

Conservation Agreement CA0551 Possumhall Site Values Report

| April 2024



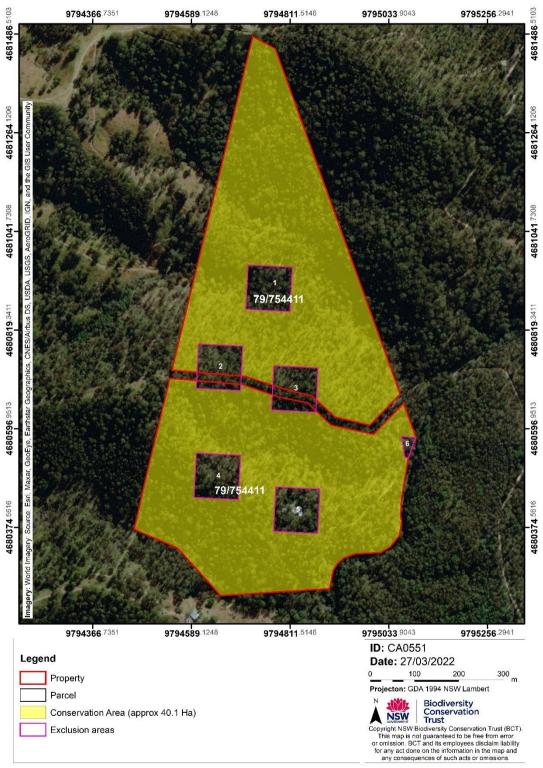
Introduction

The purpose of this Site Values Report (SVR) is to document the biodiversity values known or likely to occur within the Possumhall Conservation Agreement at the date the agreement was entered into.



Photo: Forest at Possumhall, Acacia fimbriata in foreground

Conservation Area



Natural Assets

This Conservation Area:

- Provides habitat for a variety of threatened fauna, with confirmed sightings for Koala, Glossy Black Cockatoo, Spotted-tailed Quoll, Grey-headed Flying Fox, Powerful owl, Yellow-bellied glider, Greater glider.
- is part of a mapped Key Habitat and Regional Corridor (Doyles Biriwal)

Vegetation

Four vegetation classes are mapped on-site (Keith 2004):

- Dry Rainforest,
- Northern Gorges Dry Sclerophyll forest,
- North Coast Wet sclerophyll Forest and
- Northern Hinterland Wet Sclerophyll Forest

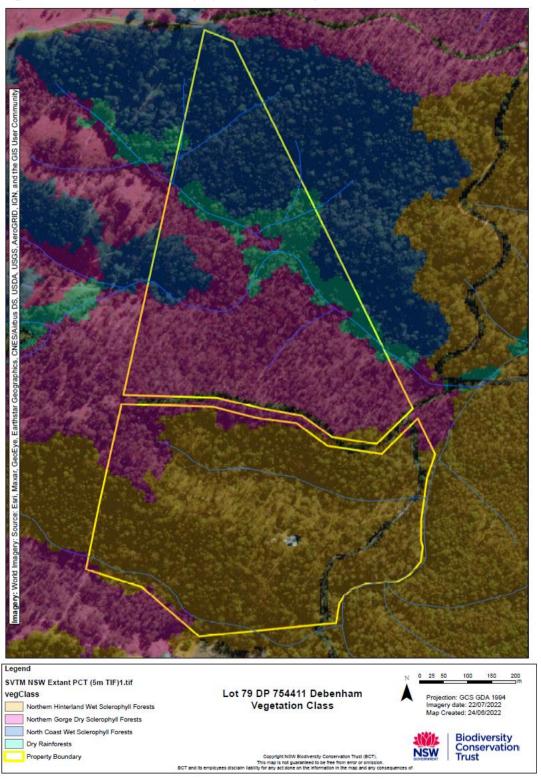
There are variations in plant communities across the proposed CA reflecting soil type, soil moisture, topographic location, aspect and fire history.

Variants of five Plant Community Types (PCTs) are mapped on-site:

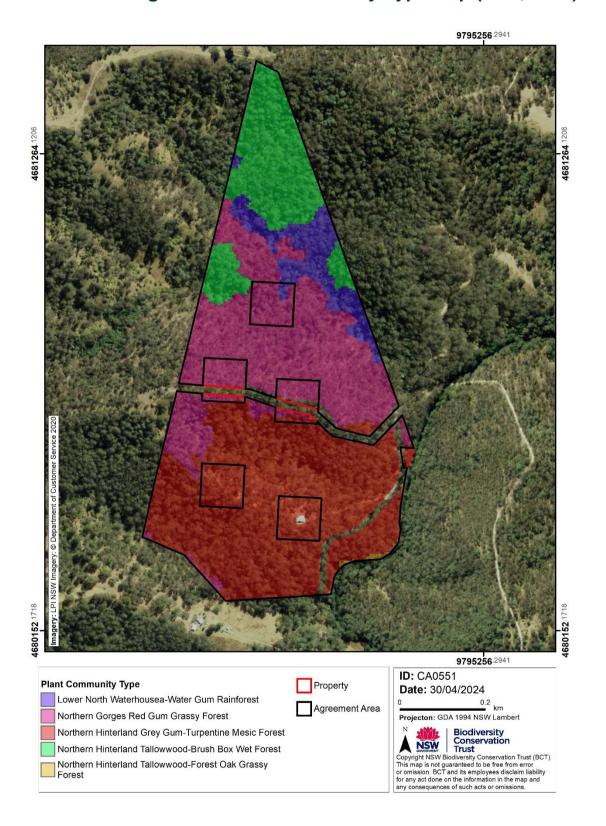
- Lower North Waterhousea-Water Gum Rainforest
- Northern Hinterland Tallowwood-Brush Box Wet Forest
- Northern Hinterland Grey Gum-Turpentine Mesic Forest
- Northern Gorges Red Gum Grassy Forest
- Northern Hinterland Tallowwood- Forest Oak Grassy Forest

A comprehensive vegetation survey was not conducted by the BCT as part of their site visit.

Vegetation Classes Map (Keith, 2004)



NSW State Vegetation Plant Community Type Map (DPE, 2023)



Threatened Species

Threatened species BioNet records (records recorded after 1 Jan 1999 that spatially intersect agreement area or within 5km of agreement area)

Class	Common Name	Scientific Name	Conservation Status (NSW)	Conservation Status (National)	Likelihood of occurrence
Amphibia	Davies' Tree Frog	Litoria daviesae	Vulnerable	Not Listed	Within 5km
Amphibia	Stuttering Frog	Mixophyes balbus	Endangered	Vulnerable	Within 5km
Aves	Rufous Scrub-bird	Atrichornis rufescens	Vulnerable	Endangered	Within 5km
Aves	South- eastern Glossy Black- Cockatoo	Calyptorhynchus lathami lathami	Vulnerable	Vulnerable	Within 5km
Aves	White- throated Needletail	Hirundapus caudacutus	Not Listed	Vulnerable	Within 5km
Aves	Powerful Owl	Ninox strenua	Vulnerable	Not Listed	Within 5km
Aves	Masked Owl	Tyto novaehollandiae	Vulnerable	Not Listed	Within 5km
Aves	Sooty Owl	Tyto tenebricosa	Vulnerable	Not Listed	Within 5km
Flora	Scrub Turpentine	Rhodamnia rubescens	Critically Endangered	Critically	Within 5km
Mammalia	Spotted- tailed Quoll	Dasyurus maculatus	Vulnerable	Endangered	Within 5km
Mammalia	Eastern False Pipistrelle	Falsistrellus tasmaniensis	Vulnerable	Not Listed	Within 5km
Mammalia	Large Bent- winged Bat	Miniopterus orianae oceanensis	Vulnerable	Not Listed	Within 5km
Mammalia	Parma Wallaby	Notamacropus parma	Vulnerable	Vulnerable	Within 5km
Mammalia	Southern Greater Glider	Petauroides volans	Endangered	Endangered	Within 5km
Mammalia	Yellow- bellied Glider	Petaurus australis	Vulnerable	Vulnerable	Within 5km
Mammalia	Squirrel Glider	Petaurus norfolcensis	Vulnerable	Not Listed	Within 5km
Mammalia	Koala	Phascolarctos cinereus	Endangered	Endangered	Within 5km

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Common Planigale	Planigale maculata	Vulnerable	Not Listed	Within 5km
Greater Broad-nosed Bat	Scoteanax rueppellii	Vulnerable	Not Listed	Within 5km

Biogeographical Region

Subregion Name	Region Name	Conservation Area (ha)
Comboyne Plateau	NSW North Coast	40.1

NSW Landscape

Landscape Name	Percent	Reservation	Priority	Area
	Reserved (%)	Adequacy	Ranking (PIA)	(ha)
Macleay Escarpment Foothills	42.65	adequate	5	40.1

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Saving our Species Program – Priority Area https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/saving-our-speciesprogram

Common Name	Scientific Name	Management Stream
Black-necked Stork	Ephippiorhynchus asiaticus	Partnership (widespread)
Brush-tailed Phascogale	Phascogale tapoatafa	Landscape species
Davies' Tree Frog	Litoria daviesae	Landscape species
Diamond Firetail	Stagonopleura guttata	Landscape species
Dusky Woodswallow	Artamus cyanopterus cyanopterus	Landscape species
Eastern False Pipistrelle	Falsistrellus tasmaniensis	Landscape species
Giant Barred Frog	Mixophyes iteratus	Landscape species
Golden-tipped Bat	Phoniscus papuensis	Landscape species
Greater Broad-nosed Bat	Scoteanax rueppellii	Landscape species
Koala	Phascolarctos cinereus	Iconic species
Little Eagle	Hieraaetus morphnoides	Landscape species
Masked Owl	Tyto novaehollandiae	Landscape species
Olive Whistler	Pachycephala olivacea	Landscape species
Parma Wallaby	Macropus parma	Landscape species
Powerful Owl	Ninox strenua	Landscape species
Scarlet Robin	Petroica boodang	Landscape species
Scrub Turpentine	Rhodamnia rubescens	Landscape species
Sooty Owl	Tyto tenebricosa	Landscape species
Southern Myotis	Myotis macropus	Landscape species
Stuttering Frog	Mixophyes balbus	Landscape species
Varied Sittella	Daphoenositta chrysoptera	Landscape species
White-bellied Sea-Eagle	Haliaeetus leucogaster	Landscape species
Wompoo Fruit-Dove	Ptilinopus magnificus	Landscape species
Yellow-bellied Glider	Petaurus australis	Landscape species
Yellow-bellied Sheathtail- bat	Saccolaimus flaviventris	Landscape species

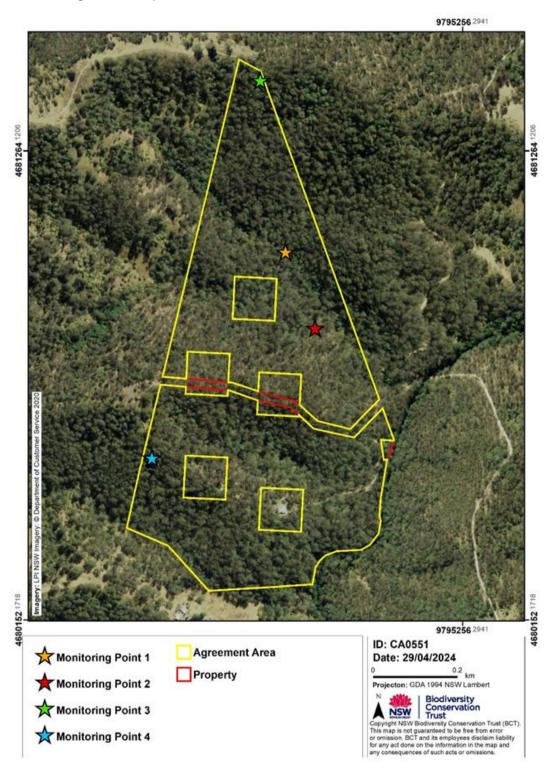
Baseline Condition Vegetation Report

Monitoring Points

Dominant plant species were recorded at four monitoring points, one established within each of the identified Vegetation Classes as part of the site assessment.

Point Name	Coordinates (GDA94)			
	Latitude	Longitude		
Monitoring Point 1	-31.5048	152.2136		
Monitoring Point 2	-31.5064	152.2145		
Monitoring point 3	-31.5012	152.2128		
Monitoring Point 4	-31.5094	152.2106		

Monitoring Points Map



Monitoring Point 1

Vegetation Class Dry rainforest

This community occupied alluvial flats and riparian habitats. The site of this monitoring point had been burnt during the 2020 bush fire and was in a state of regeneration. The upper canopy remained intact but some mid storey shrubs had been killed.

The rainforest canopy included Weeping Lilly Pilly Waterhousea floribunda, Grey Myrtle Backhousia myrtifolia and Water gum Tristaniopsis laurina. Hardwoods were also present, as emergents, in the overstorey including Brown gum Eucalyptus brunnea, Southern Blue Gum E. saligna, Broad-leaved Apple Angophora subvelutina and Rough-barked Apple A. floribunda. Dead stags of Forest Oak Allocasuarina torulosa featured in the mid-storey while regenerating shrub species also included Elderberry Panax Polyscias sambucifolia, Corkwood Duboisia myoporoides, Coffee bush Breynia oblongifolia, White Dogwood Ozothamnus diosmifolia, Green Wattle Acacia irrorata, Fringed Wattle A. fimbriata and Sandfly Zieria Zieria smithii. Vines were abundant and included Wonga vine Pandorea pandorana, Scrambling lily Geitonoplesium cymosum, Common Silkpod Parsonsia straminea, Native Raspberry Rubus parvifolius, Native Sarsaparilla Smilax australis and Kangaroo vine Cissus antarctica. The ground layer included Basket grass Oplismenus imbecilus along with sedges like Creek Mat-rush Lomandra hystrix, Settler's Flax Gymnostachys anceps and an unidentified Carex species. A diversity of ferns included Common Maidenhair Adiantum aethiopicum, Prickly Rasp Fern Doodia aspera, Soft Bracken Calochlaena dubia and Binung Christella dentata. Forbs included Native Geranium Geranium solanderi, Blue Flax-lily Dianella caerulea, Scurvy weed Commelina cyanea, Forest Hound's Tooth Hackelia latifolia, Kidney weed Dichondra repens, Pointed Aneilema Aneilema acuminatum, Forest Lobelia Lobelia trigonocaulis and Common Raspwort Gonocarpus tetragynus.



Photo: Acacia fimbriata in flower

Monitoring Point 2

Vegetation Class Northern Gorges Dry Sclerophyll Forest

This tall grassy sclerophyll open forest class occurred on the north facing slopes of the Conservation area. This forest community includes species typical of <u>PCT 3465 Northern Gorges Red Gum Grassy Forest</u> under the SVTM for Eastern NSW.

The canopy was dominated by Forest Red Gum *Eucalyptus tereticornis* while Brown Gum *E. brunnea* and Rough-barked Apple *Angophora subvelutina* occurred at the lower elevation parts of the community. A smaller tree layer, including Forest Oak *Allocasuarina torulosa*, had largely been killed by the 2020 bush fire but was represented by abundant regenerating seedlings and saplings. Taller post-fire regenerating shrubs included Fringed Wattle *Acacia fimbriata*, Dogwood *Ozothamnus diosmifolia* and Corkwood *Duboisia myoporoides*. The post-fire recovering ground layer was dense and included forbs like Common Raspwort *Gonocarpus tetragynus*, Blue Flax Lily *Dianella caerulea*, Native Geranium *Geranium solanderi*, White Root *Lobelia purpurascens*, Kidney weed *Dichondra repens* and a *Plectranthus* species. The vine Purple Coral Pea *Hardenbergia violacea* was common within the ground and shrub layers. The dense grass and grass-like layer included Common Bog-rush *Schoenus apogon*, Blady Grass *Imperata cylindrica*, Kangaroo grass *Themeda triandra*, Basket grass *Oplismenus aemulus* and Spiny-headed Mat-rush *Lomandra longifolia*.

The presence of Forest Red Gum meant that this vegetation community provided potential habitat for the Koala *Phascolarctos cinereus* and a suite of nectarivorus birds. Once the Forest Oaks have matured and seeded again the site would also be potential foraging habitat for the threatened Glossy Black-cockatoo *Calyptorhynchus lathami*.



Photo: Eucalyptus brunnea trunk detail

Monitoring Point 3

Vegetation Class North Coast Wet Sclerophyll Forest

Tall mid-dense to dense wet sclerophyll open forest growing on the more sheltered south facing slope in the north of the Conservation Area. This forest community includes species typical of <u>PCT 3169 Northern Hinterland Tallowwood - Brush Box Wet Forest under the SVTM for Eastern NSW.</u>

The diverse tree layer at this point was dominated by Tallowwood *Eucalyptus microcorys*, White Mahogany E. acmenoides, Southern Blue Gum E. saligna, Small-fruited Grey Gum E. propingua, Brush Box Lophostemon confertus and Pink Bloodwood Corymbia intermedia. The mid-storey included many dead, fire-killed Forest Oak Allocasuarina torulosa along with shrubs such as Large Mock-olive Notelaea longifolia, White Dogwood Ozothamnus diosmifolia, Fringed Wattle Acacia fimbriata and Elderberry Panax Polyscias sambucifolia. Forest Oak and eucalypt regeneration, in the form of seedlings and saplings was common. Vines and creepers were diverse and common and included Purple Coral Pea Hardenbergia violacea, Snake Vine Hibbertia scandens, Native Raspberry Rubus parvifolius, Native Sarsaparilla Smilax australis and two water vines, Giant Water Vine Cissus antarctica and Grape Vine Cissus antarctica. The under-storey scrambler Slender Tick-trefoil Desmodium varians was also relatively common. There was a diverse ground layer that included forbs such as Forest Lobelia Lobelia trigonocaulis, White Root L. purpurascens, Blue Flax-lily Dianella caerulea, Indian Weed Sigesbeckia orientalis and Pastel Flower Pseuderantherum variabile and Native Violet Viola hederacea. Grasses included the Basket Grasses Oplismenus aemulus and O. imbecilus, Bordered Panic Entolasia marginata, Settler's Flax Gymnostachys anceps and Spiny Mat-rush Lomandra longifolia. Two fern species were observed namely, Common Maidenhair Adiantum aethiopicum and Prickly Rasp Fern Doodia aspera.

Past logging was evident due to the presence of old stumps.

The forest represented at this monitoring point provided potential habitat for several threatened fauna species including Koala *Phascolarctos cinereus* and Glossy Black-Cockatoo *Calytorhynchus lathami*.

Monitoring Point 4

Vegetation Class Northern Hinterland Wet Sclerophyll Forest

Tall mid-dense to dense wet sclerophyll open forest growing on the semi-sheltered south facing slopes in the south of the Conservation Area. This forest community includes species typical of <u>PCT 3253 Northern Hinterland Grey Gum – Turpentine Mesic Forest under the SVTM for Eastern NSW.</u>

The canopy was dominated by Small-fruited Grey Gum *Eucalyptus propinqua* but also included Pink Bloodwood *Corymbia intermedia*, Broad-leaved White Mahogany *Eucalyptus carnea* and the occasional Tallowwood *Eucalyptus microcorys*. Forest Oak *Allocasuarina torulosa* was abundant as a small tree layer. Forest Oak and eucalypt regeneration, in the form of seedlings and saplings was common. The mid-storey included many dead, fire-killed Forest Oak *Allocasuarina torulosa* along with shrubs such as White Dogwood *Ozothamnus diosmifolia* and Fringed Wattle *Acacia fimbriata*.

Vines and creepers were included Purple Coral Pea Hardenbergia violacea, Snake Vine Hibbertia scandens, Native Raspberry Rubus parvifolius, Native Sarsaparilla Smilax australis, Scrambling Lily Geitonoplesium

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cymosum and Common Silkpod Parsonsia straminea. The ground layer was dense with swards of Blady grass Imperata cylindrica, and Spiny-headed Mat-rush Lomandra longifolia. Other grasses included Wiry Panic Entolasia stricta, Basket Grass Oplismenus imbecilus and Blady Grass Imperata cylindrica. The ground layer also included Blue Flax-lily Dianella caerulea, Indian Weed Sigesbeckia orientalis, Native Geranium Geranium solanderi and twiners such as Slender Tick-trefoil Desmodium varians and Snake Vine Hibbertia scandens.

One fern species was observed namely Prickly Rasp Fern Doodia aspera.

Past logging was evident due to the presence of old stumps.

The forest represented at this monitoring point provided potential habitat for several threatened fauna species including Koala *Phascolarctos cinereus* and Glossy Black-Cockatoo *Calytorhynchus lathami*.



Photo: Ozothamnus diosmifolia

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References

Keith D. A. 2004. *Ocean Shores to Desert Dunes: The native vegetation of New South Wales and the ACT.* Department of Environment and Conservation, Sydney.

Department of Planning and Environment (DPE) 2023. NSW State Vegetation Type Map (SVTM).

Appendix A – Species list for the conservation agreement area

Flora species - Recorded by BCT

The table below lists flora species that have been recorded within the proposed Conservation Area, as known to BCT, as of May 2022. The list comprises species recorded by BCT staff during the site visit of April 2022; many additional species would be revealed by more systematic survey and observation.

		ı	Monitor	ing poir	nt	
Species	Common Name	MP1	MP2	MP3	MP4	Other
Trees & Shrubs						
Acacia irrorata	Green wattle	*				
Acacia fimbriata	Fringed wattle	*	*	*	*	
Allocasuarina torulosa	Forest Oak	*	*	*	*	
Angophora subvelutina	Broad-leaved Apple	*	*			
Angophora floribunda	Rough-barked Apple	*				
Backhousia myrtifolia	Grey Myrtle	*				
Breynia oblongifolia	Coffee Bush	*				
Corymbia intermedia	Pink Bloodwood			*	*	
Duboisia myoporoides	Corkwood	*	*			
Elaeocarpus reticulatus	Blueberry ash					
Eucalyptus acmenoides	White Mahogany			*		
Eucalyptus brunnea	Brown Gum	*	*			
Eucalyptus carnea	Broad-leaved White Mahogany				*	
Eucalyptus moluccana	Grey Box					*
Eucalyptus microcorys	Tallowwood			*		
Eucalyptus propinqua	Small-fruited grey Gum			*	*	
Eucalyptus saligna	Southern Blue Gum	*		*		
Eucalyptus tereticornis	Forest Red Gum		*			
Ficus coronata	Sandpaper Fig	*				*
Lophostemon confertus	Brush Box			*		
Notelaea longifolia	Large Mock-olive			*		
Ozothamnus diosmifolius	White Dogwood	*	*	*	*	
Pittosporum multiflorum	Orange Thorn	*			_	
Polyscias sambucifolia	Elderberry Panax	*		*		
Trema tomentosa	Native Peach	*				
Tristaniopsis laurina	Water Gum	*				
Zieria smithii	Sandfly Zieria	*				

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Species	Common Name	MP1	MP2	MP3	MP4	Other
Waterhousia floribunda	Weeping Lilly Pilly	*				
Grasses & Grass-like						
Carex species	Unidentified carex	*				
Entolasia marginata	Bordered Panic		*			*
Entolasia stricta	Wiry Panic				*	*
Gahnia aspera	Rough Saw-sedge					*
Gymnostachys anceps	Settler's Flax	*		*		
Imperata cylindrica	Blady Grass		*		*	*
Lomandra longifolia	Spiny-headed Mat-rush		*	*	*	
Lomandra hystrix	Creek Mat-rush	*				
Oplismenus aemulus	Basket Grass		*	*		
Oplismenus imbecilus	Basket Grass	*		*	*	
Schoenus apogon	Common Bog-rush		*			
Themeda triandra	Kangaroo Grass		*			
Vines & Twiners						
Cissus antarctica	Kangaroo Vine	*		*		
Cissus hypoglauca	Native Grape			*		
Desmodium varians	Slender Tick-trefoil	*		*	*	
Geitonoplesium cymosum	Scrambling Lily	*		*	*	
Hardenbergia violacea	Native Sarsaparilla		*	*	*	
Hibbertia scandens	Snake Vine	*		*	*	
Maclura cochinchinensis	Cockspur Thorn					*
Pandorea pandorana	Wonga Vine	*				
Parsonsia straminea	Common Silkpod	*		*	*	
Rubus parvifolius	Native Raspberry	*		*	*	
Smilax australis	Native Sarsaparilla	*		*	*	
Ferns						
Adiantum aethiopicum	Common Maidenhair	*		*		
Calochlaena dubia	Common Ground Fern	*				
Christella dentata	Binung	*				
Doodia aspera	Prickly Rasp Fern	*		*	*	
Pteridium esculentum	Bracken				*	
Herbs / Forbs						
Aneilema acuminatum	Pointed Aneilema	*				
Commelina cyanea	Scurvy weed	*				
Dianella caerulea	Blue Flax-lily	*	*	*	*	

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Species	Common Name	MP1	MP2	МР3	MP4	Other
Dichondra repens	Kidney Weed	*	*		*	
Geranium solanderi	Cranesbill species	*	*	*	*	
Gonocarpus tetragynus	Common Raspwort	*	*			
Hackelia latifolia	Forest Hound's Tooth	*				
Lobelia trigonocaulis	Forest Lobelia	*		*	*	
Lobelia purpurascens	White Root		*	*	*	
Plectranthus species	A Plectranthus	*	*	*	*	
Pseuderanthemum variabile	Pastel Flower			*		
Senecio amygdalifolius	A yellow-flowered daisy			*		
Sigesbeckia orientalis	Indian Weed			*		
Viola hederacea	Native Violet			*		

Species	Common Name	MP1	MP2	МР3	MP4	Else
Weeds						
Ageratina adenophora*	Crofton Weed					*
Bidens pilosa*	Farmer's Friend					*
Solanum mauritianum*	Tobacco Bush					*

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Fauna species

The table below lists fauna species that have been recorded either by the landholder or by the BCT during the site assessment in August 2022; many additional fauna species would be revealed through targeted fauna survey. Bold font = listed threatened species (Biodiversity Conservation Act, 2016).

Species	Common Name
Frogs	
Adelotus brevis	Tusked Frog
Crinia signifiera	Common Eastern Toadlet
Mixophyes fasciolatus	Great Barred Frog
Litoria peronii	Laughing Tree Frog
Litoria fallax	Eastern Dwarf tree Frog
Reptiles	
Varanus varius	Lace Monitor
Morelia spilota	Carpet Python
Hoplocephalus	Stanbans' Bandad Snaka
stephensii	Stephens' Banded Snake
Cryptophis nigrescens	Eastern Small-eyed Snake
Pseudechis porphyriacus	Red-bellied Black Snake
Birds	
Aquila audax	Wedge-tailed Eagle
Turnix species	Button-quail species
Ninox strenua	Powerful Owl
Calyptorhynchus	Glossy Black-cockatoo
lathami	Glossy Black-cockatoo
Alisterus scapularis	Australian King-parrot
Platycercus elegans	Crimson Rosella
Chalcites lucidus	Shining Bronze-cuckoo
Dacelo novaeguineae	Laughing Kookaburra
Gerygone mouki	Brown Gerygone
Cormobates leucophaea	White-throated Treecreeper
Acanthiza pusilla	Brown Thornbill
Pardalotus punctatus	Spotted Pardalote
Acanthorhynchus tenuirostris	Eastern Spinebill
Meliphaga lewinii	Lewins Honeyeater
Caligavis chrysops	Yellow-faced Honeyeater
Psophodes olivaceus	Eastern Whipbird
Pachycephala pectoralis	Golden Whistler
Pachycephala rufiventris	Rufous Whistler
Colluricincla harmonica	Grey Shrike-thrush
Merops ornatus	Rainbow Bee-eater
Strepera graculina	Pied Currawong
Rhipidura albiscapa	Grey Fantail
Corcorax	White-winger Chaugh
melanorhamphos	White-winger Chough
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Eopsaltria australis	Eastern Yellow Robin
Neochmia temporalis	Red-browed Firetail
Eurystomus orientalis	Dollarbird
Mammals	
Ornithorhynchus anatinus	Platypus (historical)
Perameles nasuta	Long-nosed Bandicoot (call by landholder)
Isoodon macrourus	Northern Brown Bandicoot
Phascolarctos cinereus	Koala (heard by landholder)
Petaurus breviceps	Sugar Glider
Trichosurus vulpecula	Common Brushtail Possum
Trichosurus caninus	Short-eared Brushtail Possum
Thylogale thetis	Red-necked Pademelon
Notamacropus rufogriseus)	Red-necked Wallaby
Macropus giganteus	Grey Kangaroo

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Signature

Signed and dated by landowners recognising biodiversity values.

By signing this document, I acknowledge this report is a reflection of condition of the site, describing the plants and animals found on the site at the time of entering into the agreement, and acknowledge any management recommendations made.

management recommendations made.
Name: Amanda Muscio
Signature:
Date:
Report prepared by Biodiversity Conservation Trust- North Coast Region Date: 6 May 2024