiversity certification	Approximately 7,958 individuals of Raleigh Sedge were recorded across the survey area. Out of these, 11 individuals will be directly impacted as a result of Main Works.
The extent to which the impact exceeds any threshold for the potential entity that is specified in the Guidance to assist a decision-maker to determine a serious and irreversible impact	The TBDC does not provide a threshold for this species as it is currently under development.
The likely impact (including direct and indirect impacts) that the development, clearing or biodiversity certification will have on the habitat of the local population, including but not limited to: • an estimate of the change in habitat available to the local population as a result of the proposed development; • the proposed loss, modification, destruction or isolation of the available habitat used by the local population; and • modification of habitat required for the maintenance of processes important to the species' life cycle (such as in the case of a plant – pollination, seed set, seed dispersal, germination), genetic diversity and long-term evolutionary development.	Main Works will result in the direct removal of 0.38 ha of Raleigh Sedge habitat. The Main Works has the potential to result in the introduction and spread of weed species, and increase in abundance of feral animals (including feral pigs and rabbits). Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species.

Table G.4 SAIL assessment – Raleigh Sedge

Criteria	Discussion
The likely impact on the ecology of the local population. At a minimum, address (for flora) how the proposal is likely to affect the ecology and biology of any residual plant population that will remain post development including where information is available: • pollination cycle; • seedbanks; • recruitment; and • interactions with other species (e.g. pollinators, host species, mycorrhizal associations).	There is limited information regarding the ecology of Raleigh Sedge.
A description of the extent to which the local population will become fragmented or isolated as a result of the proposed development	The Raleigh Sedge population is separated into subpopulations throughout the survey area. The project area includes existing tracks and roads within the KNP. The Main Works is not considered likely to result in any additional fragmentation of the population.
The relationship of the local population to other population/populations of the species. This must include consideration of the interaction and importance of the local population to other population/populations for factors such as breeding, dispersal and genetic viability/diversity, and whether the local population is at the limit of the species' range	The Raleigh Sedge is known to occur across NSW, Victoria and Tasmania. Within NSW the species is only known to occur in areas above 1,000 meters on the Southern Tablelands (and presumably the Australian Alps). The species has a wide distribution within the KNP.
The extent to which the proposed development will lead to an increase in threats and indirect impacts, including impacts from invasive flora and fauna, that may in turn lead to a decrease in the viability of the local population	The Main Works has the potential to result in the introduction and spread of weed species, and increase in abundance of feral animals (including feral pigs and rabbits). Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species.
An estimate of the area, or number of populations and size of populations that is in the reserve system in NSW, the IBRA region and the IBRA subregion	There are 14 records of the Raleigh Sedge within NSW prior to targeted surveys. During targeted surveys, 7,958 individuals were recorded.
The measure/s proposed to contribute to the recovery of the species in the IBRA subregion.	The offset strategy for Snowy 2.0 Main Works included a number of proposed conservation measures to be implemented within KNP to benefit the species and communities being impacted. This includes conservation actions that will directly benefit Raleigh Sedge.

A.4 SAI assessment – Smoky Mouse

Table G.5 SAI assessment – Smoky Mouse

Criteria	Discussion
The action and measures taken to avoid the direct and indirect impact on the potential entity for an SAI	Since the initial identification of the Smoky Mouse along Lobs Hole Ravine Road, a number of options for widening the road have been considered. Regional surveys were undertaken for these species, with the species recorded over large areas, placing the original finding of Smoky Mouse on Lobs Hole Ravine Road in a broader regional context. This has negated much of the benefit of alternative options to widening of Lobs Hole Ravine Road. Consideration was also given to fencing of Lobs Hole Ravine Road in order to minimise impacts to Smoky Mouse, with provision of under-road crossing points via culvert. Concerns were raised that this measure may result in significant fragmentation and loss of connectivity, and thus alternative measures have been proposed. Indirect impacts could occur due to fauna vehicle strike if vehicles are moving during the night time when the Smoky Mouse is active. A reduced speed limit will be imposed on Lobs Hole Ravine Road at night when fauna species are likely to be most active. Mitigation measures including monitoring programs for weeds, pathogens and predator and pest species will also be implemented to prevent the increase in invasive species and pathogens within the project area. Additional mitigation measures have been designed to reduced indirect impacts to threatened species, including the Smoky Mouse.
The size of the local population directly and indirectly impacted by the development, clearing or biodiversity certification	Smoky Mouse was recorded at 71 locations throughout the survey area. Main Works will result in the reduction of 174.63 ha of Smoky Mouse habitat.
The extent to which the impact exceeds any threshold for the potential entity that is specified in the Guidance to assist a decision-maker to determine a serious and irreversible impact	The SAI threshold for Smoky Mouse is identified as the Threatened Biodiversity Data Collection (TBDC) as “mapped important areas”. Given the population that has been identified regionally (see below) this area would be considered important to the conservation of the species. Impacts to 174.63 ha of Smoky Mouse habitat will result from Main Works.
The likely impact (including direct and indirect impacts) that the development, clearing or biodiversity certification will have on the habitat of the local population, including but not limited to: • an estimate of the change in habitat available to the local population as a result of the proposed development; • the proposed loss, modification, destruction or isolation of the available habitat used by the local population; and • modification of habitat required for the maintenance of processes important to the species’ life cycle (such as in the case of a plant – pollination, seed set, seed dispersal, germination), genetic diversity and long-term evolutionary development.	Main Works will result in the removal of 174.63 ha of Smoky Mouse habitat. There is also potential for Main Works to reduce the quality of habitat, as a result of increased weed abundance or introduction of pathogens. A number of mitigation measures, including weed control prior to construction, construction of washdown stations and implementation of a weed and pathogen monitoring program will ensure habitat quality is maintained including hygiene protocols to prevent introduction of weeds, the spread of weeds or the spread of pathogens. Habitat to the north of the Marica area will result in isolation due to the removal of large areas of intact vegetation. However, all areas not retained for permanent infrastructure within the Main Works will be rehabilitated and revegetated.

Table G.5 SAIL assessment – Smoky Mouse

Criteria	Discussion
The likely impact on the ecology of the local population. At a minimum, address the following (for fauna): • breeding; • foraging; • roosting; and • dispersal or movement pathways.	Smoky Mouse occur in small discrete colonies based around patches of dense heath. They shelter in small groups, sometimes comprising a male and up to five breeding females, in a large, complex burrow system that can be up to 10 m² and more than 25m in length, with multiple nesting chambers (Ford et al. 2003; Woods & Ford 2000). Breeding occurs from September–April (Menkhorst, P. and Broome, L. 2006). Given the observed presence of males and females, the survey area is likely to support a breeding population of the Smoky Mouse. Given the observed presence of males and females, the survey area is likely to support a breeding population of the Smoky Mouse. The project will result in direct impacts to 174.63 ha of suitable habitat, with potential for additional indirect impacts through weed invasion, increased predation from Cats and Foxes and fragmentation. Mitigation measures will be implemented to reduce the impacts of weeds and predators on the species. Given the willingness of the species to cross roads such as Link Road (G.Madani pers. obs.) it is unlikely the access roads proposed will result in fragmentation of this breeding population, and prevent dispersal or other breeding activities. A threatened species monitoring program will be implemented to ensure impacts arising from the project are within prediction.
A description of the extent to which the local population will become fragmented or isolated as a result of the proposed development	The Smoky Mouse population has been recorded across a broad area within the region, over an estimated 6,000 to 7,000 ha. The species was recorded to the west and east of Lobs Hole Ravine Road and across the Marica area. The vegetation within this area is largely intact, spreading south to Lobs Hole Ravine and north towards Coppermine Firetrail. Access tracks will be constructed within Marica, with some clearing of vegetation spanning over 300 m wide. This has the potential to fragment Smoky Mouse recorded to the north of the disturbance footprint at Marica. Mitigation measures to avoid and reduce vehicles strike on Smoky Mouse will be implemented to ensure their safe movement across the road including avoiding and minimising vehicle movements at night and reducing speed limits.
The relationship of the local population to other population/populations of the species. This must include consideration of the interaction and importance of the local population to other population/populations for factors such as breeding, dispersal and genetic viability/diversity, and whether the local population is at the limit of the species' range	Targeted surveys recorded the Smoky Mouse at 71 locations across the survey area. These surveys have demonstrated that the population found within Marica and Lobs Hole Ravine are part of an extensive population in this northern section of KNP, ranging from Coppermine Firetrail in the north, to Wallace's Creek Firetrail in the east, Link Road in the south and close to the Tumut River in the west. The species is likely to have a sporadic but extensive distribution within this area.

Table G.5 SAI assessment – Smoky Mouse

Criteria	Discussion
The extent to which the proposed development will lead to an increase in threats and indirect impacts, including impacts from invasive flora and fauna, that may in turn lead to a decrease in the viability of the local population	The Main Works has the potential to result in the introduction and spread of weed species, and increase in abundance of feral animals (including feral cats, foxes and feral pigs). Weed control will be undertaken prior to construction works, where possible. Washdown stations will be constructed at suitable locations with hygiene protocols implemented to ensure weeds are not brought in with vehicles, machinery or by foot. Additionally, a weed and pathogen monitoring program will be implemented. A feral animal control program will be implemented during the construction and operational phases to minimise impacts of feral animals on wildlife. Waste will be stored appropriately in inaccessible bins and disposed off-site.
An estimate of the area, or number of populations and size of populations that is in the reserve system in NSW, the IBRA region and the IBRA subregion	The size of the location population of Smoky Mouse is unknown. The species was recorded at 71 locations across the survey area. Regional surveys undertaken across 66 sites recorded the Smoky Mouse at 40 locations, spanning from the west of Lobs Hole Ravine Road up to Marica and Coppermine Fire Trail. The nearest live records to survey area are from an artificial boulderfield constructed on an old rock stockpile at Happy Jacks dating to 2015. The species is also well-represented as subfossil remains in the pellets at roost sites of the Sooty Owl (<i>Tyto tenebricosa</i>) at Yarrangobilly Caves (Ford 1998), and three Smoky Mouse were found deceased at Yarrangobilly Caves, suspected cat kills. Several recent remains (estimated between one and three years old) have also been identified amongst hundreds of small mammals remains at Sooty Owl roosts currently in use in this cave system (R. Bilney, Forestry Corporation, pers comm. March 2018, cited in Schulz (2018). This suggest a population occurs within the foraging range of the Sooty Owl (200-1000 ha, DECC 2006b). However, recent surveys in this area have failed to re-locate the species (Schulz and Broome 2018).
The measure/s proposed to contribute to the recovery of the species in the IBRA subregion.	The Smoky Mouse subpopulations adjacent to Lobs Hole Ravine Road are currently being monitored as part of the Exploratory Works Biodiversity Management Plan. The offset strategy for Snowy 2.0 Main Works included a number of proposed conservation measures to be implemented within KNP to benefit the species and communities being impacted. This includes conservation actions that will directly benefit Smoky Mouse.

Annexure H

Credit Report

BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013511/BAAS17037/19/00016338	Snowy Hydro Main Works	30/08/2019
Assessor Name	Report Created	BAM Data version *
	04/09/2019	13
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
0	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAIL	Ecosystem credits
Alpine and sub-alpine peatlands, damp herbfields and fens, South Eastern Highlands Bioregion and Australian Alps Bioregion								
26	637_High	79.2	3.5	0.25	Moderate Sensitivity to Potential Gain	1.75		120
27	637_Medium	72.2	0.5	0.25	Moderate Sensitivity to Potential Gain	1.75		15
28	637_Poor	13.5	0.2	0.25	Moderate Sensitivity to Potential Gain	1.75		0

BAM Credit Summary Report

						Subtotal	135
Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion							
29	638_DNG	100.0	0.5	0.25	High Sensitivity to Potential Gain	1.50	17
30	638_High	91.9	15.5	0.25	High Sensitivity to Potential Gain	1.50	535
						Subtotal	552
Alpine Ash - Snow Gum shrubby tall open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion							
31	639_High	69.3	5.0	0.25	High Sensitivity to Potential Gain	1.50	130
32	639_Other	79.5	1.6	0.25	High Sensitivity to Potential Gain	1.50	48
						Subtotal	178
Alpine shrubland on scree, blockstreams and rocky sites of high altitude areas of Kosciuszko National Park, Australian Alps Bioregion							
33	643_Low	13.0	0.3	0.25	Moderate Sensitivity to Potential Gain	1.25	0
						Subtotal	0
Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion							
34	644_DNG	60.5	2.6	0.25	High Sensitivity to Potential Gain	1.50	59
35	644_High	90.6	104.9	0.25	High Sensitivity to Potential Gain	1.50	3567
36	644_Medium	67.6	0.4	0.25	High Sensitivity to Potential Gain	1.50	10
37	644_Other	67.1	8.3	0.25	High Sensitivity to Potential Gain	1.50	208
						Subtotal	3844

BAM Credit Summary Report

Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion							
38	679_High	51.0	0.3	0.25	High Sensitivity to Potential Gain	1.50	5
39	679_Other	81.1	0.0	0.25	High Sensitivity to Potential Gain	1.50	1
						Subtotal	6
Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion							
21	303_DNG	29.6	17.1	0.25	High Sensitivity to Potential Gain	2.50	316
22	303_High	87.6	60.2	0.25	High Sensitivity to Potential Gain	2.50	3293
23	303_Other	71.0	0.8	0.25	High Sensitivity to Potential Gain	2.50	37
24	303_Poor	50.5	0.4	0.25	High Sensitivity to Potential Gain	2.50	12
						Subtotal	3658
Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion							
5	296_DNG	57.9	0.7	0.25	High Sensitivity to Potential Gain	1.50	15
6	296_High	54.0	8.6	0.25	High Sensitivity to Potential Gain	1.50	175
7	296_Low	3.4	1.1	0.25	High Sensitivity to Potential Gain	1.50	0
8	296_Medium	70.4	19.5	0.25	High Sensitivity to Potential Gain	1.50	515
9	296_Poor	4.2	0.1	0.25	High Sensitivity to Potential Gain	1.50	0
						Subtotal	705
Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion							
40	729_DNG	31.1	3.0	0.25	High Sensitivity to Potential Gain	1.50	35

BAM Credit Summary Report

41	729_High	77.6	66.6	0.25	High Sensitivity to Potential Gain	1.50		1936
42	729_Low	6.0	0.2	0.25	High Sensitivity to Potential Gain	1.50		0
43	729_Medium	78.2	11.4	0.25	High Sensitivity to Potential Gain	1.50		334
							Subtotal	2305
Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion								
1	285_DNG	0.6	1.5	0.25	High Sensitivity to Potential Gain	2.00		0
2	285_High	56.7	0.1	0.25	High Sensitivity to Potential Gain	2.00		4
3	285_Medium	36.9	4.8	0.25	High Sensitivity to Potential Gain	2.00		88
4	285_Poor	56.0	0.6	0.25	High Sensitivity to Potential Gain	2.00		16
							Subtotal	108
Carex - Juncus sedgeland/wet grassland of the South Eastern Highlands Bioregion								
44	765_High	75.5	0.1	0.25	Moderate Sensitivity to Potential Gain	1.25		3
							Subtotal	3
Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion								
45	952_DNG	31.6	0.5	0.25	High Sensitivity to Potential Gain	1.75		7
46	952_High	100.0	3.6	0.25	High Sensitivity to Potential Gain	1.75		159
47	952_Medium	100.0	14.8	0.25	High Sensitivity to Potential Gain	1.75		645
							Subtotal	811

BAM Credit Summary Report

Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion							
48	953_DNG	32.0	1.5	0.25	High Sensitivity to Potential Gain	1.50	18
49	953_High	89.9	12.9	0.25	High Sensitivity to Potential Gain	1.50	434
						Subtotal	452
Norton's Box - Broad-leaved Peppermint open forest on footslopes, central and southern South Eastern Highlands Bioregion							
50	999_DNG	38.3	1.2	0.25	High Sensitivity to Potential Gain	1.50	18
51	999_High	70.9	37.4	0.25	High Sensitivity to Potential Gain	1.50	995
52	999_Medium	48.6	4.7	0.25	High Sensitivity to Potential Gain	1.50	86
						Subtotal	1099
Red Stringybark - Broad-leaved Peppermint - Nortons Box heath open forest of the upper slopes subregion in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion							
25	311_High	69.0	37.1	0.25	High Sensitivity to Potential Gain	1.50	959
						Subtotal	959
Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment							
12	300_DNG	4.3	1.5	0.25	High Sensitivity to Potential Gain	1.50	0
13	300_High	67.1	54.7	0.25	High Sensitivity to Potential Gain	1.50	1375
14	300_Medium	56.8	8.6	0.25	High Sensitivity to Potential Gain	1.50	183
15	300_Other	39.8	4.9	0.25	High Sensitivity to Potential Gain	1.50	73
						Subtotal	1631

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Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion								
16	302_High	93.6	0.8	0.25	High Sensitivity to Potential Gain	1.75		34
17	302_Low	19.2	2.7	0.25	High Sensitivity to Potential Gain	1.75		23
18	302_Medium	46.3	1.6	0.25	High Sensitivity to Potential Gain	1.75		32
19	302_Other	50.3	3.2	0.25	High Sensitivity to Potential Gain	1.75		70
20	302_Poor	0.1	0.1	0.25	High Sensitivity to Potential Gain	1.75		0
							Subtotal	159
Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion								
10	299_High	73.8	2.0	0.25	High Sensitivity to Potential Gain	1.75		63
11	299_Medium	65.4	1.9	0.25	High Sensitivity to Potential Gain	1.75		55
							Subtotal	118
Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion								
53	1191_DNG	33.1	1.6	0.25	High Sensitivity to Potential Gain	2.50		33
54	1191_High	66.4	23.3	0.25	High Sensitivity to Potential Gain	2.50		968
55	1191_Medium	43.8	1.2	0.25	High Sensitivity to Potential Gain	2.50		31
							Subtotal	1032
Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion								
56	1196_DNG	43.4	89.4	0.25	High Sensitivity to Potential Gain	1.50		1455
57	1196_High	92.3	214.8	0.25	High Sensitivity to Potential Gain	1.50		7433

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58	1196_Medium	81.3	28.2	0.25	High Sensitivity to Potential Gain	1.50		858
59	1196_Other	44.2	14.4	0.25	High Sensitivity to Potential Gain	1.50		239
60	1196_Poor	100.0	1.4	0.25	High Sensitivity to Potential Gain	1.50		51
							Subtotal	10036
Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion								
61	1224_High	85.6	117.2	0.25	High Sensitivity to Potential Gain	1.50		3760
62	1224_Low	31.7	0.0	0.25	Moderate Sensitivity to Potential Gain	1.25		1
63	1224_Medium	49.0	15.9	0.25	High Sensitivity to Potential Gain	1.50		292
64	1224_Poor	49.7	0.7	0.25	High Sensitivity to Potential Gain	1.50		14
							Subtotal	4067
Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion								
65	1225_High	94.7	8.6	0.25	Moderate Sensitivity to Potential Gain	1.25		255
66	1225_Low	31.4	0.1	0.25	Moderate Sensitivity to Potential Gain	1.25		1
67	1225_Medium	36.5	0.1	0.25	Moderate Sensitivity to Potential Gain	1.25		1
68	1225_Poor	47.8	0.2	0.25	Moderate Sensitivity to Potential Gain	1.25		3
							Subtotal	260
							Total	32118

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAI	Species credits
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<i>Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)</i>						
296_High	54.0	0.14	0.25	2 N/A		4
296_Medium	70.4	0.68	0.25	2 N/A		24
300_High	67.1	0.39	0.25	2 N/A		13
729_High	77.6	1	0.25	2 N/A		39
953_High	89.9	1.06	0.25	2 N/A		48
1196_High	92.3	2.16	0.25	2 N/A		100
					Subtotal	228
<i>Calotis glandulosa / Mauve Burr-daisy (Flora)</i>						
303_DNG	29.6	0.06	0.25	3 True		1
303_High	87.6	0.85	0.25	3 True		56
303_Other	71.0	0.24	0.25	3 True		13
637_High	79.2	0.18	0.25	3 True		11
644_High	90.6	0.38	0.25	3 True		26
644_Other	67.1	0.06	0.25	3 True		3
1196_DNG	43.4	0.94	0.25	3 True		31
1196_High	92.3	8.63	0.25	3 True		597
1224_High	85.6	4.99	0.25	3 True		320
1225_High	94.7	0.22	0.25	3 True		16
					Subtotal	1074

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Carex raleighii / Raleigh Sedge (Flora)						
644_High	90.6	0.22	0.25	3	True	15
1224_High	85.6	0.15	0.25	3	True	10
1225_High	94.7	0.01	0.25	3	True	1
					Subtotal	26
Cercartetus nanus / Eastern Pygmy-possum (Fauna)						
296_High	54.0	8.64	0.25	2	False	233
296_Medium	70.4	19.49	0.25	2	False	686
296_Poor	4.2	0.05	0.25	2	False	0
300_High	67.1	54.67	0.25	2	False	1834
300_Medium	56.8	8.59	0.25	2	False	244
300_Other	39.8	4.87	0.25	2	False	97
302_High	93.6	0.82	0.25	2	False	38
302_Medium	46.3	1.6	0.25	2	False	37
302_Other	50.3	3.19	0.25	2	False	80
302_Poor	0.1	0.13	0.25	2	False	0
311_High	69.0	37.05	0.25	2	False	1279
638_High	91.9	15.51	0.25	2	False	713
639_High	69.3	5.01	0.25	2	False	174
639_Other	79.5	1.6	0.25	2	False	64
729_High	77.6	66.55	0.25	2	False	2581

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729_Medium		78.2	11.41	0.25	2 False	446
953_High		89.9	12.88	0.25	2 False	579
999_High		70.9	37.43	0.25	2 False	1326
999_Medium		48.6	4.7	0.25	2 False	114
1196_High		92.3	214.81	0.25	2 False	9911
1196_Medium		81.3	28.15	0.25	2 False	1144
1196_Other		44.2	14.42	0.25	2 False	319
1196_Poor		100.0	1.36	0.25	2 False	68
					Subtotal	21967
<i>Cyclodomorphus praealtus / Alpine She-oak Skink (Fauna)</i>						
1224_High		85.6	117.19	0.25	2 False	5014
1224_Medium		49.0	15.91	0.25	2 False	390
1224_Poor		49.7	0.73	0.25	2 False	18
					Subtotal	5422
<i>Discaria nitida / Leafy Anchor Plant (Flora)</i>						
1224_High	N/A		13	0.25	2 False	26
1225_High	N/A		4	0.25	2 False	8
					Subtotal	34
<i>Glycine latrobeana / Glycine latrobeana (Flora)</i>						
637_Medium		72.2	0.01	0.25	3 True	1
1196_High		92.3	0.24	0.25	3 True	17

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1224_High	85.6	1.33	0.25	3	True	85
1224_Medium	49.0	0.43	0.25	3	True	16
					Subtotal	119
<i>Litoria booroolongensis / Booroolong Frog (Fauna)</i>						
302_Low	19.2	2.19	0.25	2	False	21
296_Low	3.4	0.38	0.25	2	False	1
296_High	54.0	0.07	0.25	2	False	2
296_Medium	70.4	0.06	0.25	2	False	2
300_High	67.1	1.49	0.25	2	False	50
302_High	93.6	0.4	0.25	2	False	19
302_Medium	46.3	0.61	0.25	2	False	14
302_Other	50.3	2.93	0.25	2	False	74
302_Poor	0.1	0.13	0.25	2	False	0
729_DNG	31.1	0.01	0.25	2	False	0
729_High	77.6	0.33	0.25	2	False	13
999_High	70.9	0.55	0.25	2	False	19
					Subtotal	215
<i>Litoria verreauxii alpina / Alpine Tree Frog (Fauna)</i>						
1225_Low	31.4	0.05	0.25	2	False	1
1224_Low	31.7	0.01	0.25	2	False	0
303_High	87.6	5.94	0.25	2	False	260

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637_High	79.2	0.98	0.25	2	False	39
637_Medium	72.2	0.04	0.25	2	False	1
637_Poor	13.5	0.15	0.25	2	False	1
644_DNG	60.5	0.26	0.25	2	False	8
644_High	90.6	1.56	0.25	2	False	71
644_Other	67.1	0.35	0.25	2	False	12
1224_High	85.6	26.25	0.25	2	False	1123
1224_Medium	49.0	7.62	0.25	2	False	187
1224_Poor	49.7	0.54	0.25	2	False	13
1225_High	94.7	4.67	0.25	2	False	221
1225_Medium	36.5	0.04	0.25	2	False	1
1225_Poor	47.8	0.17	0.25	2	False	4
Subtotal						1942
<i>Mastacomys fuscus / Broad-toothed Rat (Fauna)</i>						
637_High	79.2	3.09	0.25	2	False	122
637_Medium	72.2	0.47	0.25	2	False	17
637_Poor	13.5	0.15	0.25	2	False	1
1224_High	85.6	17.28	0.25	2	False	739
1224_Medium	49.0	0.36	0.25	2	False	9
1225_High	94.7	8.61	0.25	2	False	408
1225_Medium	36.5	0.11	0.25	2	False	2

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1225_Poor	47.8	0.17	0.25	2	False	4
					Subtotal	1302
<i>Prasophyllum retroflexum / Kiandra Leek Orchid (Flora)</i>						
303_High	87.6	0.03	0.25	3	True	2
1224_High	85.6	1.51	0.25	3	True	97
1225_High	94.7	0.13	0.25	3	True	9
					Subtotal	108
<i>Pseudomys fumeus / Smoky Mouse (Fauna)</i>						
300_High	67.1	15.03	0.25	3	True	756
638_High	91.9	15.51	0.25	3	True	1069
644_High	90.6	32.06	0.25	3	True	2180
729_High	77.6	7.37	0.25	3	True	429
953_High	89.9	12.88	0.25	3	True	868
1196_High	92.3	91.78	0.25	3	True	6352
					Subtotal	11654
<i>Pterostylis foliata / Slender Greenhood (Flora)</i>						
1196_High	92.3	0.18	0.25	2	False	8
					Subtotal	8
<i>Thelymitra alpicola / Thelymitra alpicola (Flora)</i>						
637_High	79.2	0.01	0.25	1.5	False	0



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1224_High	85.6	0.03	0.25	1.5	False	1
					Subtotal	1

Annexure I

EPBC PMST Report



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 30/08/19 15:54:52

[Summary](#)

[Details](#)

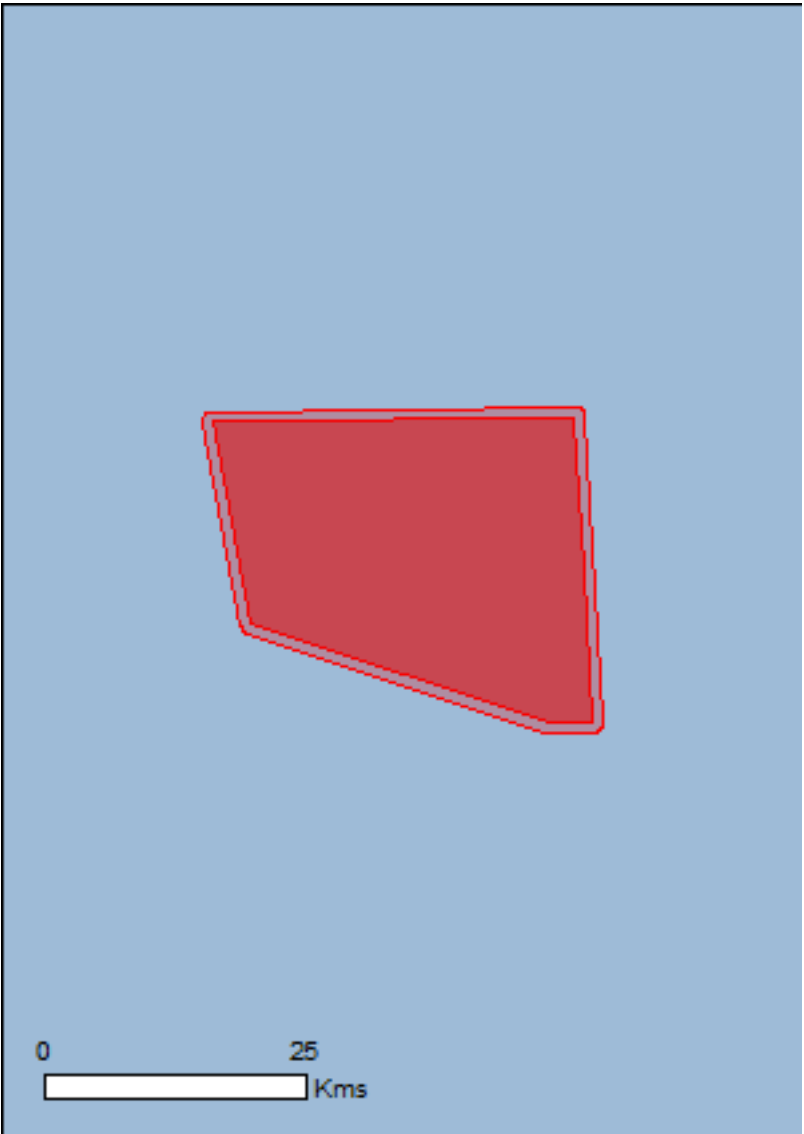
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

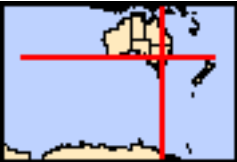
[Acknowledgements](#)



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[Coordinates](#)

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	2
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	38
Listed Migratory Species:	12

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	1
Invasive Species:	32
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

National Heritage Properties		[Resource Information]
Name	State	Status
Natural		
Australian Alps National Parks and Reserves	NSW	Listed place
Historic		
Snowy Mountains Scheme	NSW	Listed place

Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Banrock station wetland complex	700 - 800km upstream	
Hattah-kulkyne lakes	500 - 600km upstream	
Riverland	600 - 700km upstream	
The coorong, and lakes alexandrina and albert wetland	700 - 800km upstream	

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Alpine Sphagnum Bogs and Associated Fens	Endangered	Community known to occur within area
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Fish		
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat may occur within area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Macquaria australasica Macquarie Perch [66632]	Endangered	Translocated population known to occur within area
Frogs		
Litoria booroolongensis Booroolong Frog [1844]	Endangered	Species or species habitat known to occur within area
Litoria castanea Yellow-spotted Tree Frog, Yellow-spotted Bell Frog [1848]	Critically Endangered	Species or species habitat may occur within area
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog [1828]	Vulnerable	Species or species habitat may occur within area
Litoria spenceri Spotted Tree Frog [25959]	Endangered	Species or species habitat may occur within area
Litoria verreauxii alpina Alpine Tree Frog, Verreaux's Alpine Tree Frog [66669]	Vulnerable	Species or species habitat known to occur within area
Pseudophryne corroboree Southern Corroboree Frog [1915]	Critically Endangered	Species or species habitat may occur within area
Pseudophryne pengilleyi Northern Corroboree Frog [66670]	Critically Endangered	Species or species habitat likely to occur within area
Mammals		
Burramys parvus Mountain Pygmy-possum [267]	Endangered	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Mastacomys fuscus mordicus Broad-toothed Rat (mainland), Tooarrana [87617]	Vulnerable	Species or species habitat known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Pseudomys fumeus Smoky Mouse, Konoom [88]	Endangered	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Plants		

Name	Status	Type of Presence
Calotis glandulosa Mauve Burr-daisy [7842]	Vulnerable	Species or species habitat known to occur within area
Colobanthus curtisiae Curtis' Colobanth [23961]	Vulnerable	Species or species habitat likely to occur within area
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat may occur within area
Leucochrysum albicans var. tricolor Hoary Sunray, Grassland Paper-daisy [56204]	Endangered	Species or species habitat known to occur within area
Prasophyllum bagoense Bago Leek-orchid [84276]	Critically Endangered	Species or species habitat known to occur within area
Prasophyllum innubum Brandy Marys Leek-orchid [83603]	Critically Endangered	Species or species habitat known to occur within area
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area
Pterostylis oreophila Blue-tongued Orchid, Kiandra Greenhood [22903]	Critically Endangered	Species or species habitat known to occur within area
Rutidosis leiolepis Monaro Golden Daisy [21490]	Vulnerable	Species or species habitat known to occur within area
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat known to occur within area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat known to occur within area

Reptiles		
Cyclodomorphus praealtus Alpine She-oak Skink [64721]	Endangered	Species or species habitat may occur within area
Liopholis guthega Guthega Skink [83079]	Endangered	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Kosciuszko	NSW

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included.	
Name	State
Southern RFA	New South Wales

Invasive Species	[Resource Information]
Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.	

Name	Status	Type of Presence
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Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur

Name	Status	Type of Presence
Oryctolagus cuniculus Rabbit, European Rabbit [128]		within area
		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-35.752675 148.3556,-35.749331 148.666307,-35.962479 148.681413,-35.962201 148.643648,-35.893811 148.388559,-35.752675 148.3556

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Annexure J

EPBC Act protected matters likelihood of occurrence assessment

J.1 Likelihood of occurrence assessment – threatened ecological communities

Table J.1 Likelihood of occurrence assessment – threatened ecological communities

Threatened Ecological Community	EPBC Act ¹	BC Act ²	Likelihood of occurrence	Justification
Alpine Sphagnum Bogs and Associated Fens	EN	E3	Recorded	Alpine Sphagnum Bogs and Associated Fens community is found in permanently wet areas, such as along streams, drainage lines, valley edges and valley floors in alpine, sub-alpine and montane areas, on general to moderate slopes. The characteristic floristics, of which Sphagnum is a major component, are maintained by summer groundwater seepage. This community was recorded within the survey area and occurs within the disturbance footprint.
Natural Temperate Grassland of the South Eastern Highlands	CE	-	Negligible	Natural Temperate Grasslands of the South Eastern Highlands occurs at elevations of 250-1200 m, on a wide range of topographic positions and on soils derived from a variety of substrates. It occurs as a naturally treeless or sparsely treed community. Treeless grasslands in the project area are considered sub-alpine grasslands, derived from cold-air drainage in low-lying depressions. In the project area these grasslands lie outside of the South-east Highlands. Sub-alpine grasslands which are excluded from the community (TSSC 2016a).
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	E3	Negligible	White Box-Yellow Box-Blakely's Red Gum Grassy Woodlands occurs from Queensland to South Australia, with the predicted distribution of the community including the northern end of the survey area at Talbingo. The community occurs as a grassy woodland or derived grassland community dominated by White Box (<i>Eucalyptus albens</i>), Yellow Box (<i>E.melliodora</i>) or Blakely's Red Gum (<i>E.blakelyi</i>) in the east of the community's range, or Grey Box (<i>E. microcarpa</i> or <i>E. moluccana</i>) in the Nandewar bioregion. One PCT mapped during the detailed vegetation mapping (PCT 302 - Riparian Blakely's Red Gum - Broad-leaved Sally woodland - tea-tree - bottlebrush - wattle shrubland wetland of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion) is aligned with this TEC in the BioNet Vegetation Classification. However, this community is not dominated by any of the characteristics species outlined above and does not meet the criteria outlined in TSSC (2006) for the community. The community was not identified during detailed vegetation mapping.

Notes: 1. EPBC Act status: CE – critically endangered, EN – endangered, VU – vulnerable
2. BC Act status: E4B – critically endangered, E3 – endangered, V2 - vulnerable

J.2 Likelihood of occurrence assessment – threatened flora

Table J.2 Likelihood of occurrence assessment – threatened flora

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Calotis glandulosa</i>	Mauve Burr-daisy	VU	-	High	Recorded	The Mauve Burr-daisy is a sprawling, branches herb occurring in montane and subalpine grasslands in the Australian Alps. It is mostly found in subalpine grassland (dominated by <i>Poa</i> spp.) and montane or natural temperate grassland dominated by Kangaroo Grass and Snow Gum Woodlands within the Monaro area. The species is common on roadsides as it known to colonise on bare patches. There are 24 records of this species within 10 km of the project area. Suitable habitat was identified during initial surveys. The species was recorded within the project area during targeted surveys.
<i>Colobanthus curtisiae</i>	Curtis' Colobanth	VU	-	Moderate	Low	Curtis' Colobanth, is a glabrous tufted perennial herb to 40 mm high, forming small clumps from laterally branching short stems. The species is known to occur in a wide variety of vegetation communities, including lowland <i>Poa</i> and <i>Themeda</i> grasslands, to grassy and shrubby woodland/forests and rockplates. It occurs on gentle slopes with elevations of between 160 m to 1300 m. The species is most commonly found on soils derived from sandstone as well as clay loams derived from dolerite and basalt. The species has not been recorded within 10 km of the project area. Given the limited understanding of the species' ecology, Curtis' Colobanth was considered a candidate species requiring further consideration. The species was considered to have potential to occur on gently sloping areas with basalt derived soils in the upper reaches of Lobs Hole Ravine Road. This species was not recorded during targeted surveys.

Table J.2 Likelihood of occurrence assessment – threatened flora

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Glycine latrobeana</i>	Clover Glycine	VU	E4A	Moderate	Recorded	Clover Glycine is a decumbent to ascending herb growing to only a few centimetres high. Leaves are trifoliate, providing the name. The species is endemic to south-eastern Australia, where it is widely distributed from Port Pirie in South Australia, through much of Victoria to near Hobart in Tasmania. There are historical records of the species from Delegate and near Tom Groggin; however, subsequent searches have failed to locate these plants. In 2011 a population of Clover Glycine was located at Kelly's Plain in Kosciuszko National Park. The species is recorded from grassland and grassy woodland, with the species restricted to a ~ 3 ha area in NSW. There are seven records of this species within 10 km of the project area. Prior to survey, the species was known from a very small number of sites on Kelly's Plain. The species was recorded within the project area during targeted surveys.
<i>Leucochrysum albicans</i> var. <i>tricolor</i>	Hoary Sunray	EN	-	High	High	The Hoary Sunray is a small, perennial paper daisy endemic to south-eastern Australia, where it occurs in NSW, the ACT Victoria and Tasmania. In NSW the species occurs in an area roughly bounded by Albury, Bega and Goulburn, occupying grasslands, grassy areas in woodlands and dry open forests, and modified habitats, on a variety of soil types. There are 10 records of this species within 10 km of the project area. The project area is just within the known distribution, with the species recorded along the Snowy Mountains Highway near Rock Forest. The species was not recorded during targeted surveys across the broader survey area; however, surveys were not undertaken at Rock Forest during the appropriate survey season.

Table J.2 Likelihood of occurrence assessment – threatened flora

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Prasophyllum bagoense</i>	Bago Leek-orchid	CE	E4A	Low	Low	The Bago Leek-orchid is a slender, tuberous, terrestrial orchid growing singly or in loose groups. The species is known from a single population at McPhersons Plain, east of Tumbarumba in the Southern Tablelands of New South Wales. The species' habitat is a sub-alpine treeless plain at an elevation of approximately 1200 m where it grows in wet sedgeland, tall wet heathland, open heathland extending onto adjacent eucalypt woodland. The species grows in moist to wet shallow clay loam. The underlying basalt geology may be an important feature. There are seven records of this species within 10 km of the project area, all to the west. The survey area is outside of the known distribution of the species.
<i>Prasophyllum innubum</i>		CE	E4A	Moderate	Recorded	Brandy Mary's Leek-orchid is a terrestrial herb growing singly or in loose groups, with an erect leaf 25–50 cm long and with 6–20 small brownish-purple flowers with white or pinkish labellums. The species is restricted to a 45 km² area east of Tumbarumba in the Southern Tablelands in Bago State Forest and adjacent private land. It grows beside small streams and peatland Sphagnum hummocks, in adjacent grassy flats and also extending into open woodland at around 1,200 m elevation. The underlying basalt geology may be an important feature. There are two records of this species within 10 km of the project area. Prior to surveys the species was thought to have a restricted distribution. Surveys were undertaken based on advice from Geoff Robertson (DPIE, pers. comm.) targeting basalt outcropping and suitable Alpine bog and fen habitat. The species was recorded during targeted surveys in the plateau area, adjacent to the development footprint.

Table J.2 Likelihood of occurrence assessment – threatened flora

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Prasophyllum petilum</i>	Tarengo Leek Orchid	EN	E1	Negligible	Negligible	The Tarengo Leek-orchid is a slender herb to 30 cm, its cylindrical leaf reaching 25 cm. A narrow flowering spike is produced in October to November, with 5 to 18 flowers. The species is found at four sites in NSW at Captains Flat, Ilford, near Delegate and near Boorowa (north of the survey area) where it occurs on relatively fertile soils in grassy woodland or natural grassland. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution for this species.
<i>Pterostylis oreophila</i>	Blue-tongued Orchid	CE	E4A	Moderate	Low	The Blue-tongued Greenhood is a terrestrial orchid growing to 200 mm tall, with dark green, fleshy, flat leaves. The solitary flowers are erect, light green and white. The recurved labellum is a distinctive bluish or blue-green (aqua) colour. The species occurs at 20 locations in four distinct geographic locations including the Kiandra and Bago areas of NSW. The species grows beside small montane and subalpine streams under tall dense thickets of Mountain Tea Tree (<i>Leptospermum grandiflorum</i>), in black oozing mud or less commonly in peaty soils and sphagnum mounds. There are five records of this species within 10 km of the project area. Marginal habitat was conservatively assumed to occur in the survey area along Lobs Hole Ravine Road and the plateau area. The species was not recorded during targeted surveys.
<i>Rutidosia leirolepis</i>	Monaro Golden Daisy	VU	V	High	Recorded	The Monaro Golden Daisy, is a low, tufted perennial with dark green leaves, with a woolly under surface, to about 10 cm. The solitary, slightly domed flower-heads are about 15 mm across, and occur on erect woolly stems to about 25 cm tall. The species is known from 21 locations in Kosciuszko National Park on high (sub-alpine) treeless plains, mainly above an altitude of 1,200 m. There are 16 records of this species within 10 km of the project area. Suitable habitat was identified during initial surveys. The species was recorded during targeted surveys adjacent to the disturbance boundary.

Table J.2 Likelihood of occurrence assessment – threatened flora

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Swainsona recta</i>	Small Purple-pea	EN	-	Low	Negligible	The Small Purple-pea is a slender erect herb growing 30 cm tall. Pre-European settlement the species occurred in the grassy understorey of woodlands and open-forests dominated by Blakely's Red Gum, Yellow Box and Candlebark. The Small Purple-pea is known to grow in association with understorey dominants including Kangaroo Grass, Poa Tussocks and Spear-grasses. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution for this species.
<i>Thesium australe</i>	Austral Toadflax	VU	V	Moderate	Low	Austral Toadflax is a hairless, yellow-green perennial herb with slender wiry stems to 40 cm high and tiny white flowers. The species occurs in NSW, the ACT, Queensland and Victoria and has a sporadic and widespread distribution within this range. The species occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast and is often found in association with Kangaroo Grass (<i>Themeda australis</i>). There are 20 records of this species within 10 km of the project area. Marginal habitat was identified during initial surveys. This species was not recorded during targeted surveys.
<i>Xerochrysum palustre</i>	Swamp Everlasting	VU	-	High	Low	The Swamp Everlasting is a small erect herb, endemic to south-eastern Australia with a distribution spanning south-eastern NSW through Victoria to north-eastern Tasmania. It is found growing at elevations of up to 1,300 m. The species grows in wetlands including sedge swamps and shallow freshwater marshes, often on heavy black clay soils. There are five records of this species within 10 km of the project area. The species has previously been recorded in Boggy Plain, above the proposed communications cable route and was therefore included as a candidate species. However, the species was not recorded during targeted surveys.

Notes: 1. EPB Act status: CE- critically endangered, EN – endangered, VU – vulnerable
2. BC Act status: E4A – critically endangered, E1 – endangered, E2 – endangered population, V– vulnerable

J.3 Likelihood of occurrence assessment – threatened fauna

Table J.3 Likelihood of occurrence assessment – threatened fauna

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
Birds						
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	E4A	Negligible	Negligible	The Regent Honeyeater is a striking, predominantly black and yellow bird. Its head and neck are black, with warty pink or yellow skin around the eyes. Endemic to mainland south-eastern Australia, the species has a patchy distribution from south-east Queensland, through NSW and the ACT into central Victoria. Records are widely distributed across this range, but the species is only found regularly at a few localities in NSW and Victoria. Most records of regent honeyeaters come from box-ironbark eucalypt associations, where the species seems to prefer more fertile sites with higher soil water content. Other forest types regularly utilised by the Regent Honeyeater include wet lowland coastal forest dominated by Swamp Mahogany (<i>Eucalyptus robusta</i>), Spotted Gum-Ironbark associations and riverine woodlands. The species has not been recorded within 10 km of the project area. The project area does not support key habitat or feed tree species. The species has been recorded in the Southeast Highlands, but most records are located north east of the project area on more fertile plains.
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	E1	Negligible	Negligible	The Curlew Sandpiper is a small, slim sandpiper. Inland, the species mainly occur around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They forage at the edges of shallow pools and drains of intertidal mudflats and sandy. The species has not been recorded within 10 km of the project area. The project area does not provide suitable waterbodies with muddy or sandy edges.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Grantiella picta</i>	Painted Honeyeater	VU	V	Low	Low	The Painted Honeyeater has black upperparts, white underparts, black spots on its flanks and yellow edges to the flight and tail feathers. The bill is a deep pink and the eye red. The species is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory, with inland slopes of the Great Dividing Range seeing greatest concentrations and almost all records of breeding. The species has a specialist diet mainly consisting of mistletoe fruits, but also includes nectar. The species inhabits mistletoes in a variety of vegetation types, including eucalypt forests/woodlands, riparian woodlands, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species has not been recorded within 10 km of the project area and the species has not been recorded from similar montane or sub-alpine habitats in the region. The project area is outside the known distribution of the species and does not support suitable habitat providing abundant Mistletoes.
<i>Hirundapus caudacutus</i>	White-throated Needletail	VU	-	Low	Low	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges. Breeds in Asia. White-throated Needletails almost always forage aerially, at heights up to 'cloud level'. There are no records of the species within 10 km of the project area. The project area is not considered support any roosting habitat.
<i>Lathamus discolor</i>	Swift Parrot	CE	E1	Low	Low	The Swift Parrot is a small fast-flying, nectarivorous parrot which occurs in eucalypt forests in south eastern Australia. The species breeds in Tasmania and migrate to mainland Australia in autumn. During winter the parrots disperse across a broad landscape, foraging on nectar and lerps in eucalypt forests, particularly inland box-ironbark and grassy woodlands, and Coastal Swamp Mahogany (<i>E. robusta</i>) and Spotted Gum (<i>Corymbia maculata</i>) woodland when in flower. There are no records of the species within 10 km of the project area; however, the species was reported on Lobs Hole Ravin Road in 2017. Although the species may be vagrant within the project area, the survey area does not provide abundant winter flowering eucalypts which would provide a key food source during the winter mainland migration period (Saunders and Tzaros 2011).

Table J.3 Likelihood of occurrence assessment – threatened fauna

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Numenius madagascariensis</i>	Eastern Curlew	CE	-	Negligible	Negligible	The Eastern Curlew is the largest migratory shorebird in the world, migrating to Australia during the northern hemisphere winter. In Australia, the species has a primarily coastal distribution, inhabiting sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. The species has not been recorded within 10 km of the project area. The project area does not provide suitable intertidal habitat.
<i>Rostratula australis</i>	Australian Painted Snipe	EN	E1	Low	Low	The Australian Painted Snipe is a stocky wading bird, endemic to Australia and has been recorded at wetlands in all states and territories. The species inhabits shallow ephemeral and permanent freshwater (occasionally brackish) wetlands. The species has not been recorded within 10 km of the project area. The project area does not provide suitable wetland habitat for this species.
Small terrestrial mammals						
<i>Burramys parvus</i>	Mountain Pygmy-possum	EN	E1	Moderate	Low	The Mountain Pygmy-possum is the largest of the five species of Pygmy-possum with a head-body length of 10–11 cm, a tail length of 13–15 cm and adults weigh 35–80 g. The species is endemic to alpine, sub-alpine and montane areas of mainland south-eastern Australia, occurring in three separate regions: Kosciuszko National Park in NSW, and Mt Buller and Mt Bogong-Mt Higginbotham in Victoria. The species' ecology is linked to the highly seasonal environment. It occupies mostly boulderfields and rock scree, around or above the upper limits of the tree-line, associated with shrubby heath vegetation. Boulderfields with good rock structure and long snow duration provide a favourable microclimate. Proximity to permanent water has been found to be a key driver of suitable habitat. There are 277 records of the species within 10 km of the project area from the Happy Jacks spoil site and Bolton's Hill. Boulderfields in the survey area, along Lobs Hole Ravine Road, have been previously surveyed for the species by OEH (Linda Broome, DPIE, pers. comm.). These sites are not located close to permanent water and thought to be unsuitable for the species. Despite this, a conservative approach was taken, and the species was included as a candidate species. The species was not recorded during surveys.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Mastacomys fuscus mordicus</i>	Broad-toothed Rat	VU	V, E2	High	Recorded	The Broad-toothed Rat is a native rodent with a broad face, short tail and stocky body. It has fine, dense fur which is brown tinged with rufous above, merging to a paler grey underneath. The fur may have a green tinge due to the presence of algae. The species has a highly fragmented distribution, with scattered records across the Great Dividing Range from near Warburton in Victoria to the Brindabella Range in the ACT and up into the Barrington Tops in NSW, with at least one poorly-known subpopulation in coastal areas of far East Gippsland and south-eastern NSW. In alpine and sub-alpine areas the species inhabits alpine and subalpine heathlands, grassland adjacent to boulder outcrops, swamps, sedgeland and occasionally forests with grassy understories. There are 99 records of the species within 10 km of the project area. Scats of the species were recorded during initial surveys, and this species was recorded during targeted surveys.
<i>Pseudomys fumeus</i>	Smoky Mouse	EN	E4A	Moderate	Recorded	The Smoky Mouse is a small native rodent endemic to mainland south-eastern Australia, where it occurs in Victoria, NSW and the ACT. The species has a relatively wide but disjunct distribution within this broad range; populations are small and fragmented. The precise habitat requirements of the Smoky Mouse are not clear. A wide range of vegetation communities are occupied, from damp coastal heath in East Gippsland, to sub-alpine heath. However, in the South Eastern Highland most records are from ridgeline dry heathy open-forest. There are six records of the species within 10 km of the project area, with five from the Happy Jack's spoil dump, and one historical record of the species from near Yarrangobilly Caves, recorded from a Quoll scat. Bones of the Smoky Mouse have also been recorded in owl pellets during the excavation of a number of caves in the Lobs Hole Ravine area (to the south-west of the survey area) and around Yarrangobilly Caves. Although the species has a sparse distribution, the species was included as a candidate species given nearby records. The species was recorded within the project area above 1,100 m AHD. Sub-alpine woodlands above 1,100 m are deemed suitable habitat.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
Large terrestrial mammals						
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	EN	V	High	Recorded	The Spotted-tailed Quoll is one of Australia’s largest extant marsupial carnivores, and has a distinctive spotted appearance. The species is primarily forest-dependent , and occupies a wide range of habitat types, including rainforest, wet and dry sclerophyll forest, coastal heathland, scrub and dunes, woodland, heathy woodland, swamp forest, mangroves, on beaches and sometimes in grassland or pastoral areas adjacent to forested areas. The species has home ranges of several hundred to several thousand hectares in size and will use multiple dens. moving between den sites every 1-4 days. The species occurs at low densities. There are 11 records of the species within 10 km of the project area, to the west and north. The species has potential to occupy the survey area at low densities, with large areas of suitable habitat present. In the survey area, the species is likely to be wide ranging, making detection challenging. All areas of the survey area are deemed to provide suitable habitat, with suitable denning sites focused on boulderfields, and areas with a high density of hollow logs (sub-alpine areas and along the Yarrangobilly River. One scat record was recorded near Wallace’s Creek Fire Trail; however, the species was not detected during targeted surveys. The species is considered a high likelihood of occurrence in the survey area, albeit at low densities.
Arboreal mammals						
<i>Petauroides volans</i>	Greater Glider	VU	E2	Moderate	Low	The Greater Glider is the largest gliding possum in Australia. The species is distributed across eastern Australia, occurring from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest), with an elevational range from sea level to 1200 m above sea level. The species is restricted to eucalypt forests and woodlands, typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The species distribution may be patchy even in suitable habitat. There are 3 records of the species within 10 km of the project area, to the west on the Bago Plateau. Suitable, taller, montane, moist eucalypt forests with old trees and abundant hollows is found along the upper sections of Lobs Hole Ravine Road an along the Yarrangobilly River. The species was not recorded during targeted surveys.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Phascolarctos cinereus</i>	Koala	VU	V, E2	Moderate	Low	The Koala is a tree-dwelling, medium-sized marsupial, distributed from Cairns to South Australia, however, the listed population does not include Victoria or South Australia. Koalas inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by species from the genus <i>Eucalyptus</i>. The distribution of Koalas is also affected by altitude, with the species limited to below 800 m ASL. The species has not been recorded within 10 km of the project area. Although the species is considered rare in Kosciuszko National Park, a precautionary approach to the species occupancy was undertaken, with suitable Eucalypt forest and woodland below 800 m elevation deemed to provide suitable habitat. The species was not recorded during targeted surveys.
Bats						
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	V	Low	Negligible	The Grey-headed Flying-fox is a large, endemic megachiropteran bat occurring in south-eastern Australia. The species distribution extends from Bundaberg in Queensland to Melbourne in Victoria, and from the coast inland to the western slopes of NNSW. There are some contemporary records from South Australia. The Grey-headed Flying-fox feeds on nectar and pollen from flowers of canopy trees and fleshy fruits from rainforest trees and vines, with regional preferences shown. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution of the species.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
Amphibians						
<i>Litoria booroolongensis</i>	Booroolong Frog	EN	E1	High	Recorded	The Booroolong Frog is a medium size, stream dwelling frog. It is nocturnal but can be seen during day on rocks in or near the water. The species is restricted to NSW and north-eastern Victoria, predominantly along western-flowing streams of the Great Dividing Range between 200 and 1,300 m above sea level. The Booroolong Frog is associated with permanent streams in a variety of vegetation types. Primary habitat requirements are extensive rock bank structures along permanent rivers with the key feature of these rock structures being rock crevices in relatively shallow, slow to medium-flowing sections of stream. By day frogs shelter under rocks or amongst vegetation near the ground along the edge of the stream. Breeding is known to occur in spring and early summer, from October to early January. Egg deposition sites are typically in shallow, slow-flowing sections of stream or isolated rock pools along stream margins. Tadpoles take 2-4 months to develop, metamorphosing in late summer to early autumn. There are two records within 10 km of the project area, from the Yarrangobilly River. Given known records of the species along the Yarrangobilly River, upstream of Lobs Hole, the species was included as a candidate species. The Booroolong Frog was recorded along the entire length of the Yarrangobilly River within the survey area and is likely to extend upstream to at least Blue Creek Firetrail.
<i>Litoria castanea</i>	Yellow-spotted Tree Frog	EN	E4A	Negligible	Negligible	The Yellow-spotted Tree Frog has only recently (2010) been recorded in the wild again. Before this it had not been recorded in the wild since the 1970s. It has a disjunct distribution, being recorded on the New England Tableland and on the southern highlands from Lake George to Bombala. There are unconfirmed reports from near Bathurst and Orange. Found in large permanent ponds, lakes and dams with an abundance of bulrushes and other emergent vegetation. It shelters during autumn and winter under fallen timber, rocks, other debris or thick vegetation. The species has not been recorded within 10 km of the project area. The distribution of the species is highly restricted (Dave Hunter, DPIE, pers. comm.) and the project area is outside the known distribution of the species.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Litoria raniformis</i>	Southern Bell Frog	VU	E1	Negligible	Negligible	The Growling Grass Frog is a large frog, with females exceeding 100 mm in length. The species is endemic to south-eastern Australia. In NSW the species occurs from Bombala in the far south-eastern corner of the state, through the Southern Tablelands, and along the Murrumbidgee and Murray Rivers. The Growling Grass Frog inhabits a wide range of still waterbodies, including lagoons, swamps, lakes, ponds, farm dams, irrigation channels and quarries and may occupy slow-flowing sections of streams and rivers. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution of the species and does not support suitable still waterbodies or slow-flowing stream habitat.
<i>Litoria spenceri</i>	Spotted Tree Frog	EN	E4A	Negligible	Negligible	The Spotted Tree Frog is extremely rare and occurs in scattered, geographically isolated populations. It occurs among boulders or debris along naturally vegetated, rocky fast flowing upland streams and rivers. It is known from two streams in southern NSW on the north-west side of the Great Dividing Range. In summer, during the breeding season, adults bask on large in-stream boulders while juveniles occupy shingle banks. In winter animals are thought to hibernate in vegetation outside of the mainstream environment. There are four records of the species within 10 km of the project area. Due to extremely limited population distribution in NSW (Dave Hunter, DPIE, pers. comm.) this species is considered unlikely to occur within the project area.

Table J.3 Likelihood of occurrence assessment – threatened fauna

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Litoria verreauxii alpina</i>	Alpine Tree Frog	VU	E1	High	Recorded	The Alpine Tree Frog is a relatively small Hylid frog, growing to approximately 3 cm in length. The species occurs in the alpine and sub-alpine zones of south-eastern NSW and Victoria, generally higher than 1100 metres above sea level and is the only frog species known to occur above the winter snowline on the Australian mainland. The Alpine Tree Frog breeds in natural and artificial wetlands including ponds, bogs, fens, streamside pools, stock dams and drainage channels that are slow flowing or still. Non-breeding habitat and overwintering refuges are poorly known but are likely to include flat rocks, fallen logs, leaf litter and other ground debris. There are 11 records of the species within 10 km of the project area. The species was known to occur at a limited number of sites in KNP and was included for survey. The species was recorded during targeted surveys at a number of watercourses across the plateau area.
<i>Pseudophryne corroboree</i>	Southern Corroboree Frog	CE	E4A	Low	Negligible	The Southern Corroboree Frog and Northern Corroboree are distinctive and easily recognised because of their striking dorsal colour patterns consisting of bright yellow or green longitudinal stripes alternating with black stripes. The two frog species have a limited geographic distribution. The Southern Corroboree Frog now occurs in a small number of remnant populations along the north-western edge of its former range (within Kosciuszko National Park, from Smiggin Holes in the south, and northwards to the Maragle Range. The species breeds in pools and seepages in sphagnum bogs, wet tussock grasslands, fens and wet heath. They also forage and shelter in montane forest, sub-alpine woodland and tall heath adjacent to the breeding areas. The Southern Corroboree Frog is highly restricted to areas above 1,300 m ASL. There are three records of the species within 10 km of the project area, all to the south. The project area is outside the restricted distribution of this species.

Table J.3 Likelihood of occurrence assessment – threatened fauna

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
<i>Pseudophryne pengilleyi</i>	Northern Corroboree Frog	CE	E4A	Moderate	Low	The Northern Corroboree Frog occurs throughout the Fiery Range and Bogong Mountains in Kosciuszko National Park, Bondo State Forest, Micalong State Forest, and Wee Jasper State Forest in NSW, and along the Brindabella Ranges in Namadgi National Park in the ACT, and Bimberi Nature Reserve and Brindabella National Park in NSW. Breeding and foraging habitat is the same as above. There is one records of the species within 10 km of the project area. The species was known to occur in the northern section of KNP and was included as a candidate species following identification of potential habitat during initial surveys. The species was not recorded during targeted surveys.
Reptiles						
<i>Cyclodomorphus praealtus</i>	Alpine She-oak Skink	EN	E1	High	Recorded	The Alpine She-oak Skink is a medium-sized member of the lizard family Scincidae. The species has a restricted distribution, known from eight broad locations above 1,500 m in the Australian Alps from Omeo Plain in the south, to Kiandra in the north. It occupies alpine grasslands, alpine heathland, alpine grassy heathland and grassy areas with a very sparse cover of Snow Gums (<i>Eucalyptus pauciflora</i>). There is one record of the species within 10 km of the project area. The Alpine She-oak Skink has been recorded from sub-alpine grasslands in KNPO previously and was included as a candidate species. The species was recorded during targeted surveys at a number of sites across the plateau area.
<i>Liopholis guthega</i>	Guthega Skink	EN	E1	Low	Low	The Guthega Skink occurs between 1,600 and 2,170 m within open Snowy Gum woodland with grassy or shrubby understoreys, dry tussock grassland, and tall and short heath. The species prefers habitats with rocky or sub-surface boulders hidden beneath soil or thick vegetation. There are no records of the species within 10 km of the project area. The project area lacks suitable rocky habitat within the required altitude for this species.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
Invertebrates						
<i>Synemon plana</i>	Golden Sun Moth	CE	E1	Negligible	Negligible	The Golden Sun Moth is a medium-sized day-flying moth. The larval stage of the species feeds exclusively on wallaby grasses (<i>Austrodanthonia</i> species), spear grasses (<i>Austrostipa</i> species) and the exotic Chilean needle grass (<i>Nassella</i> species), with the distribution mirroring the distribution of native temperate grassland habitat from NSW, the ACT, Victoria and South Australia. There are no records of the species within 10 km of the survey area. The project area is outside the known distribution of the species and does not support suitable native temperate grassland habitat.
Fish			FM Act³			
<i>Maccullochella macquariensis</i>	Trout Cod	EN	E	High	Recorded	Trout Cod were described originally from the Macquarie River, but there is now only one self-sustaining population of Trout Cod remaining in the wild in the Murray River between Yarrawonga and Barmah. No waterways within the project area are identified by DPI (2016) as supporting the species, although the survey area lies within the natural distribution of this species. Although the only self-sustaining population occurs in the Murray River, this species has recently been stocked in Talbingo Reservoir. Its predicted distribution also includes the survey area. Trout Cod is known to occur within Talbingo Reservoir, within the Mid and Lower Murrumbidgee River Catchments and within the Murray River Catchment to Hume Reservoir. It also has a moderate likelihood of occurrence within the Upper Tumut River Catchment and the Yarrangobilly River Catchment.
<i>Maccullochella peelii</i>	Murray Cod	VU	-	Moderate	Moderate	The Murray Cod was formerly widespread and abundant in the lower and mid-altitude reaches of the Murray-Darling Basin but now has a patchy distribution and abundance across its historic range. The species has been found in diverse habitats including flowing and standing waters, small, clear, rocky streams on the inland slopes and uplands of the Great Dividing Range, large, turbid, meandering slow-flowing rivers, creeks, anabranches, and lakes and larger billabongs of the inland plains of the Murray Darling Basin.

Table J.3 **Likelihood of occurrence assessment – threatened fauna**

Scientific name	Common name	EPBC Act ¹	BC Act ²	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (following targeted survey)	Justification
						Murray Cod has a moderate likelihood of occurrence within the Lower Tumut River Catchment. Project activities would only impact on Murray Cod occurring in the Mid Murrumbidgee Catchment. None of the catchments within the study area are considered to include 'important populations'.
<i>Macquaria australasica</i>	Macquarie Perch	EN	E	High	High	The Macquarie Perch is found in the Murray-Darling Basin, particularly the upstream reaches of the Lachlan, Murrumbidgee and Murray rivers, and parts of south-eastern coastal NSW. The draft National Recovery Plan for Macquarie Perch identifies four self-sustaining populations; none are within the survey area. Macquarie Perch prefer clear water and deep, rocky holes with extensive cover in the form of aquatic vegetation, large boulders, debris and overhanging banks. They spawn in spring or summer and lay their eggs over stones and gravel in shallow, fast-flowing upland streams or flowing parts of rivers. Macquarie Perch inhabiting impoundments would likely undertake upstream spawning migration in October to mid-January after which adults usually move from the streams to the lake. Migration may not be necessary in stream dwelling fish. Surveys undertaken for Snowy 2.0 (Cardno 2019) have determined that Macquarie Perch occur within the Lower Tumut River Catchment (below Blowering Reservoir), within the Mid and Lower Murrumbidgee River Catchments and within the Murray River Catchment to Hume Reservoir. It is not considered present in Talbingo or Tantangara reservoirs or any of the other waterways with the potential to be directly affected by construction activities associated with Snowy 2.0.

J.4 Likelihood of occurrence assessment – migratory species

Table J.4 Likelihood of occurrence assessment – migratory species

Scientific name	Common name	EPBC Act ¹	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (targeted survey)	Justification
Migratory Marine Birds					
<i>Apus pacificus</i>	Fork-tailed Swift	Mi	Negligible	Negligible	Almost exclusively aerial (foraging). The Fork-tailed Swift breeds in Asia but migrates to Australia from September to April. Individuals or flocks can be observed hawking for insects at varying heights from only a few metres from the ground and up to 300 metres high. There is one record of the Fork-tailed Swift within 10 km of the project area. The project area does not support suitable habitat.
Migratory Terrestrial Species					
<i>Hirundapus caudacutus</i>	White-throated Needletail	Mi	Low	Low	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges. Breeds in Asia. White-throated Needletails almost always forage aerially, at heights up to 'cloud level'. There are 18 records of the White-throated Needletail within 10 km of the project area. The project area is not considered support any roosting habitat.
<i>Monarcha melanopsis</i>	Black-faced Monarch	Mi	Negligible	Negligible	A migratory species found during the breeding season in damp gullies in temperate rainforests. Disperses after breeding into more open woodland. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution of the species and does not support suitable rainforest habitat.
<i>Motacilla flava</i>	Yellow Wagtail	Mi	Negligible	Negligible	Regular spring-summer visitor in north of Australia, rare vagrant or occasional visitor farther south. Found in marshes, damp paddocks, airfields, cultivated fields, lawns and estuaries. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution of the species and does not support suitable habitat.

Table J.4 **Likelihood of occurrence assessment – migratory species**

Scientific name	Common name	EPBC Act ¹	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (targeted survey)	Justification
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Mi	High	Recorded	The Satin Flycatcher inhabits heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests. The species can occur at elevations of up to 1,400 m ASL. The Satin Flycatcher breeds in heavily vegetated gullies. There are 51 records of the species within 10 km of the project area. Suitable habitat occurs for this species within the project area. The Satin Flycatcher was recorded nesting within adjacent vegetation to the project area.
<i>Rhipidura rufifrons</i>	Rufous Fantail	Mi	Moderate	Low	Migratory species that prefers dense, moist undergrowth of tropical rainforests and scrubs. The species mainly inhabits wet sclerophyll forests often in gullies dominated by eucalypts such as Tallow-wood (<i>Eucalyptus microcorys</i>), Mountain Grey Gum (<i>E. cypellocarpa</i>), Narrow-leaved Peppermint (<i>E. radiata</i>), Mountain Ash (<i>E. regnans</i>), Alpine Ash (<i>E. delegatensis</i>), Blackbutt (<i>E. pilularis</i>). During migration it can stray into gardens and more open areas. There are 11 records of the species within 10 km of the project area. The surveys area and project area support suitable habitat for this species. The species was not recorded during targeted surveys.
Migratory Wetlands Species					
<i>Actitis hypoleucos</i>	Common Sandpiper	Mi	Negligible	Negligible	Inhabits a wide range of coastal and inland wetlands, often with muddy or rocky margins. Also known to occur at estuaries, billabongs, dams, pools and lakes, often associated with mangroves. The species has not been recorded within 10 km of the project area. The project area does not support suitable wetland habitat.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Mi	Negligible	Negligible	The Sharp-tailed Sandpiper forages at the edge of water within wetlands or intertidal mudflats, either on bare wet mud, sand or shallow water. They will also forage among inundated vegetation of saltmarsh, grass or sedges. Roosting occurs at the edges of wetlands, on wet open mud or sand or in sparse vegetation. The species has not been recorded within 10 km of the project area. The project area does not support suitable wetland habitat.

Table J.4 **Likelihood of occurrence assessment – migratory species**

Scientific name	Common name	EPBC Act ¹	Likelihood of occurrence (desktop assessment)	Likelihood of occurrence (targeted survey)	Justification
<i>Calidris ferruginea</i>	Curlew Sandpiper	Mi	Negligible	Negligible	Inhabits sheltered intertidal mudflats, non-tidal swamps, lagoons and lakes near the coast. Infrequently recorded inland. The species has not been recorded within 10 km of the project area. The project area does not provide suitable waterbodies with muddy or sandy edges.
<i>Calidris melanotos</i>	Pectoral Sandpiper	Mi	Negligible	Negligible	Scarce, but regular visitor, usually recorded in summer from November to March. Widespread but scattered records in Australia. Usually found in fresh to saline wetlands, floodplains, swamps, estuaries and lagoons, sometimes with emergent or fringing vegetation such as grass. The species has not been recorded within 10 km of the project area. The project area is outside the known distribution of the species, and does not support suitable wetlands habitat.
<i>Gallinago hardwickii</i>	Latham's Snipe	Mi	High	Recorded	Typically found on wet soft ground or shallow water with good cover of tussocks. Often found in wet paddocks, seepage areas below dams. There are 24 records of the species within 10 km of the project area. Alpine bogs and fens and sub-alpine wet grasslands provide suitable habitat for this species. The species was recorded within the Main Works project area.
<i>Numenius madagascariensis</i>	Eastern Curlew	Mi	Negligible	Negligible	Occurs in sheltered coasts, especially estuaries, embayment's, harbours, inlets and coastal lagoons with large intertidal mudflats or sandflats often with beds of seagrass. The species has not been recorded within 10 km of the project area. The project area does not provide suitable intertidal habitat.

Notes: 1. EPBC Act status: Mi – migratory

Annexure K

EPBC Act significant impact criteria assessments

K.1 Alpine Sphagnum Bogs and Associated Fens

Table K.1 Significant impact criteria assessment – Alpine Sphagnum Bogs and Associated Fens

Ecological community profile	Alpine Sphagnum Bogs and Associate Fens Status: Endangered (EPBC Act) Distribution: The Alpine Sphagnum Bogs and Associated Fens ecological community is found across alpine, subalpine and some montane areas of Tasmania, Victoria, NSW and the (ACT). The community primarily occurs within the Australian Alps, the Tasmanian Central Highlands and the Tasmanian Southern Ranges IBRA bioregions. Ecology: The key to bog formation is a good supply of groundwater and an impeded drainage system. Many of the plant species which occur within this community are rarely found in other vegetation communities (DoE 2015b). This TEC can be defined by the presence or absence of <i>Sphagnum</i> spp.. Bogs are found in permanently wet areas with a good supply of groundwater and an impeded drainage system. Under these conditions, decomposition of organic materials is incomplete, eventually forming peat that underlies the community (DEWHA 2008b). Threats: The main identified threats to the Alpine Sphagnum Bogs and Associated Fens community include: • fire; • exotic weed invasion; • grazing and trampling by non-native animals; • tourism; and • increase human infrastructure.
Criteria	Discussion
Reduce the extent of an ecological community	The Main Works will result in removal of 4.09 ha of the ecological community, representing approximately 0.04% of the national extent of the community. An additional 17.51 ha of Alpine Sphagnum Bogs and Associated Fens is mapped within the groundwater drawdown area. This area may be subject to impacts arising from changes in hydrology, including changes in species composition, but is unlikely to be lost as a result of the proposed action.
Fragment or increase fragmentation of an ecological community	The project area is located within the KNP, within an area of extensive native vegetation extending throughout the project area and across the region. The project area includes existing firetrails, tracks and the Snowy Mountains Highway. Alpine Sphagnum Bogs and Associated Fens occurs in small patches throughout the project area, adjacent to existing tracks and roads. Considering the existing roads create existing fragmentation, and the patchy nature of the community, it is unlikely the Main Works will increase any fragmentation already occurring.
Adversely affect habitat critical to the survival of an ecological community	Direct impacts to the Alpine Sphagnum Bogs and Associated Fens ecological community will result in the removal of 4.09 ha of vegetation. This represents 0.04% of the national extent of the community. A further 17.51 ha of the community mapped within the groundwater drawdown area and may be subject to impacts arising from changes in hydrology. The 17.51 ha that will be subject to drawdown represents 25% of the mapped extent of the community across the project area, 0.2% of the mapped extent of the community in the Snowy Mountains (OEH 2012b) and 0.15% of the 11,100-ha mapped at a national scale (TSSC 2009). While there is a high risk of predicted impact to some portion of the community, as defined in Serov et al. (2012), the overall risk to the community and listed community is considered low.

Table K.1 Significant impact criteria assessment – Alpine Sphagnum Bogs and Associated Fens

Modify or destroy abiotic factors necessary for an ecological community's survival	The community is highly dependent on groundwater, forming part of a mosaic of alpine and subalpine communities with close hydrological and ecological connections. The Main Works project has the potential to cause indirect impacts to groundwater draw down. PCT 637, aligned with the ecological community, will experience a drawdown of >0.5 m to 17.51 ha of the community. These changes in hydrology have the capacity to impact on abiotic factors necessary for the community's survival, particularly through changing the anaerobic processes that assist formation of organic matter (peat). Although the project is likely to impact on groundwater within these areas of Alpine Sphagnum Bogs and Associated Fens, it is not likely the project will significantly impact the ecological community to the point of decline. A groundwater and GDE monitoring program will be implemented to ensure groundwater drawdown and associated impacts to GDEs are within prediction.
Cause a substantial change in the species composition of an occurrence of an ecological community	Species within the Alpine Sphagnum Bogs and Associated Fens ecological community area largely dependent of groundwater. There is some potential for a change in the species composition of the ecological community as a result of changes in hydrology. Vegetation composition of Alpine Sphagnum Bogs and Associated Fens will be monitored as a part of the GDE monitoring program. The Main Works also has the potential to increase or introduced weed species into the ecological community, where works are located adjacent to the community. Mitigation measures will be implemented to ensure the project does not cause a degradation or change in vegetation integrity. These measures include weed control prior to construction, washdown stations, hygiene protocols and a weed and pathogen monitoring program.
Cause a substantial reduction in the quality or integrity of the listed ecological community	Main Works will result in the reduction of 4.09 ha of the ecological community. The ecological community also has the potential of reduction in quality and integrity due to groundwater draw down. These areas include 17.51 ha of the community, 25% of the mapped extent across the project area or 0.2% of the mapped extent of the community within the Snowy Mountains (OEH 2012b). The Main Works also has the potential to increase weeds and pathogens within the project area, ultimately affecting the quality of habitat of the community. Mitigation measures will be implemented to protect the community, these include: • weed control prior to construction works being undertaken, where possible; • appropriate disposal and management of weeds during clearing works; • active weed control within 50 m of key infrastructure in areas where significant weeds occur, such as Tantangara Reservoir; • construction of wash-down stations at a suitable location; • collection of native seed and alpine sod for propagation; and • implementation of a weed and pathogen monitoring program. Therefore, given the extent of the ecological community and the mitigation measures in place to protect the quantity and quality of remaining vegetation it is unlikely Main Works will result in a substantial reduction in quality of the listed community.
Interfere with the recovery of an ecological community	DoE (2015) identify multiple recovery objectives for the ecological community Alpine Sphagnum Bogs and Associated Fens. The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including pigs and deer). Mitigation measures such as washdown stations, weed control prior to construction, implementation of weed and pathogen monitoring program and a predator monitoring program will be completed to prevent the potential impacts. Based on the proposed mitigation measures, the Main Works will not interfere with the recovery actions listed for Alpine Sphagnum Bogs and Associated Fens.

Table K.1 Significant impact criteria assessment – Alpine Sphagnum Bogs and Associated Fens

Conclusion	The Main Works is unlikely to have a significant impact on the Alpine Sphagnum Bogs and Associated Fens as: - the project will result in direct impacts to 4.09 ha, representing 0.04% of the national extent of the community will be directly removed; - the project will result in indirect changes to 17.51 ha through changes in hydrology, representing 0.2% of the mapped extent of the community within the Snowy Mountains and 0.15% of the national distribution of the community; and - mitigation measures including hygiene protocols, a weed monitoring program and a groundwater and GDE monitoring program will be implemented to protect the community from any indirect impacts which may arise from the project.
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K.2 Mauve Burr-daisy

Table K.2 Significant impact criteria assessment – Mauve Burr-daisy

Species profile	Mauve Burr-daisy (<i>Calotis glandulosa</i>) Status: Vulnerable (EPBC & BC Act) Distribution: The Mauve Burr-daisy is endemic to NSW and occurs on the Kosciuszko and Monaro regions, and is known from three sites in the upper Shoalhaven catchment (DEWHA 2008c, OEH 2018b). Biology: The Mauve Burr-daisy is a small branched herb growing to 35 cm high. Solitary flower heads are 2 cm wide, often white, mauve or blue with a yellow centre. Leaves are soft, bright green and hairy Habitat requirements: The species grows in montane and subalpine grasslands, natural temperate grasslands dominated by Kangaroo Grass, and Snow Gum Woodlands. The species is known to colonise bare patches, often occurring on roadsides.
Criteria	Discussion
Lead to a long-term decrease in the size of an important population	Important populations have not been defined for the Mauve Burr-daisy. However, given the 21,142 records of the species resulting from surveys undertaken for Snowy 2.0 represent 98% of the national population of the species we conclude that the population of the species in KNP is considered an important population. The Mauve Burr-daisy is known to occur across the Kosciuszko and Monaro regions. Extensive surveys undertaken for Snowy 2.0 have resulted in a vast number of records across the project area and adjacent areas. Approximately 3,686 individuals were recorded within the Main Works disturbance footprint, out of a total of 21,142 individuals recorded across the broader survey area, with an additional 502 records of the species nationally. The species was recorded up north along Port Phillip track, throughout the Plateau and Tantangara and east towards Circuits trail. The species is known to occur within disturbed areas such as along tracks and heavily grazed pastures. This reflected the areas in which the species was recorded within throughout the project area. Main Works will result in the removal of approximately 3,686 individuals, representing 17% of the national population of the species; however, this likely represents a serious underestimate given the results of surveys for Snowy 2.0. In addition, it is likely that the species will recolonise the edges of roads constructed as a part of Snowy2.0. Given the extent of habitat and individuals remaining in the locality, the Main Works is unlikely to lead to a long-term decrease in the size of an important population.

Table K.2 Significant impact criteria assessment – Mauve Burr-daisy

Reduce the area of occupancy for an important population	The Main Works project will result in clearing of 16.55 ha of Mauve Burr-daisy habitat. The species has been recorded across the survey area, with suitable habitat mapped throughout the broader region. Considering the Main Works will result in the removal of approximately 17% of the population of Mauve Burr-daisy, it is unlikely Main Works will reduce the area of occupancy for an important population.
Fragment an existing important population into two or more populations	The Mauve Burr-daisy is known to occur along road edges and disturbed patches of vegetation and was recorded along existing tracks within the KNP. There are 21,142 individuals of the species within and adjacent to the project area. Large areas of suitable habitat supporting the will remain undisturbed. Construction of the project will not result in fragmentation of this population. It is unlikely that the Main Works will result in additional fragmentation of an important population.
Adversely affect habitat critical to the survival of a species	Where feasible, existing tracks and roads will be used as part of the Project, resulting in the reduction of impact to adjacent vegetation. This has resulted in reduced impacts to Mauve Burr-daisy habitat. Suitable habitat will be removed throughout the project area. Larger patches of vegetation to be removed within Tantangara are restricted to the edge of Tantangara Reservoir. This area has been subject to extensive disturbance from invasive species such as horses and rabbits, as well as human activity. This vegetation is not considered suitable habitat for the species, with records limited to higher quality areas. The Main Works will result in the removal of 16.55 ha of Mauve Burr-daisy habitat. However, given the extent of the species and suitable habitat across the broader region, it is unlikely the Main Works will adversely affect habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	The Mauve Burr-daisy is pollinated by animals which disperse the sticky burrs to new sites. The KNP is home to a large diversity of fauna species throughout the park. The Main Works is not considered to significantly impact these fauna species. No significant disruption to the breeding cycle of the important population of the species will result.
Modify, destroy, remove, isolate or decrease the availability habitat to the extent that the species is likely to decline	Main Works will result in the direct removal of 16.55 ha of Mauve Burr-daisy habitat. Indirect impacts may occur due to weed invasion and/or increase in the abundance of feral pigs. Controls have been implemented to minimise these impacts. Considering the large extent of suitable vegetation across the broader region, as evidenced by the results of surveys undertaken for Snowy 2.0, it is unlikely the Main Works will result in a significant decrease of availability of habitat to the extent that the species is likely to decline.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The Main Works has the potential to result in the introduction and spread of weed species. Known threats to the Mauve Burr-daisy include habitat degradation from invasion of weeds. Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species. Based on the proposed mitigation measures it is not expected the Main Works will result in a significant increase of invasive species.
Introduce disease that may cause the species to decline	There are no known diseases associated with the Mauve Burr-daisy. A pest and predatory monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pests (including the pig), and impacts to threatened species remain within prediction. Wash-down stations will be constructed at suitable locations.
Interfere substantially with the recovery of the species	There is no Recovery Plan for the Mauve Burr-daisy.

Table K.2 Significant impact criteria assessment – Mauve Burr-daisy

Conclusion	The Main Works will not have a significant impact on the Mauve Burr-daisy as: • impacts will occur to a small portion of the population recorded as a part of surveys undertaken for Snowy 2.0, with large areas of suitable habitat remaining within KNP; • potential impacts arising from increase feral animal activity, weeds and pathogens will be managed through implementation of feral animal control programs, as well as strict hygiene protocols and weed management programs.
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K.3 Clover Glycine

Table K.3 Significant impact criteria assessment – Clover Glycine

Species profile	Clover Glycine (<i>Glycine latrobeana</i>) Status: Vulnerable (EPBC Act), Critically Endangered (BC Act) Distribution: The Clover Glycine is endemic to south-eastern Australia, widely distributed from Port Pirie in South Australia, through much of Victoria to near Hobart in Tasmania. The species was recently discovered in Kosciuszko National Park. Biology: The Clover Glycine is a low-growing herb growing to only a few cm high, with classic clover leaves, split into three. The species has up to eight small purple flowers with dark brown seed pods (OEH 2018b). Habitat requirements: The species mainly occurs in grassland and grassy woodland habitats, less often in dry forests, and rarely in heathland. Populations within NSW often occur up to 1,300m ASL (OEH 2018c).
Criteria	Discussion
Lead to a long-term decrease in the size of an important population	Important populations have not been defined for the Clover Glycine in the recovery plan. As described in DoE (2013b) an important population can include populations that are near the limit of the species range. A small population was only recently discovered within KNP (OEH 2018c). The population recorded within the survey area should be considered an important population, considering the limited extent of the species within the KNP. The largest sub-population was recorded to the east of the project area, including 637 individuals. This area was avoided during the design process, avoiding the majority of records. The estimated population of Clover Glycine is 7,000 plants (Carter & Sutter 2010) with 931 records nationally. During targeted surveys undertaken for Snowy 2.0, a population of 892 individuals was recorded across the survey area. Out of this population, approximately 26 individuals will be removed as part of the Main Works, representing 2.9% of the regional population of the specie and 0.4% of the estimated national population. Main Works has the potential for residual, indirect impacts including the introduction and/or increase of exotic weeds and invasive species (such as feral pigs). Mitigation measures such as hygiene protocols, washdown requirements, a weed and pathogen monitoring and a pest and predator program will be implemented to ensure Main Works does not result in a significant increase in numbers of invasive flora and fauna species. With the implementation of the above mitigation measures and a threatened species monitoring program the impacts to the Clover Glycine will be greatly reduced. No-go zones will be applied to protect the remaining sub-populations. Considering the size of the subpopulation to the east of the project area it is unlikely the project will result in a long-term decrease in the size of an important population.

Table K.3 Significant impact criteria assessment – Clover Glycine

Reduce the area of occupancy for an important population	The Clover Glycine has been recorded within the eastern extent of the survey area including Alpine Creek Trail, Tantangara and Circuits Trail. Main Works will result in the direct removal of 2.01 ha of Clover Glycine habitat. This will result in the removal of 0.4% of the estimated national population of the species. Large occupied areas in the region will remain unimpacted. The recorded population within KNP is considered an important population, therefore the Main Works will result in the reduction of area of occupancy for an important population. However, a significant sub-population to the east of the project area will be avoided.
Fragment an existing important population into two or more populations	The existing Clover Glycine population is separated into subpopulations by existing tracks and roads throughout the KNP. The Main Works will result in the removal of vegetation adjacent to Tantangara Dam and adjacent to Tantangara Road, where there is existing fragmentation occurring. It is unlikely this will be significantly exacerbated. Therefore, it is unlikely the Main Works will result in any additional fragmenting of an important population.
Adversely affect habitat critical to the survival of a species	The Clover Glycine has been recorded within the eastern extent of the project area around Tantangara Reservoir and Tantangara Road. Impacts in this locality will be, predominantly, within low condition vegetation adjacent to Tantangara Reservoir. These areas provide sub-optimal habitat for the Clover Glycine. The majority of records obtained during surveys for Snowy 2.0 were recorded to the east of the project area along Circuits Trail, in high condition vegetation. The Main Works project will result in the removal of 26 individuals (2.01 ha). The species has been recorded within PCT 303 - Black Sally grassy low woodland in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion, PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion and PCT 1224 - Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion and PCT 1225 - Sub-alpine grasslands of valley floors, southern South Eastern Highlands Bioregion and Australian Alps Bioregion. Large areas of these communities will be directly impacted by Main Works, ultimately reducing potential habitat for the Clover Glycine. However, the largest occupied area recorded during surveys for Snowy 2.0 has been avoided through changes to the design of the project. The Main Works will result in impacts to 0.4% of the regional population of the species. Large areas of suitable habitat will remain unimpacted. Therefore, it is not expected the Main Works will adversely affect habitat critical to the survival of the Clover Glycine.
Disrupt the breeding cycle of an important population	The Clover Glycine is known to be a self-pollinating species, as well as pollinated by bees (DoE 2019a). The Main Works is unlikely to impact on these pollinating mechanisms. Approximately 0.4% of the known population will be removed as a result of Main Works, with remaining populations remaining unimpacted. Sub-populations within Circuits Trail and Alpine Creek Trail will not be impacted by Main Works, subsequently the breeding of these self-pollinating sub-populations will not be impacted.
Modify, destroy, remove, isolate or decrease the availability habitat to the extent that the species is likely to decline	Main Works will result in the direct removal of 2.01 ha of Clover Glycine habitat. This represents a small portion (<1%) of the available habitat for the species in the region. Indirect impacts may occur due to weed invasion and/or increase in the abundance of feral pigs. Controls such as construction of wash-down stations, weed control prior to construction and appropriate disposal and management of weeds during clearing works will be implemented. Additionally, a weed and pathogen monitoring program and a feral species monitoring program will be implemented to ensure Main Works does not result in a significant increase in weeds or pest species. The Main Works will remove Clover Glycine habitat and reduce the availability of habitat within the project area likely to cause a decline in the species population. However, given the extent of the species across the region, it is unlikely the Main Works will result in a significant decline in the total population of the Clover Glycine.

Table K.3 Significant impact criteria assessment – Clover Glycine

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The Main Works has the potential to result in the introduction and spread of weed species. Known threats to the Clover Glycine include the competition of Ox-eye daisy and trampling by pigs. Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Based on the proposed mitigation measures it is not expected the Main Works will result in an increase of invasive species.
Introduce disease that may cause the species to decline	Whilst disease is not recognised as a threat to the Clover Glycine, introduction of <i>Phytophthora cinnamomi</i> could result in “dieback” and impacts to habitat. The construction of wash-down stations required for weeds as well as <i>P. cinnamomi</i> will be provided during construction activities. A weed and pathogen monitoring program will be implemented to ensure Main Works does not result in the increase or introduction of weeds and pathogens. Based on the proposed mitigation measures, it is unlikely the Main Works will result in the introduction of <i>P. cinnamomi</i>.
Interfere substantially with the recovery of the species	Carter and Sutter (2010) identify multiple recovery objectives for the Clover Glycine. The Main Works has the potential to result in the introduction and spread of weed species. Mitigation measures such as washdown stations, weed control prior to construction and implementation of weed and pathogen monitoring program. Based on the proposed mitigation measures, the Main Works will not interfere with the recovery actions listed for the Clover Glycine.
Conclusion	The Clover Glycine was recently discovered within KNP, with limited known records prior to targeted surveys. It is not considered the project will have a significant impact on the entire species as: • Main Works will impact on 2.9% of the regional population and 0.4% of the estimated national population 0; and • potential impacts arising from increase feral animal activity, weeds and pathogens will be managed through implementation of feral animal control programs, as well as strict hygiene protocols and weed management programs.

K.4 Broad-toothed Rat

Table K.4 Significant impact criteria assessment – Broad-toothed Rat

Species profile	Broad-toothed Rat (<i>Mastacomys fuscus mordicus</i>) Status: Vulnerable (EPBC & BC Act) Distribution: The species has a highly fragmented distribution, with scattered records from Victoria, ACT and NSW (TSSC 2016b). Within NSW the species occurs in the wet alpine and subalpine heaths and woodlands in Kosciuszko National Park, adjacent Nature reserves and State Forests in the south of the state, and on the Barrington Tops (OEH 2017b). Biology: The Broad-toothed Rat is a small, tubby rodent with brown fine fur above and paler grey underneath. They have small, round ears with tufts of hair inside. It's head and body length is 14-17 cm and a tail length of 10-13 cm. Home ranges vary seasonally, between 0.1 ha to 0.3 ha. The species is herbivorous, with grasses forming most of its diet. The Broad-toothed Rat is mostly nocturnal, foraging for food at night (OEH 2017b). Breeding: Breeding is seasonal, with females giving birth to one or two litters (of 1-4 young) per season between October and March (TSSC 2016). Sexual maturity is reached between 6-12 months. Habitat Requirements: The Broad-toothed Rat lives in a complex of runways through dense vegetation of wet grass, sedge and heath environments, and under snow in winter. Sheltering nests or grass are built in understory or under logs. In winter they huddle together in nests for warmth (OEH 2017b).
Criteria	Discussion
Lead to a long-term decrease in the size of an important population	An important population has not been defined for the Broad-toothed Rat. The population within KNP is considered an important population considering it is the largest national population of the species, occurs over a large relatively unfragmented area and would be considered important for breeding and dispersal as well as maintaining genetic diversity. The Main Works project will result in clearing of 30.23 ha of habitat for the Broad-toothed Rat. The species estimated area of occupancy 444 km² (TSSC 2016b), Therefore the area of impact represents 0.07% of the estimated area of occupancy for the species at a national scale. The Broad-toothed Rat was recorded occurs in areas of Alpine bogs and fens and sub-alpine wet grasslands, as well as adjacent areas of sub-alpine dry grasslands with a dense midstorey. These communities occur over extensive areas within KNP. The Main Works has the potential to result in residual, indirect impacts such as the introduction or increase in exotic weeds. This could potentially lead to habitat degradation. Weed control prior to construction works will be undertaken. Appropriate disposal and management of weeds during the clearing works will be implemented to minimise any seed dispersal. Washdown stations will be constructed at suitable locations to prevent the further spread of weeds. Additionally, a weed and pathogen monitoring program will be implemented. Invasive species such as the European red fox predate on the Broad-toothed Rat, while wild horses degrade habitat and disturb the species. Waste will be appropriately disposed of to minimise the risk of increasing feral animals. A pest and predator monitoring program will be implemented to ensure the Main Works will not result in significant increase in numbers of pest and predatory species. Snowy 2.0 Main Works will result in impacts to 30.23 ha of habitat, representing 0.07% of the estimated area of occupancy for the species at a national scale. Therefore, the Main Works is unlikely to lead to a long-term decrease in the size of an important population.

Table K.4 Significant impact criteria assessment – Broad-toothed Rat

Reduce the area of occupancy for an important population	Snowy 2.0 Main Works will result in direct impact to 30.23 ha of habitat for the species. Large areas of suitable, high-quality habitat will remain undisturbed within KNP.
Fragment an existing important population into two or more populations	In the area occupied by the Broad-toothed Rat, impacts will occur. largely, adjacent to areas of existing disturbance. The key construction area in this region will be adjacent to Tantangara Reservoir, resulting in no additional fragmentation at this location. The area in KNP is slightly fragmented by existing tracks and roads throughout the Park. However, it is considered unlikely that this is impacting of connectivity of the species. Wherever feasible, works have been sited to utilise this existing network of roads. Given the above, it is unlikely the Main Works will result in any additional fragmenting of an important population.
Adversely affect habitat critical to the survival of a species	The Main Works project will result in clearing of 30.23 ha of habitat for the Broad-toothed Rat. The Broad-toothed Rat was recorded throughout the project area, spanning from Link Road, across the Plateau, Tantangara and up to Port Phillip Track. The species is well known within the KNP, with suitable dense grassy and Alpine bog and fen vegetation throughout the region. The Main Works also has the potential for indirect impacts such as introduction/increase in weeds and pathogens and increase in predatory and pest species. Threats to the Broad-toothed Rat include predation by these feral species. To ensure the Main Works does not result in a significant increase in numbers of pest and predatory species, mitigation measures will be implemented. These include waste to be stored appropriated in inaccessible bins and disposed off-site and the implementation of a pest and predator monitoring program. Additionally, to ensure the project does not result in habitat degradation due to the increase of exotic weeds, the construction of wash-down stations, appropriate hygiene protocols and a weed and pathogen monitoring program will be implemented. The Main Works will result in minor impacts to habitat critical to the survival of the Broad-toothed Rat. Given the extent of suitable habitat within the locality, these impacts would be considered low.
Disrupt the breeding cycle of an important population	The Broad-toothed Rat breeds during spring and summer, with a gestation period of 35 days (Hyett & Shaw 1980). Breeding is seasonal, with females giving birth to one or two litters per season (TSSC 2016). Snowy 2.0 Main Works will not fragment an existing population and will impacts on a small portion of the regional and national area of habitat for the species. Given this, the proposed action will not disrupt the breeding cycle of the species.
Modify, destroy, remove, isolate or decrease the availability habitat to the extent that the species is likely to decline	The project will result in removal of 30.23 ha of habitat for the species. There is potential for the Main Works to further reduce the quality of retained habitat due to the increase of exotic weeds or the introduction of pathogens. A number of mitigation measures will be implemented to ensure the habitat quality is maintained. This includes construction of washdown stations, active weed control and implementation of a weed and pathogen monitoring program. Additionally, after construction all areas not retained for permanent infrastructure will be revegetated and rehabilitated. This will include collection of native seed and alpine sod for propagation. Based on the above mitigation measures, proposed rehabilitation areas and extensive suitable habitat within the locality, it is not expected the Main Works will result in a loss or habitat availability to the extent the species declines.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral cats, foxes and feral pigs). Prior to construction activities weed control will be undertaken. Appropriate disposal and management of weeds during the clearing works will be implemented to prevent the dispersal of seeds. Washdown stations will be constructed and will be required for weeds and well as <i>P.cimmamomi</i>. additionally, a weed and pathogen monitoring program will be implemented. During construction period, waste will be stored appropriated in inaccessible bins and disposed off-site, preventing an increase in feral animals. A pest and predator monitoring program will also be implanted to ensure Main Works does not result in a significant increase in numbers of pest and predatory species. Based on the above mitigations, it is unlikely the Main Works will result in invasive species becoming established.

Table K.4 Significant impact criteria assessment – Broad-toothed Rat

Introduce disease that may cause the species to decline	<i>Phytophthora cinnamomi</i> is a recognised threat to the Broad-toothed Rat, that can affect habitat. By the transportation of machinery, vehicles and people there is potential they may carry soil which contains the mould. Mitigation measures including strict hygiene protocols and washdown stations before entering the KNP will be implement. A Weed and pathogen monitoring program will be implemented to assess for the presence of <i>P.cinnamomi</i> .
Interfere substantially with the recovery of the species	There is no Recovery Plan for the Broad-toothed Rat.
Conclusion	The Main Works will not have a significant impact on the Broad-toothed Rat as: • 30.23 ha of habitat will be removed, representing 0.07% of the national area of occupancy for the species; • the species is known to occur throughout the locality, with large areas of suitable high-quality vegetation remaining; and • potential impacts arising from increase feral animal activity, weeds and pathogens will be managed through implementation of feral animal control programs, as well as strict hygiene protocols and weed management programs.

K.5 Smoky Mouse

Table K.5 Significant impact criteria assessment – Smoky Mouse

Species profile	Smoky Mouse (<i>Pseudomys fumeus</i>) Status: Critically Endangered (EPBC Act), Endangered (BC Act) Distribution: The Smoky Mouse is endemic to mainland south-eastern Australia, where it occurs in Victoria, New South Wales and the Australian Capital Territory. The species has a relatively wide but disjunct distribution, populations are small and fragmented, and there appear to have been local extinctions in several areas. It occurs in four IBRA regions (South East Highlands, South East Corner, Australian Alps and Victorian Midlands). Capture sites range from near sea level to at least 1,800 m altitude (Menkhorst and Broome 2008a, 2008b). KNP has a known population of Smoky Mouse, with records from Yarrangobilly to the north-east and Happy Jacks to the south. Within this range, populations are fragmented and generally low in number, but can fluctuate in size. There is also evidence of apparent local extinctions. While records in new areas are still being obtained, the apparent instability of Smoky Mouse populations is of concern (Menkhorst and Broome 2008a, 2008b). Biology: The Smoky Mouse is similar in size to a small rat, with a head and body length averaging about 90 mm and a tail averaging 140 mm (OEH 2018d). The Smoky Mouse is primarily herbivorous but also consumes invertebrates, with diet varying seasonally according to food availability and energetic demands. At the summit of Mt William, Cockburn (1981a) found that the fruiting bodies of underground fungi predominated in the diet in winter and early spring, with a small proportion of seeds and soil invertebrates. There was a sudden switch to flowers, seeds and Bogong Moths <i>Agrostis infusa</i> in late spring–early summer, while seeds predominated through summer and autumn (Menkhorst and Broome 2008a, 2008b). Males have been surveyed as transient moving between sub-populations in search of mates (Ford et al. 2003). Long-term survival of the population may therefore be contingent on recruitment and immigration between habitat patches, and the regional dynamics of resource availability (Harrison 1994). A characteristic of Smoky Mouse colonies is their ephemeral nature, both spatially and temporally. There are numerous examples of unsuccessful attempts to locate the species at sites where it had been found
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Table K.5 Significant impact criteria assessment – Smoky Mouse

	only a few months previously (eg. Lawrence 1986; Lintermans 1988; Ford et al. 2003; DECC, FNSW unpublished data). This may be due to shifts in home range following fluctuations in resource availability due to climatic fluctuations, or to differences in trappability, or, in the longer-term, to vegetation succession. Breeding: Smoky Mice occurs in small discrete colonies based around patches of dense heath. They sheltered in small groups, sometimes comprising a male and up to five breeding females, in a large, complex burrow system that can be up to 10 m² and more than 25m in length, with multiple nesting chambers (Ford et al. 2003; Woods & Ford 2000; Ford in prep.). Breeding occurred from September–April, and 1–2 litters, each of 3–4 young, were produced after a gestation period of about 30 days (Menkhorst and Broome 2008a, 2008b). Habitat Requirements: The precise habitat requirements of the Smoky Mouse are not clear. A wide range of vegetation communities are occupied, from damp coastal heath in East Gippsland, to sub-alpine heath. A characteristic of Smoky Mouse localities, except those in wet gullies, is a floristically diverse shrub layer with members of the plant families Epacridaceae, Fabaceae and Mimosaceae well represented (Menkhorst and Broome 2008a, 2008b). Habitat types the Smoky Mouse has been recorded in include coastal heath to dry ridgeline forest, sub-alpine heath and, occasionally, wetter gullies (Menkhorst and Seebeck 1981). Ground cover is also likely to be critical and can be in the form of dense low vegetation, such as occurs in heaths, or grass tussocks, rocks and logs in more open habitats. Soil conditions also need to be conducive to burrowing and growth of hypogeal fungi, a major component of the diet (Menkhorst and Broome 2008a, 2008b).
Criteria	Discussion
Lead to a long-term decrease in size of a population	Initial surveys undertaken in 2017/18 identified a Smoky Mouse population occurring in the southern portion of the Exploratory Works survey area, along the upper sections of Lobs Hole Ravine Road, with the species recorded at 12 locations. Regional surveys undertaken in 2018/19 have identified the species across a broad area above 1,100 m, from Coppermine Firetrail in the north, Wallace’s Creek Firetrail in the east, Link Road in the south and the Elliott Way in the west. The species is now known from 71 locations. This population is considered significant, being one of the largest known populations of the species. Original surveys found the species to be solely associated with PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion. Subsequent surveys have identified the species as being associated with six additional PCTs: • PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment (single record); • PCT638 – Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion (single record); • PCT643 – Alpine shrubland on scree, blockstreams and rocky sites of high altitude areas of Kosciuszko National Park, Australian Alps Bioregion (single record); • PCT 644 – Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion (five records); • PCT 729 – Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion; and • PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion. The species was found above 1,100m ASL, although it is noted that regional surveys did not include locations below this elevation. However, surveys for Snowy 2.0 have included locations below this elevation. Despite this, associations with elevation remain unclear. All records are all along the upper sections of a north-south ridge. Vegetation consist of tall forests dominated by Mountain Gum and Snow Gum, with some other associated species. There is generally a moderate to dense shrubby midstorey with varying abundance of shrubs from the plant family <i>Fabaceae</i>

Table K.5 Significant impact criteria assessment – Smoky Mouse

	(with some <i>Epacridaceae</i> and <i>Mimosaceae</i>), and dense groundcover with abundant sub-shrubs, logs and leaf litter. This type of microhabitat is believed to be preferred by the species to take refuge from predators. Main Works will result in impacts to 174.63 ha of habitat for the species. Indirect impacts also have potential to occur as a result of Main Works due to an increase in feral animal predation. As a result of increased disturbances in local area there is potential for feral animal numbers to increase. The feral cat and European fox are recognised threats to Smoky Mouse. A pest and predatory monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species. Additionally, Main Works has the potential for indirect impacts from fragmentation, fauna vehicle collisions, weeds and pathogens to further impact this species if unmitigated. Placement of speed restrictions on key roads and implementation of monitoring programs such as threatened species, and weeds and pathogens. Although the Main Works will impact the species it is unlikely it will lead to a long-term decrease in size of a population given the large area of available habitat in the region.
Reduce the area of occupancy for the species	The Smoky Mouse population has been recorded across the region, over an estimated 6,000 to 7,000 ha. In these areas, the species has been recorded across seven PCTs: • PCT 300 – Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment (single record); • PCT638 –Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion (single record); • PCT643 – Alpine shrubland on scree, blockstreams and rocky sites of high altitude areas of Kosciuszko National Park, Australian Alps Bioregion (single record); • PCT 644 –Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion (five records); • PCT 729 – Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion; • PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion; and • PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion. This is a large tract of sub-alpine forest which provides suitable habitat for the species and supports Smoky Mouse populations. The direct impact to 174.63 ha of habitat for the species, representing less than 3% of the available habitat in the region. The Main Works will result in a reduction of area of occupancy for the species, it is not likely to have a significant impact on the species considering the availability of habitat within the locality.

Table K.5 Significant impact criteria assessment – Smoky Mouse

Fragment an existing population into two or more populations	The Smoky Mouse population has been recorded across a broad area within the region, over an estimated 6,000 to 7,000 ha. The species was recorded to the west and east of Lobs Hole Ravine Road and across the Marica area. The vegetation within this area is largely intact, spreading south to Lobs Hole Ravine and north towards Coppermine Firetrail. Access tracks will be constructed within Marica, with some clearing of vegetation spanning over 300 m wide. This has the potential to fragment Smoky Mouse recorded to the north of the disturbance footprint at Marica. Mitigation measures to avoid and reduce vehicles strike on Smoky Mouse will be implemented to ensure their safe movement across the road including avoiding and minimising vehicle movements at night and reducing speed limits.
Adversely affect habitat critical to survival of a species	Primary habitat for the Smoky Mouse is located on upper ridgelines and slopes above 1,100m, within the following vegetation communities: • PCT 300 –Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment (single record); • PCT638 –Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion (single record); • PCT643 – Alpine shrubland on scree, blockstreams and rocky sites of high altitude areas of Kosciuszko National Park, Australian Alps Bioregion (single record); • PCT 644 –Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion (five records); • PCT 729 – Broad-leaved Peppermint - Candlebark shrubby open forest of montane areas, southern South Eastern Highlands Bioregion and South East Corner Bioregion; • PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion; and • PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion. Main Works will result in clearing of 174.63 ha of Smoky Mouse habitat. Although the Main Works includes minimisation and mitigation measures, the project will result in a large direct impact to habitat critical to the survival of the Smoky Mouse. There are limited known populations of the Smoky Mouse. The population record within the Main Works is a critical population for the survival of the species.
Disrupt breeding cycle of a population	Smoky Mouse occur in small discrete colonies based around patches of dense heath. They shelter in small groups, sometimes comprising a male and up to five breeding females, in a large, complex burrow system that can be up to 10 m² and more than 25m in length, with multiple nesting chambers (Ford et al. 2003; Woods & Ford 2000). Breeding occurs from September–April (Menkhorst, P. and Broome, L. 2006). Given the observed presence of males and females, the survey area is likely to support a breeding population of the Smoky Mouse. The project will result in direct impacts to 174.63 ha of suitable habitat, with potential for additional indirect impacts through weed invasion, increased predation from Cats and Foxes and fragmentation. Mitigation measures will be implemented to reduce the impacts of weeds and predators on the species. Given the willingness of the species to cross roads such as Link Road (G.Madani pers. obs.) it is unlikely the access roads proposed will result in fragmentation of this breeding population, and prevent dispersal or other breeding activities. A threatened species monitoring program will be implemented to ensure impacts arising from the project are within prediction. Given the above, it is unlikely that the proposed action will disrupt the breeding cycle of this population of the species.

Table K.5 Significant impact criteria assessment – Smoky Mouse

Modify, destroy, remove, isolate or degrade habitat to the extent that the species is likely to decline	Main Works will result in the removal of 174.63 ha of Smoky Mouse habitat. These areas to be removed are dispersed across the project area and are not likely to significant impact on the species by fragmenting their population. The majority of impacts will occur as a result of the construction of access roads. Wherever feasible, existing roads have been upgraded, with new roads limited to the area between Marica and Lobs Hole. The Marica area will also be a focus for construction of the ventilation shaft, surge shaft yard, accommodation camp and stockpile areas, resulting in a large area of impact. Despite this, area to the east and west will not be fragmented other than by access roads. Given the willingness of the species to cross roads such as Link Road (G.Madani pers. obs.) it is unlikely the access roads proposed will result in fragmentation of habitat for the species. Controls will be put in place to minimise fauna vehicle strike. There is also potential for Main Works to reduce the quality of habitat, as a result of increased weed abundance or introduction of pathogens. A number of mitigation measures, including weed control prior to construction, construction of washdown stations and implementation of a weed and pathogen monitoring program will ensure habitat quality is maintained including hygiene protocols to prevent introduction of weeds, the spread of weeds or the spread of pathogens. There is potential for the project to result in removal and degradation of habitat, with 174.63 ha of habitat to be directly impacted. Despite this, large areas of suitable habitat will remain, and it is unlikely that the species will decline as a result of the proposed works.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral cats, foxes and feral pigs). Weed control will be undertaken prior to construction works, where possible. Washdown stations will be constructed at suitable locations with hygiene protocols implemented to ensure weeds are not brought in with vehicles, machinery or by foot. Additionally, a weed and pathogen monitoring program will be implemented. A feral animal control program will be implemented during the construction and operational phases to minimise impacts of feral animals on wildlife. Waste will be stored appropriately in inaccessible bins and disposed off-set. Based on the mitigation measures outlined above, it is not expected that Main Works will result in introduction of any disease that will case the species to decline. However, the effectiveness of these mitigation measures cannot be quantified.
Introduce disease that may cause the species to decline	A recognised threat to Smoky Mouse is dieback of susceptible heath species caused by <i>Phytophthora cinnamomi</i>. The fungus is a soil-borne water mould that produces an infection which causes a condition in plants called "root rot" or "dieback". It is a threat in some areas due to the substantial habitat changes that result in infected patches of vegetation. By bringing in vehicles, machinery and people there is potential they may carry soil which contains the mould. Mitigation measures including strict hygiene protocols to disinfect footwear, machinery and vehicles before entering the KNP and works areas will be implemented. Monitoring will occur during construction and operational phases to assess for the presence of the <i>P.cinnamomi</i> in susceptible vegetation communities. No introduction of soil is proposed to minimise any chances of introducing diseases. Based on the mitigation measures outlined above, it is not expected that Main Works will result in introduction of any disease that will case the species to decline. However, the effectiveness of these mitigation measures cannot be quantified.

Table K.5 Significant impact criteria assessment – Smoky Mouse

Interfere with the recovery of the species	Main Works is not expected to interfere with the recovery of the Smoky Mouse. A population has been recorded in the project area, and habitats are in good condition. Clearing of 174.63 ha of Smoky Mouse habitat will result from Main Works. The extent of the regional population is in the order of 6,000 ha to 7,000 ha of available habitat. There is potential for impacts to Smoky Mouse populations from vehicle strike. The Main Works will result in an increase in vehicles and trucks using the access road, therefore increasing risk of Smoky Mouse population decline. Impacts from vehicle strike are more likely to occur at night as the species is nocturnal and during breeding season when males are more transitory. Proposed mitigation measures to address vehicle strike including placement of speed restrictions on key roads to minimise potential for fauna vehicle strike. Indirect impacts also have potential to occur as a result of Main Works due to an increase in feral animal predation. As a result of increased disturbances in local area there is potential for feral animal numbers to increase. The feral Cat and European Fox are recognised threats to Smoky Mouse. Therefore a feral animal monitoring and control program will be implemented.
Conclusion	The Main Works is considered likely to have a significant impact on the Smoky Mouse as: - although 174.63 ha (2.5%) of an estimated 6,000 – 7,000 ha of habitat will be removed, this area represents the largest extant population of the species known; - there is potential for indirect impacts to occur, including increase predation and spread of <i>P.cinnamomi</i>; and - this area is likely to be critical to the survival of the species.

K.6 Spotted-tailed Quoll

Table K.6 Significant impact criteria assessment – Spotted-tailed Quoll

Species profile	Spotted-tailed Quoll (<i>Dasyurus maculatus</i>) Status: Endangered (EPBC Act), Vulnerable (BC Act) Distribution: The Spotted-tailed Quoll's distribution has reduced significantly since European settlement. The species is now found in eastern NSW, eastern Victoria, south-east and north-east Queensland, and Tasmania. DELWP (2016) identifies the Spotted-tail Quoll population in KNP as an important population as the area is a stronghold for the species and important for research. Biology: The Spotted-tailed Quoll is one of Australia's largest extant marsupial carnivores, and has a distinctive spotted appearance. It's larger size and spotted tail distinguish it from other quoll species. Males can grow to 1.3 m in length, whilst females are generally smaller growing to about 85 cm in length. The average lifespan is relative short, estimating between three to five years (DELWP 2016). The carnivorous species hunts on the ground and in trees, consuming a variety of prey including gliders, possums, small wallabies, rats, birds, rabbits, reptiles and invertebrates (OEH 2017c). Breeding: Breeding does not always occur in successive years, however most females produce a litter annually. The average litter size is five young with both sexes maturing at about one year of age (OHE 2017c). Habitat Requirements: The species is primarily forest-dependent, and occupies a wide range of habitat types, including rainforest, wet and dry sclerophyll forest, coastal heathland, scrub and dunes, woodland, heathy woodland, swamp forest, mangroves, on beaches and sometimes in grassland or pastoral areas adjacent to forested areas. Individuals use hollow-bearing trees, fallen logs, small caves, rocky outcrops and cliff faces as den sites. The species has home ranges of several hundred to several thousand
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Table K.6 Significant impact criteria assessment – Spotted-tailed Quoll

	hectares in size and will use multiple dens, moving between den sites every 1-4 days. The species occurs at low densities (DELWP 2016, DEWHA 2009a, DSE 2011a). Threats: The main threats facing the Spotted-tailed Quoll include: • loss, fragmentation and degradation of habitat; • competition with introduced predators such as cats and foxes; • deliberate poisoning, shooting and trapping, primarily in response to chicken predation; • roadkill; and • poisoning from eating cane toads in the wild (OEH 2017c).
Criteria	Discussion
Lead to a long-term decrease in size of a population	Main Works will result in clearing of 1,090 ha of Spotted-tailed Quoll habitat. Large areas of suitable habitat will remain in the locality. Indirect impacts also have potential to occur as a result of Main Works including an increase in feral animal predation as a result of increased disturbances. The feral cat and dog, and European fox are recognised threats to Spotted-tailed Quoll. A pest and predatory monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of feral animals. Given the greater extent of habitat remaining in the locality, and distribution of the species, it is unlikely Main Works will lead to a long-term decrease in the size of an important population.
Reduce the area of occupancy for the species	The Main Works will result in clearing of 1,090 ha of Spotted-tailed Quoll habitat. The Spotted-tailed Quoll has large home ranges of several hundred to several thousand hectares in size in which the species occurs at low densities (DELWP 2016b, DEWHA 2009a, DSE 2011a). In the locality, the species is likely to be wide ranging, with the Main Works area forming a small part of a much larger home range. Main Works will result in the loss 1,090 ha of habitat for this species. However, given the large home range of this species and the extensive areas of habitat for the important population spread across KNP, the impact arising from Main Works will not result in a detectable decrease in the area of occupancy for the important population.
Fragment an existing population into two or more populations	Main Works will result in fragmentation of habitat within Lobs Hole and spreading east to the Snowy Mountains Highway. All areas not retained for permanent infrastructure will be revegetated and rehabilitated following the construction of Snowy 2.0 Main Works. This will result in large patches of vegetation providing connection across the project area.
Adversely affect habitat critical to survival of a species	Habitat critical to the survival of the Spotted-tailed Quoll is identified as “large patches of forest with adequate denning resources and relatively high densities of medium-sized mammalian prey” (DELWP 2016). The vegetation in the locality would meet this criterion; however, such habitat is limited within the survey area, with suitable denning sites focused on boulderfields on Lobs Hole Ravine Road, and areas with a high density of hollow logs in sub-alpine areas along Lobs Hole Ravine Road. Main Works will result in the removal of 1,090 ha of habitat, with large patches of connecting vegetation provided adjacent. Therefore, it is not considered Main Works will not adversely affect habitat critical to the survival of the species.
Disrupt breeding cycle of a population	The Spotted-tailed Quoll has a low overall reproductive output, with some females breeding only once or twice during their lives. Den sites include rock crevices, hollow logs, tree hollows, caves and boulder tumbles, and are critical to breeding success (DELWP 2016). Male biased dispersal is likewise critical to the species, to ensure sufficient gene flow between sub-populations. No den sites were identified within the survey area; therefore Main Works is not likely to disrupt the breeding cycle of the Spotted-tailed Quoll population.

Table K.6 Significant impact criteria assessment – Spotted-tailed Quoll

Modify, destroy, remove, isolate or degrade habitat to the extent that the species is likely to decline	Main Works will result in direct impacts to habitat for the Spotted-tailed Quoll, with 905.36 ha of habitat to be directly impacted. Indirect impacts may occur due to weed invasion or spread of pathogens. Controls have been implemented to minimise these impacts. The project design incorporated identified biodiversity values, with clearing focused on areas of lower quality/disturbed habitat. There is potential for Main Works to reduce the quality of habitat, as a result of increase weed abundance or introduction of pathogens. A number of mitigation measures, including construction of washdown stations, active weed control prior to construction works, and the implementation of a weed and pathogen monitoring program to ensure habitat quality is maintained including hygiene protocols to prevent introduction of weeds, the spread of weeds or the spread of pathogens. Given the above mitigation measures and restriction of removal of vegetation to existing disturbed areas, it is not considered Main Works will not result in a decrease in the availability or quality of habitat for the Spotted-tailed Quoll.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	Main Works has the potential to result in the introduction and spread of weed species, and increase in abundance of feral animals (including feral cats, foxes and feral pigs). Weed control will be undertaken prior to construction works, where possible. Washdown station will be constructed at suitable locations for use during the Main Works construction period. Hygiene protocols will be put in place to ensure weeds are not brought in with vehicles, machinery or by foot. Competition and predation by feral animals is identified as a threat to the Spotted-tail Quoll (DELWP 2016). A feral animal control program will be implemented during the construction and operational phases to minimise impacts of feral animals on wildlife. Waste will be stored appropriately in inaccessible bins and disposed off-set. Based on the proposed mitigation measures it is not expected that Main Works will result in an increase of invasive species.
Introduce disease that may cause the species to decline	Whilst disease is not recognised as a threat to the Spotted-tailed Quoll, introduction of <i>P. cinnamomi</i> could result in "dieback" and impacts to forest habitat. Mitigation measures including strict hygiene protocols to disinfect footwear, machinery and vehicles before entering the KNP and works areas will be implemented. No introduction of soil is proposed to minimise any chances of introducing diseases.
Interfere with the recovery of the species	DoELWP (2016) identifies a number of recovery objectives. The Main Works will not interfere with any of these objectives.
Conclusion	The project will not have a significant impact on the Spotted-tailed Quoll as: • the species has large home ranges of several hundred to several thousand hectares size; • the species is predicted to occur at low densities; • no denning sites were identified within the project area, therefore will not disrupt the breeding cycle of the species; and • potential impacts arising from increased feral activity, weeds and pathogens will be managed through implementation of feral animal control programs, as well as strict hygiene protocols and weed management programs.

K.7 Booroolong Frog

Table K.7 Significant impact criteria assessment – Booroolong Frog

Species profile	Booroolong Frog (<i>Litoria booroolongensis</i>) Status: Endangered (EPBC & BC Act) Distribution: The Booroolong Frog is restricted to tablelands and slopes in NSW and north-eastern Victoria (DoE 2019b). It is predominantly found along western-flowing streams of the Great Diving Range between 200 and 1,300m above sea level. Biology: The Booroolong Frog is a medium-sized, stream dwelling frog with grey, olive or brown colouring. The abdomen is white, and skin has a slightly warty appearance. It is nocturnal but can be seen during day on rocks in or near the water. Breeding: Breeding is known to occur in spring and early summer, from October to early January. Egg deposition sites are typically in shallow, slow-flowing sections of stream or isolated rock pools along stream margins (OEH 2012a). Tadpoles take 2 to 4 months to develop, metamorphosing in late summer to early autumn (Anstis 2002). Habitat Requirements: The species is known to occur in a variety of vegetation types alongside permanent streams. Primary habitat requirements are extensive rock bank structures along permanent rivers with the key feature of these rock structures being rock crevices in relatively shallow, slow to medium-flowing sections of stream (Hunter 2007). Adults tend to occur on or near cobble banks or bedrock structures within stream margins, or near slow-flowing connected or isolated pools that contain suitable rock habitats. Threats: The main threats associated with the Booroolong Frog are: • modification of stream channels and loss of cobble banks; • loss of native streamside vegetation; • damage to stream margins by stock; • predation of eggs and tadpoles by introduced fish; • weed invasion of streamside habitats, particularly by willows; • disease - chytrid fungus; • changes to water quality through sedimentation and use of herbicides or pesticides near streams; • stream drying caused by severe drought or water extraction/impoundment; • large amounts of sedimentation due to wild horse activity in the National Park, causing filling of breeding crevices; • high density of fossicking and in particular the illegal use of powered sluices and deliberate damming of stretches to facilitate use; and • cause damage and erosion to stream margins.
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Table K.7 Significant impact criteria assessment – Booroolong Frog

Criteria	Discussion
Lead to a long-term decrease in size of a population	The Booroolong Frog was recorded during targeted surveys across the survey area. All sightings were associated with the Yarrangobilly River and nearby tributaries flowing into the river. The records are restricted to the Lobs Hole area. Individuals were recorded on the edge of the stream banks associated with rocks or under vegetation, or in small pools of shallow water. All records (except for two) were found within the in-stream environment or on riverbank edges. One exception is a record found 130 m to the east of Yarrangobilly River, which is expected to be due to high rainfall that had occurred days prior to the survey that inundated the riverbank areas. It is likely that this population extends upstream to at least Blue Creek Firetrail (Dave Hunter, DPIE, pers. comm.). It is estimated approximately 0.9 ha of Booroolong Frog breeding habitat and 9.45 ha of Booroolong Frog foraging habitat will be disturbed as a result of Main Works. All areas not retained for permanent infrastructure will be revegetated and rehabilitated following the construction of Snowy 2.0 Main Works. Therefore, reducing the long-term impacts and loss of habitat to the Booroolong Frog. A number of mitigation measures will be implemented to reduce the potential of indirect impacts on Booroolong Frog populations. A key focus is managing water quality and in-stream environments to ensure that coarse sediment does not enter the waterway and result in changes to habitat structure for the species. A comprehensive stormwater management and erosion and sediment control plan are outlined above, identifying identifies the measures to be implemented. A potential indirect threat to the Booroolong Frog population may occur from introduction of 'Chytridiomycosis' disease to the area. This disease is caused by an infection with the Amphibian Chytrid Fungus (<i>Batrachochytrium dendrobatidis</i>) which has been identified as the cause of amphibian declines and extinctions on different continents (OEH 2012). By bringing in vehicles, machinery and people there is potential they may carry spores which then spread into water bodies. Mitigation measures including hygiene protocols to disinfect footwear, machinery and vehicles before entering the KNP and works areas will be implemented. A monitoring program for the Booroolong Frog population has been implemented to monitor the species prior to construction and during construction activities. This will continue to secure and protect the population. Given that the Main Works will result in the removal of less than 1 ha of breeding habitat, and mitigation measures will be implemented to ensure habitat quality is maintained, it is not expected the Main Works will decrease the size of an important population.
Reduce the area of occupancy for the species	Main Works will result in direct impacts to 9.45 ha of foraging habitat and 0.9 ha of breeding habitat. Bridge structures will be constructed for crossings over Wallace's Creek and Yarrangobilly River. This will impact on in-stream breeding habitat for the species. Additionally, riparian vegetation will be removed for bridge construction and infrastructure. This will ultimately reduce the area of occupancy for the species.
Fragment an existing population into two or more populations	The targeted frog surveys to date have recorded the Booroolong Frog within the Yarrangobilly River, Sheep Station Creek and Wallace's Creek in close proximity to where they join the Yarrangobilly River. These watercourses and in-stream environments which support the Booroolong Frog populations will not be directly impacted by the proposed works. Stream flow will be maintained and riparian vegetation retained. Some fragmentation may occur due to the removal of vegetation along the edge of the watercourses. The two access road crossings over Booroolong River and Wallace's Creek will have bridge structures to ensure connectivity is maintained. As a result of bridge design and mitigation measures proposed, it is expected the Main Works will not significant fragment an existing population.

Table K.7 Significant impact criteria assessment – Booroolong Frog

Adversely affect habitat critical to survival of a species	Approximately 125 individual Booroolong Frogs were recorded during targeted surveys across the survey area. All sightings were associated with the Yarrangobilly River and nearby tributaries flowing into the river. All records (except for one) were found within the in-stream environment or on riverbank edge. Direct impacts to 9.45 ha of foraging habitat and 0.9 ha of breeding habitat will occur. The Main Works has been largely located to avoid direct instream impacts. Removal of vegetation within 50m has been largely avoided, with exception to areas for bridge construction and large infrastructure. Post construction it is likely a large portion of the disturbance areas can be rehabilitated, therefore resulting in a temporary loss of foraging habitat. A number of mitigation measures will be implemented to reduce potential for indirect impacts on Booroolong Frog primary habitats. A key focus is managing water quality and in-stream environments to ensure that coarse sediment does not enter the waterway and result in changes to habitat structure for the species. A comprehensive stormwater management and erosion and sediment control plan will be developed which identifies the measures to be implemented. At high risk areas such as bridge crossings of Yarrangobilly River and Wallace's Creek measures will be put in place to prevent sediment and rock entering the watercourse including sediment fencing, diversions and detention ponds. Runoff from spoil piles will also be managed to ensure there is no contamination or sediment entering adjacent watercourses. No change to stream flows will occur as a result of Main Works. Fauna spotters will also be present and check areas prior to clearing for Booroolong Frog and translocate them to adjacent habitats away from impacts. Given that Main Works will impact less than 1 ha of breeding habitat and the mitigation measures to be put in place, it is not expected the Main Works will adversely affect critical habitat.
Disrupt breeding cycle of a population	Breeding is known to occur in spring and early summer, from October to early January. Egg deposition sites are typically in shallow, slow-flowing sections of stream or isolated rock pools along stream margins (OEH 2012). Tadpoles take 2-4 months to develop, metamorphosing in late summer to early autumn (Anstis 2002). Survival rates are low with 10% annual survival for adult males and 20% annual survival for adult females (Hunter 2001). The proposed Main Works have the potential to disrupt the breeding cycle of the Booroolong Frog population. Direct impacts will occur to 0.9 ha of instream environment. If works in these areas occur during the breeding period for the species localised impacts to breeding may result. There is also potential for indirect impacts to breeding to result from noise, with night-time noise levels of >65 dB experienced along the Yarrangobilly River. This is equivalent to a normal conversation. These noise levels have the potential to impact on male calling behaviour and result in spatial displacement (Caorsi et al. 2018, Paris et al. 2009). These impacts will occur during construction only. The Main Works will also not have an impact on stream flow, and mitigation measures are being put in place to ensure water quality is maintained, such as the management of stormwater runoff. As a result of largely avoiding breeding habitat, not disrupting or changing water flows, and putting mitigation measures in place to maintain water quality and habitat features and minimise noise impacts, it is not expected the proposed works will disrupt the breeding cycle of a population.

Table K.7 Significant impact criteria assessment – Booroolong Frog

Modify, destroy, remove, isolate or degrade habitat to the extent that the species is likely to decline	Minor loss of Booroolong Frog primary habitat will occur. The Main Works have been located to largely avoid Yarrangobilly River, associated tributaries and fringing vegetation which contain their preferred habitats, and is where the species have been recorded. For those development areas in proximity to Yarrangobilly River majority of construction will occur 50m back from the river. The exception are two bridges associated with access road upgrades and small patches of vegetation required for removal for large infrastructure. The bridge construction will require minor in-stream environments and therefore primary habitat for Booroolong Frog but there may be minor clearing required of riparian vegetation to allow for construction of the bridge upgrades. There is potential for the Main Works to reduce quality of habitat. For primary habitats this quality reduction may be as a result of sediment runoff in the form of coarse rock material coming into the river. This has potential to reduce the habitat suitability for Booroolong Frogs by filling in small rock crevices and pools. A potential impact to quality of foraging habitat may come from an increase in weed abundance as a result of clearing in adjacent areas and introduction of weeds from vehicles/machinery etc. A number of mitigation measures will be implemented to ensure habitat quality is maintained. These include: Comprehensive stormwater management and erosion and sediment control measures to ensure coarse rock material and sediment does not enter the waterways and result in changes to habitat structure for the species; Retain a 50 m buffer to watercourses from development where achievable to protect Booroolong Frog foraging habitats and reduce potential for indirect impacts on species; Implement hygiene protocols to prevent introduction of weeds and a weed control program to prevent the spread of weeds into riparian vegetation; and Feral animal control program to minimise impacts to in-stream environments from feral pigs. Based on the Main Works avoiding primary and foraging habitats, and mitigation measures proposed, it is not expected the works will result in a loss of habitat availability or habitat quality.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including wild dogs, feral cats, foxes and feral pigs). Weed control prior to construction works will be undertaken. Appropriate disposal and management of weeds during construction will be completed to reduce the potential of seed disposal. Washdown stations will be constructed for weeds as well as <i>P.cinnamomi</i>. Additionally, a weed and pathogen monitoring program will be implemented. Additional measures will be put in place to reduced the potential of increasing predatory and pest species. Including appropriate waste bins supplied during construction, no waste will be left outside. A pest and predatory monitoring program will be implanted to ensure the Main Works does not result in a significant increase in numbers of pest and predatory species. Based on the above mitigation measures, it is not expected the Main Works will result in an increase of invasive species. It is proposed that as a result of the project increasing effort around weed control and feral animal control there may be an improvement in habitat quality and reduction of invasive species in the area.
Introduce disease that may cause the species to decline	A potential threat to the Booroolong Frog population may occur from introduction of 'Chytridiomycosis' disease to the area. This disease is caused by an infection with the Amphibian Chytrid Fungus (<i>Batrachochytrium dendrobatidis</i>) which has been identified as the cause of amphibian declines and extinctions on different continents (OEH 2012a). By bringing in vehicles, machinery and people there is potential they may carry spores which then spread into water bodies. Mitigation measures including hygiene protocols to disinfect footwear, machinery and vehicles before entering the KNP and works areas will be implemented. No introduction of soil is proposed to minimise any chances of introducing diseases.

Table K.7 Significant impact criteria assessment – Booroolong Frog

Interfere with the recovery of the species	The proposed Main Works is not expected to interfere with the recovery of the Booroolong Frog population. There is a large population that has been recorded in the project area, and habitats are in good condition. Comprehensive mitigation measures as detailed above will be implemented to ensure indirect impacts are managed.
Conclusion	The Main Works will not have a significant impact on the Booroolong Frog population as: • primary in-stream habitat will largely be avoided, with 0.9 ha of direct impact and a 50 m vegetation buffer will be utilised where possible; • vegetation removed as a result of temporary infrastructure will be rehabilitated after construction; • mitigation measures will be put in place to reduce the indirect impacts to in-stream habitat quality, predator species and vegetation quality; and • water flows will not be impacted.

K.8 Alpine Tree Frog

Table K.8 Significant impact criteria assessment – Alpine Tree Frog

Species profile	Alpine Tree Frog (<i>Litoria verreauxii alpina</i>) Status: Vulnerable (EPBC Act), Endangered (BC Act) Distribution: The Alpine Tree Frog is known to occur in the south-eastern NSW and Victorian high country (alpine and sub-alpine zones), generally above 1,100m ASL. Historical records indicate the species was once widespread and abundant throughout the alpine and sub-alpine zones of south-eastern Australia (DoE 2014c). Biology: The Alpine Tree Frog is a relatively small frog with variable colouring including green, brown and grey forms. They have a black stripe from the nostrils, through the eyes down to their foreleg. The distinguishing feature is its warty back. Breeding: Breeding populations occur on plains or open valleys where there are stream side pools, fens and bogs, but is also be associated with artificial waterbodies such as small dams and reservoirs. Breeding occurs in December with males calling from the water edges of the pools, and eggs are attached to submerged vegetation. Tadpoles metamorphose into froglets in late summer (OEH 2017d). Habitat Requirements: The Alpine Tree Frog is known to occur in a wide variety of habitats including woodland, heath, grassland and herb fields. During the non-breeding season individuals may be found amongst litter, under logs, beneath flat stones in stream beds or in rocky areas near streams (DoE 2014c). Threats: The main threats associated with the Alpine Tree Frog are: • loss or modification of habitat including damage by feral horses; • changes to natural water flows as a result of groundwater extraction; • disease - chytrid fungus; • climate change including increased UV-B radiation; and • poor knowledge of the species' distribution and population dynamics across its range (OEH 2017d).
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Table K.8 Significant impact criteria assessment – Alpine Tree Frog

Criteria	Discussion
Lead to a long-term decrease in the size of an important population	Important populations have not been defined for the Alpine Tree Frog. There are records of this species within the area spanning from northern NSW to Vic. Using a precautionary approach and the definitions in the significant impact guidelines (DoE 2013a) it is possible that the population recorded across the Main Works study area is an important population as the species has a limited distribution and would therefore be considered important as a key source population and for maintaining genetic diversity. That said, the recorded population is extensive and includes the catchments of the Eucumbene River, Murrumbidgee River, Tantangara Creek, Gooandra Creek and Nungar Creek. The Alpine Tree Frog was recorded within multiple locations across the project area; around the edges of Tantangara Reservoir, breeding within the fluctuating levels of the Reservoir between MOL and FSL, Bullocks Hill Creek, along Nungar Creek, and Tantangara Tributaries. Habitat has been defined as the area between FSL and MOL in Tantangara Reservoir and suitable watercourses, plus areas within the 50 m of suitable breeding habitat. Impacts arising from Main Works include clearing of 48.87 ha of habitat for this species. Areas not retained for permanent infrastructure will be revegetated and rehabilitated. Several mitigation measures will be implemented to reduce potential for indirect impacts on Alpine Tree Frog populations. These include monitoring water quality, hygiene protocols to stop the spread of disease such as Chytrid Fungus and manage runoff to ensure no contamination or sediment entering adjacent watercourses. Given the extent of the known populations throughout the region, it is unlikely the Main Works will result in a long-term decrease in the size of an important population.
Reduce the area of occupancy for an important population	The Main Works will result in the reduction to 48.87 ha of Alpine Tree Frog habitat across the project area. The species was recorded throughout the survey area with large populations recorded to the north of Tantangara Reservoir. Suitable stream habitat occurs throughout the locality, providing high quality breeding and foraging habitat. The Main Works will reduce the area of occupancy for an important population; however, considering the large amounts of high-quality habitat within the KNP it is unlikely the project will have a significant impact on the reduction of occupancy for the species.
Fragment an existing important population into two or more populations	The Main Works will result in a reduction of 48.87 ha of Alpine Tree Frog habitat. Existing tracks and roads throughout the KNP will be used for the Main Works. Additional vegetation clearing adjacent to these tracks will not cause any additional fragmentation on the species.
Adversely affect habitat critical to the survival of a species	Over 300 individual Alpine Tree Frogs were recorded during targeted surveys, including an additional 1,800 tadpoles. Key project elements were removed from the plateau area to reduce the direct impacts on the species. Direct impacts to 48.87 ha of breeding and foraging habitat will occur. A number of mitigation measures will be implemented to reduce potential for indirect impacts on Alpine Tree Frog primary habitat. A key focus is managing water quality and in-stream environments to ensure that coarse sediment does not enter the waterway and result in changes to habitat structure for the species. A comprehensive stormwater management and erosion and sediment control plan will be developed which identifies the measures to be implemented. Hygiene protocols will be implemented to reduce the potential of exotic weeds spreading and degrading habitat. This will include washdown stations, appropriate disposal of weeds during clearing works, and the implementation of a weed and pathogen monitoring program.

Table K.8 Significant impact criteria assessment – Alpine Tree Frog

Disrupt the breeding cycle of an important population	Breeding is known to occur in December. The Alpine Tree Frog lays its eggs in deep pools, including fens, stream cut-offs, lakes and reservoirs. Tadpoles were recorded within the project area during targeted surveys. Direct impacts will occur to breeding habitat and in-stream environments as a result of road upgrades and bridge structures. The project also has the potential to mobilise large amounts of sediment and significantly impact on breeding habitat for the Alpine Tree Frog. Mitigation measures will be put in place to manage the impact on breeding habitat. These include management of sedimentation via sediment and erosion control plants for each construction zone, natural erosion controls incorporating organic materials, micro water capture and contour shaping, diversion of clear water around construction areas, collection of run-off from roof areas and treatment of wastewater using membrane filtration prior to disposal into Reservoirs. Additional a surface water monitoring program will be implemented to ensure run-off does not impact on sensitive breeding environments. As a result of mitigation measures, it is not considered the Main Works will have a significant impact to the breeding cycle of an important population.
Modify, destroy, remove, isolate or decrease the availability habitat to the extent that the species is likely to decline	Main Works will result in the loss of 48.87 ha of Alpine Tree Frog habitat, and has the potential to result in indirect impacts such as the increase in exotic weed species and feral animals (including cats, foxes and feral pigs). Mitigation measures will be in place to reduce any potential indirect impacts to habitat including hygiene protocols and a weed and pathogen monitoring program. Management of sedimentation will be conducted to ensure water quality will not be impacted as a result of construction activities. Implementation of a surface water monitoring program as well as run-off collection and treatment of wastewater will reduce any impacts of modification to the species habitat. Extensive suitable habitat remains within the locality, including in-stream environments. Given the extent of habitat remaining and proposed mitigation measures, it is not considered the Main Works will have a significant impact to the availability of habitat that the species is likely to decline.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The Main Works has the potential to result in the introduction and spread of exotic weeds, and increase in abundance of feral animals including feral cats, foxes and feral pigs). Weed control prior to construction works will be undertaken. Appropriate disposal and management of weeds during construction will be completed to reduce the potential of seed disposal. Washdown stations will be constructed for weeds as well as <i>P.cinnamomi</i>. Additionally, a weed and pathogen monitoring program will be implemented. Additional measures will be put in place to reduced the potential of increasing predatory and pest species. Including appropriate waste bins supplied during construction, no waste will be left outside. A pest and predatory monitoring program will be implanted to ensure the Main Works does not result in a significant increase in numbers of pest and predatory species. Based on the above mitigation measures, it is not expected the Main Works will result in an increase of invasive species. It is proposed that as a result of the project increasing effort around weed control and feral animal control there may be an improvement in habitat quality and reduction of invasive species in the area
Introduce disease that may cause the species to decline	A potential threat to the Alpine Tree Frog populations may occur from introduction of 'Chytridiomycosis' disease to the area. This disease is caused by an infection with the Amphibian Chytrid Fungus (<i>Batrachochytrium dendrobatidis</i>) which has been identified as the cause of amphibian declines and extinctions on different continents (OEH, 2012). By bringing in vehicles, machinery and people there is potential they may carry spores which then spread into water bodies. Mitigation measures including hygiene protocols to disinfect footwear, machinery and vehicles before entering the KNP and works areas will be implemented. No introduction of soil is proposed to minimise any chances of introducing diseases.
Interfere substantially with the recovery of the species	There is no Recovery Plan for the Alpine Tree Frog, therefore the Main Works will not interfere with the recovery of the species.

Table K.8 Significant impact criteria assessment – Alpine Tree Frog

Conclusion	The Main Works will not have a significant impact on the Alpine Tree Frog as: • extensive suitable habitat exists within the locality with large sub-populations recorded; • vegetation removed as a result of temporary infrastructure will be rehabilitated after construction; • mitigation measures will be put in place to reduce the indirect impacts to in-stream habitat quality, predator species and vegetation quality; and • management of sedimentation will not result in any impacts on Alpine Tree Frog breeding habitat.
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K.9 Alpine She-oak Skink

Table K.9 Significant impact criteria assessment – Alpine She-oak Skink

Species profile	Alpine She-oak (<i>Cyclodomorphus praealtus</i>) Status: Endangered (EPBC & BC Act) Distribution: The species is endemic to NSW and Victoria, restricted to sub-alpine and alpine grasslands and grassy heathland. It is known to occur above 1,500 m in the Australian Alps from Omeo Plain to Kiandra (DEWHA 2009). Biology: The Alpine She-oak Skink is a medium-sized skink, approximately 350 mm in length, with a snout to vent length of up to 130 mm. It is olive-green to reddish-brown with smooth, overlapping scales. The Alpine She-oak has four distinct limbs with five fingers or toes. It can be distinguished from other She-oaks in Australia by its distribution and the species has fewer than 60 subcaudal scales on the underside of any original tails (OEH 2017e). Breeding: The Alpine She-oak Skink gives birth to live young and a study of preserved museum specimens found several females, with previous studies suggesting breeding period is within summer. Habitat Requirements: The species is associated with the Alpine Sphagnum Bogs and Associated Fens EPBC listed TEC. The Alpine She-oak Skink has specific habitat requirements, preferring tree-less or very lightly treed areas containing tussock grasses and/or low heath. It is known to have relatively small home ranges, remaining in the same general area for long periods of time (OEH 2017e). Threats: The main threats associated with the Alpine She-oak Skink include: • changes in vegetation structure within preferred habitat brought about by wildfire, weed invasion, and climate change; • grazing, trampling and ground disturbance by feral horses, deer and pigs; • construction of infrastructure in alpine areas such as roads, tracks, buildings and ski runs resulting in loss and fragmentation of subalpine and alpine habitat; • predation by rats, foxes, cats and dogs; and • lack of knowledge of the distribution and habitat requirements of the species. (OEH 2017e).
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Table K.9 Significant impact criteria assessment – Alpine She-oak Skink

Criteria	Discussion
Lead to a long-term decrease in size of a population	The Alpine She-oak Skink is endemic to NSW and Victoria, recorded within the Australian Alps in NSW. The Alpine She-oak Skink is known to occur across the project area ranging from Link Road, across the Plateau, adjacent to Tantangara Road and up to Port Phillip Track. The species was recorded from 24 locations across the study area. The largest distance the species has been recorded moving is roughly 45 meters (OEH 2017e). With a conservative approach of applying a 100 m buffer, the Main Works potentially may impact seven of these sights; however, it is likely the species will move out of the works area during construction works. The Main Works will result in the removal of 133.83 ha of habitat. This represents a very small percentage of the remaining habitat within the locality. The Main Works also has the potential for indirect impacts on the species including the introduction and spread of exotic weed species and increase in predatory species. A number of mitigation measures will be implemented to reduce potential indirect impacts on the species. A key focus is on hygiene protocols and weed control such as appropriate disposal a weed and pathogen monitoring program. Additional mitigation measures for predatory and pest species include appropriate waste disposal and the implementation of a pest and predatory monitoring program. Considering the existing population recorded across the survey area, available habitat and mitigation measures it is unlikely the Main Works will lead to a long-term decrease in size of a population.
Reduce the area of occupancy for the species	Significant reductions of impacts in the plateau area, including suitable sub-alpine grassland habitat, has resulted in reduction to direct impacts of Alpine She-oak Skink. The Main Works will result in the removal of 133.83 ha of habitat. This represents approximately 8% of the suitable habitat mapped as part of the broader survey area, and a minor component of suitable habitat in the region. Although the project will reduce the area of occupancy for the species it will not have a significant impact considering the extent of the species and suitable vegetation within the locality.
Fragment an existing population into two or more populations	The existing populations of Alpine She-oak occur alongside tracks and roads within project area. The Main Works is not likely to contribute to any additional fragmentation on the population. Large areas of suitable habitat where the species has been recorded remain in the locality.
Adversely affect habitat critical to survival of a species	Habitat critical to the survival of the Alpine She-oak has not been defined. The Main Works will result in the removal of 133.83 ha of habitat. This represents approximately 8% of the suitable habitat mapped as part of surveys for Snowy 2.0 and a very minor component of suitable habitat in the region. The species was recorded to the north of the project area, where suitable grassy habitat persists. Considering the small percentage of habitat to be removed as part of the Main Works it is not considered the project will adversely affect habitat critical to the survival of the species.
Disrupt breeding cycle of a population	The Alpine She-oak Skink is known to produce up to five young per litter in later summer (DoE 2019X). Little is known about the breeding biology of the species (OEH 2017e). Main Works will result in the removal of 133.83 ha of habitat, which will potentially impact on the breeding cycle of the species.
Modify, destroy, remove, isolate or degrade habitat to the extent that the species is likely to decline	The Main Works will result in clearing of 133.83 ha of Alpine She-oak Skink habitat. The project also has the result in indirect impacts such as the increase in exotic weed species and feral animals (including cats, foxes and feral pigs). Mitigation measures will be put in place to reduce any potential indirect impacts to habitat including washdown stations, hygiene protocols, active weed control and the implementation of a weed and pathogen monitoring program. A pest and predatory monitoring program will also be implemented to ensure Main Works does not result in a significant increase in numbers of pests and predatory species. Majority of records were outside of the project area, the northern extent of the plateau, south of Link Road and Port Philip Track. These areas provide suitable tussock dominated habitat for the species. Therefore, it is unlikely the removal of 133.83 ha of vegetation will result in the decline of the species.

Table K.9 Significant impact criteria assessment – Alpine She-oak Skink

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The Main Works has the potential to result in the introduction and spread of weed species and increase in abundance of feral animals (including feral deer, cats, dogs, foxes and pigs). Known threats to the Alpine She-oak Skink include trampling and ground disturbance by feral horses, deer and pigs, as well as predation by rats, foxes, cats and dogs. Prior to construction, it is proposed weed controls will be implemented where possible. During the clearing works appropriate disposal and management of weeds will be implemented to stop the spread of existing weed species. Wash down stations will be constructed at suitable locations to stop the spread of weeds and introduction of new species. A weed and pathogen monitoring program will be implemented to ensure impacts arising from clearing are within prediction. Similarly, a pest and predator monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pest and predatory species. Based on the proposed mitigation measures it is not expected the Main Works will result in an increase of invasive species.
Introduce disease that may cause the species to decline	There are no known diseases associated with the Alpine She-oak Skink. The Main Works has the potential to result in an increase of invasive species, such as the pig, which have the potential to transmit disease. A pest and predatory monitoring program will be implemented to ensure Main Works does not result in a significant increase in numbers of pests (including the pig) and impacts to threatened species remain within prediction. Wash-down stations will be constructed at suitable locations for weeds and pathogens.
Interfere with the recovery of the species	There is no Recovery Plan for the Mauve Burr-daisy, therefore the Main Works will not interfere with the recovery of the species.
Conclusion	The project will not have a significant impact on the Alpine She-oak Skink as: • the species was recorded at 24 locations within the study area, seven of which may potentially be directly impacted by the Main Works; • the removal of 133.83 ha of habitat represents less than 8% of suitable habitat across the broader region; and • mitigation measures will be put in place to reduce the potential of spread and introduction of weed species and the increase in predatory species.

K.10 Satin Flycatcher

Table K.10 Significant impact criteria assessment for Satin Flycatcher

Species profile	Satin Flycatcher (<i>Myiagra cyanoleuca</i>) Status: Migratory (EPBC Act) Distribution: The Satin Flycatcher is widespread in eastern Australia and vagrant to New Zealand. The species is found along the east coast of Australia from far northern Queensland to Tasmania, including South Australia (BirdLife 2019a). The Satin Flycatcher occurs at many scattered sites in New Guinea and offshore islands (DoE 2019b). Biology: The Satin Flycatcher is a small blue-black and white bird with a small crest. Males are glossy blue-black above, with a blue-black chest and white below, while females are dusky blue-black above, with an orange-red chin, throat and breast, and white underparts (BirdLife 2019a). Juvenile birds are dark brown-grey above, with pale streaks and buff edges to the wing feathers. Habitat requirements: Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands. During migration they occur in coastal forests, woodlands, mangroves and drier woodlands and open forests. The species are often found near wetlands or watercourses (DoE 2019b). Threats: The main threats associated with the Satin Flycatcher include the loss of mature forests as a result of clearing and logging of forests in south-eastern Australia (DoE 2019b).
Criteria	Discussion
Substantially modify destroy or isolate an area of important habitat.	Main Works project area does not contain important habitat for the Satin Flycatcher. The species was recorded on three separate occasions adjacent to the Main Works project area. Two species were recorded within Marica, and another four species were recorded across the Plateau. The <i>Referral guideline for 14 birds listed as migratory under the EPBC Act</i> (DoE 2014e) identifies a substantial loss or modification of important habitat are those that are likely to meet or exceed the thresholds of 1, 700 individuals of Satin Flycatcher. Six individuals have been recorded across the broad study area, therefore as defined by the EPBC (DoE 2014e), the Main Works project area does not support important habitat. Consequently, Main works is not likely to not substantially modify, destroy or isolate an area of important habitat.
Result in an invasive species becoming established in an area of important habitat.	The <i>Referral guideline for 14 birds listed as migratory under the EPBC Act</i> (DoE 2014e) lists Black Rat (<i>Rattus rattus</i>) and invasive vines of riparian habitat (including Rubber Vine (<i>Cryptostegia grandiflora</i>)) as invasive species harmful to the Satin Flycatcher. As discussed above, the project area does not contain important habitat for the species and will not result in invasive species becoming established in an area of important habitat.
Disrupt the breeding cycle of a population.	Similarly to the guidelines for important habitat, the guidelines for disrupting the breeding cycle of a population is defined by affecting more than 1, 700 individuals. The Main Works project area does not support substantial breeding habitat for a large population, therefore will not disrupt the breeding cycle of the Satin Flycatcher population.
Conclusion	Main Works is unlikely to result in a significant impact on Satin Flycatcher as: - the project area does not contain important habitat for the species; and - an ecologically significant proportion of the population will not be disrupted.

K.11 Latham's Snipe

Table K.11 Significant impact criteria assessment for Latham's Snipe

Species profile	Latham's Snipe (<i>Gallinago hardwickii</i>) Status: Migratory (EPBC Act) Distribution: The Latham's Snipe is a non-breeding migrant to the south east of Australia including Tasmania, passing through the north and New Guinea on passage. The species breeds in Japan and on the east Asian mainland (BirdLife 2019b). Biology: The Latham's Snipe is the largest snipe in Australia; mainly brown plumage, with a long straight bill and short pointed wings. The upper body is boldly patterned with black, brown and white. The sexes are similar in appearance and do not show seasonal variation unlike other migratory waders. Juveniles in fresh plumage differ only slightly from adults (DoE 2019c). Habitat requirements: The Latham's Snipe occurs in permanent and ephemeral wetlands up to 2,000m ASL. The species inhabits open, freshwater wetlands with low, dense vegetation. Threats: The main threats associated with the Latham's Snipe include the loss of habitat caused by the drainage and modification of wetlands, diversion of water for storage or agriculture, development of land and land management practices such as mowing of habitat. The species was also previously legally hunted (DoE 2019c).
Criteria	Discussion
Substantially modify destroy or isolate an area of important habitat.	The Latham's Snipe was recorded adjacent to Tantangara Reservoir and across the Plateau within and adjacent to the Main Works project area. Vegetation along the southern end of Tantangara Reservoir contains sub-optimal foraging habitat. Main Works project area may support areas of important habitat for the Latham's Snipe as per the guidelines identified in <i>Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species</i> (DEE 2017b). The observation of 41 records of the species during surveys undertaken for Snowy 2.0 indicates these sub-alpine areas may support at least 0.1 per cent of the flyway population of this migratory shorebird species. Snowy 2.0 Main Works will impact on 12.95 ha of habitat for this species. Given the availability of habitat in the region Snowy 2.0 Main Works is unlikely to substantially modify this area of important habitat.
Result in an invasive species becoming established in an area of important habitat.	The <i>Threat Abatement Plan for predation by the European red fox</i> (DEWHA 2008b) identifies the Latham's Snipe as one of the species likely to be affected by the European red fox. Main Works will not result in an increase or introduction of the European red fox into an area of important habitat. As discussed above, the project area does not contain important habitat for the species and will not result in invasive species becoming established in an area of important habitat.
Disrupt the breeding cycle of a population.	The Latham's Snipe breeding range is confined to Japan and far eastern Russia, therefore the Main Works will not impact the species breeding cycle.
Conclusion	Main Works is unlikely to result in a significant impact on Latham's Snipe as: - the project will result in impacts to 12.95 ha of habitat for an important population, with large areas of high-quality habitat remaining in the region for this important population; and - the proposed action will not disrupt the breeding cycle of the species.

