

Internal memo

Private and confidential

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cc:			
Date:	19/09/2019	Pages:	4 (includes cover sheet)
Subject:	BotN PHES Phase 1 Geotechnical Ecology Survey - Rowallan		
Status:			

The investigation looked at the potential impacts of the creation formed access tracks to bore holes as well as those impacts associated directly with the bore holes, test pits and auger holes.

Methods

All roads, tracks and boreholes, test pits and auger holes on the site were investigated in detail. The tracks and roads were all walked and sites of all geotechnical investigations investigated for the presence of significant fauna and flora listed under either the *Threatened Species Protection Act 1995* or the *Environmental Protection and Biodiversity Conservation Act 2001* (EPBCA). Vegetation communities present on site were identified and attributed to Tasmanian Vegetation Mapping Units (Harris and Kitchener 2013) and the presence of any vegetation communities list under the Tasmanian *Nature Conservation Act 2002* or the EPBCA were noted. All native species of flora and fauna encountered during the survey were recorded. Nomenclature for flora follows the current census of Tasmanian Vascular Plants (http://www.tmag.tas.gov.au/data/assets/pdf_file/0003/154164/2017_Census_of_Tasmanian_Vascular_Plants.pdf).

Vegetation Communities

The study area consisted of a broad flat expanse of forest to the west of Maggs Road. The forest has had a long history of timber harvesting some of occurring potentially in the first half of last century (possibly even earlier) to recent harvesting in the past 10 years. Some of the older areas of forest dominated by *Eucalyptus delegatensis* have failed to properly regenerate leaving a patchy mosaic of eucalypt cover. The varying levels of disturbance have made

assigning the vegetation present to recognised vegetation communities problematic in some instances.

***Eucalyptus delegatensis* dry forest and woodland (DDE)**

This forest type was found over the entire study area. The cover and understory varied depending on the past logging and fire history. *Eucalyptus delegatensis* was the dominant eucalypt reaching to approximately 30 m with *E. dalrympleana* occurring as a subdominant and becoming locally dominant over small areas. *Acacia dealbata* is a common sub canopy dominant with a sparse tall shrub layer dominated by *Hakea lissosperma* and *Leptospermum lanigerum* and occasionally *Tasmania lanceolata* and *Notelaea ligustrina*. The *L. lanigerum* can become dense along drainage lines and in small areas of impeded drainage. The small shrub layer is very variable depending on past fire history and logging disturbance and varies from a very dense to sparse small shrub layer. This layer is dominated by *Leptecophylla parvifolia* with *Pultenaea juniperina* and *Lomatia tinctoria* being important components. Saggs are uncommon but include *Gahnia grandis* and occasionally *Dianella tasmanica*. Bracken is variable and the herb layer is variable including *Gonocarpus* spp., *Ranunculus lappaceus*, *R. collinus*, *Oreomyrrhis eriopoda*, *Hydrocotyle hirta*, *Veronica calycina* and *Viola hederacea* and *Acaena novae-zelandiae*. Grasses are uncommon and dominated by *Poa* spp., *Australopyrum pectinatum*, *Microlaena stipoides*, and *Deyeuxia* sp. Bare ground was common in areas where logging had recently occurred and also in areas where failed regeneration has led to exposing the ground layer to frost heave (Figure 1). See Table 1 for the full species lists recorded over the study area.

Plantations for silviculture (FPL)

Test pit 3 was located adjacent a small *Eucalyptus nitens* plantation and pine plantation within the study area. The ground cover in this area comprised many of the species also observed in DDE, however also included *Scleranthus biflorus*. *Eucalyptus delegatensis* and *E. dalrympleana* saplings were also recorded adjacent to the plantation areas (Figure 2).

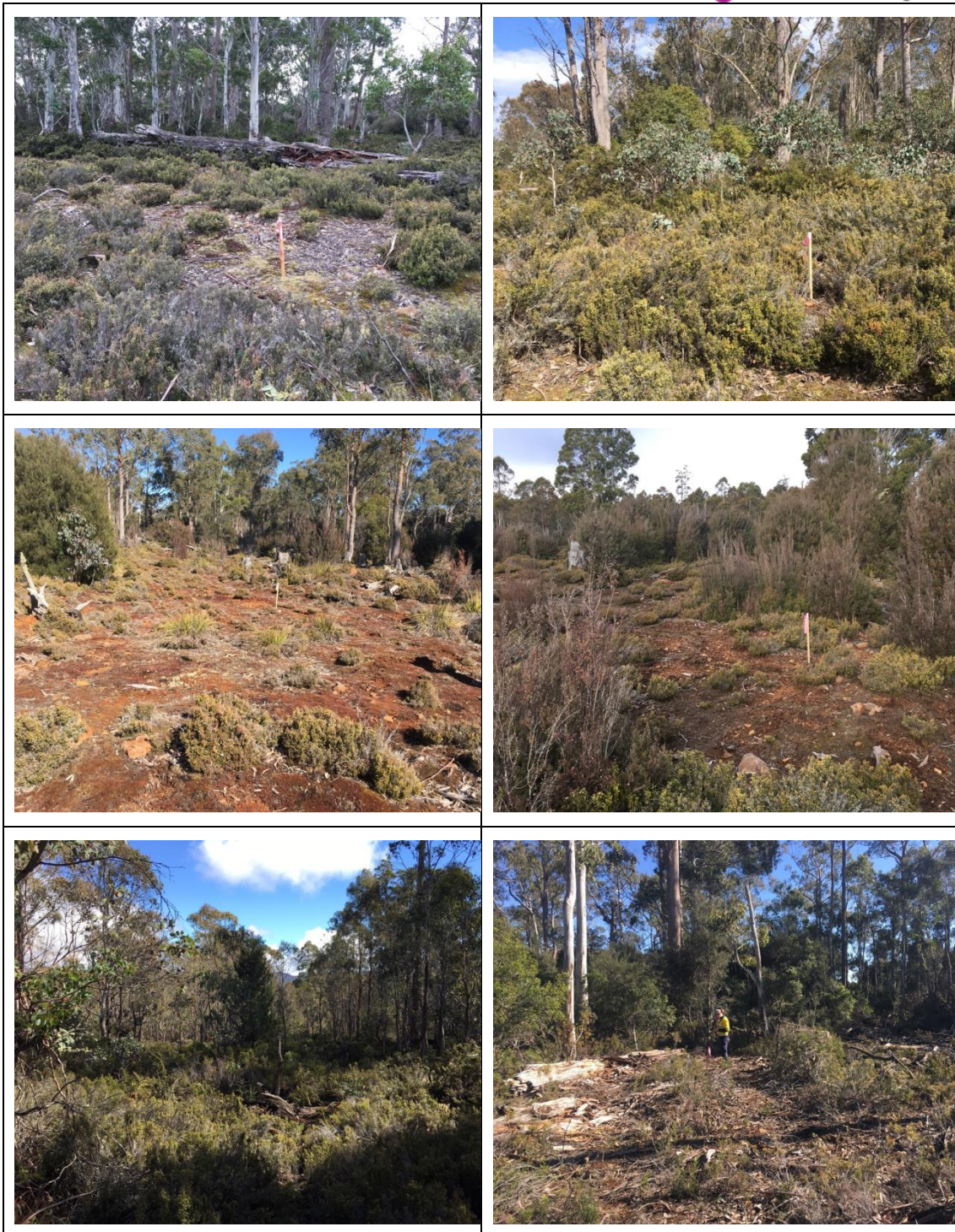


Figure 1. *Eucalyptus delegatensis* dry forest occupied the entire site but was variable in canopy structure due to past logging and failed regeneration.

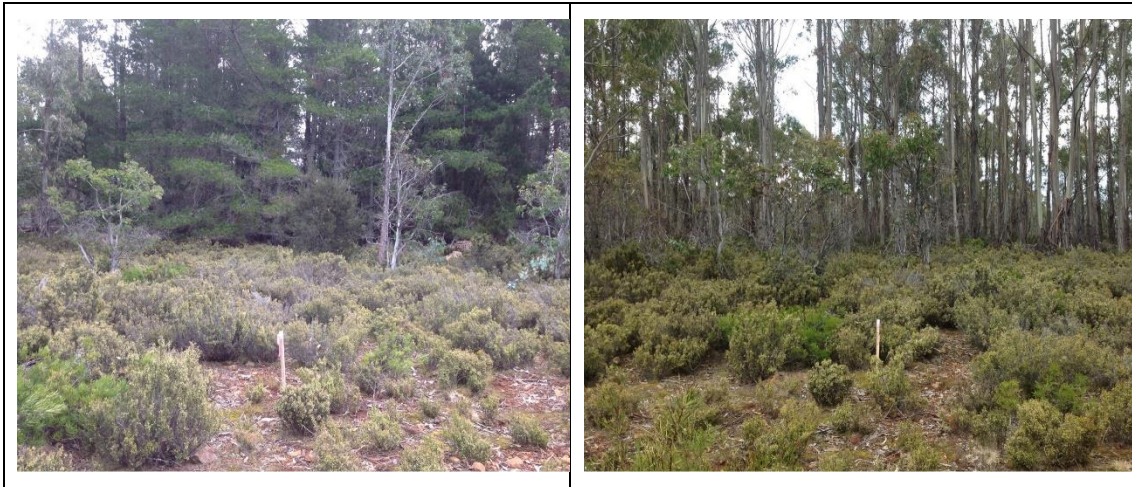


Figure 2. Test pit 3 occurred in an area adjacent a *Eucalyptus nitens* and pine plantation.

Species of Conservation Significance

Threatened Flora species

Particular attention was paid to surveying all potential impact areas around permanent tracks, bore holes, test pits and auger holes for threatened species known to occur in the broader area. No threatened flora species were recorded from any of the sites investigated.

Threatened Fauna

No threatened fauna or their habitat was recorded from the study area. There is a wedge-tailed eagle nest (nest ID 184) recorded some 500 m from the auger site HF03. This is a very old record dating back to 1985 with a 100 m accuracy. No other information regarding the nest is known. The record was investigated and approached within 200 m. No nest could be observed. This site of the nest is in a very unusual position on a very exposed westerly facing slope. It is possible that the nest is present further down the westerly slope but if this is the case it is further than 500 m away from any potential disturbance and certainly not within Line of Site. Given how old the record is and very unusual location it is likely that the accuracy of the nest record is wrong. Either way there is little chance that the proposed operations are likely to impact on any nesting birds.

Table 1. Species list for *Eucalyptus delegatensis* dry forest and woodland. i – introduced, e – endemic.

Species	Preferred common name	Status
Dicotyledonae		
AMARANTHACEAE		
<i>Hydrocotyle hirta</i>	Hairy pennywort	
<i>Hydrocotyle sibthorpioides</i>	Shining pennywort	
APIACEAE		
<i>Oreomyrrhis eriopoda</i>	Australian caraway	
ASTERACEAE		
<i>Cassinia aculeata</i>	Dollybush	
<i>Coronidium scorpioides</i>	Curling everlasting	
<i>Cotula alpina</i>	Alpine buttongrass	
<i>Euchiton japonicus</i>	Common cottonleaf	
<i>Euchiton</i> sp.	cottonleaf	
<i>Lagenophora stipitata</i>	Blue bottledaisy	
<i>Leptorhynchus squamatus</i>	Scaly buttons	
<i>Olearia erubescens</i>	Moth daisybush	
<i>Olearia myrsinoides</i>	Silk daisybush	
<i>Olearia viscosa</i>	Viscid daisybush	
<i>Senecio gunnii</i>	Mountain fireweed	
<i>Senecio linearifolius</i>	Fireweed groundsel	
<i>Solenogyne gunnii</i>	Hairy flat-herb	
<i>Hypochoeris radicata</i>	Cat's ear	i
<i>Taraxacum officinale</i>	Common dandelion	i
CARYOPHYLLACEAE		
<i>Sagina procumbens</i>	Spreading pearlwort	i
CLUSIACEAE		
<i>Hypericum japonicum</i>	Matted st johns-wort	
DILLENIACEAE		
<i>Hibbertia prostrata</i>	Prostrate guineaflower	
EPACRIDACEAE		
<i>Epacris gunnii</i>	Coral heath	
<i>Leptecophylla parvifolia</i>	Mountain pinkberry	e
ERICACEAE		
<i>Acrothamnus hookeri</i>	Mountain beardheath	
EUPHORBIACEAE		
<i>Poranthera microphylla</i>	Small poranthera	
FABACEAE		
<i>Pultenaea juniperina</i>	Prickly beauty	
GENTIANACEAE		
<i>Centaurium erythraea</i>	Common centaury	i

GERANIACEAE
Geranium potentilloides

Mountain cranesbill

Geranium sp.

cranesbill

HALORAGACEAE
Gonocarpus micranthus subsp. micranthus

Creeping raspwort

Gonocarpus montanus

Mountain raspwort

Gonocarpus tetragynus

Common raspwort

Gonocarpus teucrioides

Forest raspwort

LAMIACEAE
Prunella vulgaris

Selfheal

i

MIMOSACEAE
Acacia dealbata

Silver wattle

Acacia melanoxylon

Blackwood

MYRTACEAE
Baeckea gunniana

Alpine heathmyrtle

Eucalyptus dalrympleana subsp.
dalrympleana

Mountain whitegum

Eucalyptus delegatensis subsp.
tasmaniensis

Gumtopped stringybark

Leptospermum lanigerum

Woolly teatree

Melaleuca virens

Prickly bottlebrush

OLEACEAE
Notelaea ligustrina

Native olive

ONAGRACEAE
Epilobium sp.

willowherb

PITTOSPORACEAE
Pittosporum bicolor

Cheesewood

PLANTAGINACEAE
Plantago tasmanica

Tasmanian plantain

e

Plantago varia

Variable plantain

PROTEACEAE
Hakea lissosperma

Mountain needlebush

Hakea microcarpa

Smallfruit needlebush

Lomatia tinctoria

Guitarplant

e

Orites revolutus

Revolute orites

e

Telopea truncata

Tasmanian waratah

RANUNCULACEAE
Ranunculus lappaceus

Woodland buttercup

Ranunculus sp.

butterbup

ROSACEAE
Acaena echinata

Spiny sheepsburr

Acaena novae-zelandiae

Common buzzy

Rubus gunnianus

Alpine raspberry

e

RUBIACEAE
Asperula gunnii
Coprosma hirtella
Coprosma nitida
Coprosma quadrifida
Galium australe
SCROPHULARIACEAE
Veronica calycina
Veronica gracilis
STACKHOUSIACEAE
Stackhousia monogyna
STYLIDIACEAE
Stylidium graminifolium
THYMELAEACEAE
Pimelea drupacea
VIOLACEAE
Viola hederacea
WINTERACEAE
Tasmania lanceolata
Monocotyledonae
CYPERACEAE
Carex sp.
Gahnia grandis
Isolepis sp.
JUNCACEAE
Juncus australis
Juncus procerus
Luzula sp.
LILIACEAE
Dianella tasmanica
Drymophila cyanocarpa
ORCHIDACEAE
Chiloglottis sp.
POACEAE
Australopyrum pectinatum
Austrodanthonia sp.
Deyeuxia quadriseta
Deyeuxia sp.
Dichelachne rara
Lachnagrostis aemula
Ehrharta stipoides
Poa gunnii

Mountain woodruff

Coffeeberry

Mountain current

Native current

Tangled bedstraw

Hairy speedwell

Slender speedwell

Forest candles

Narrowleaf triggerplant

Cherry riceflower

Ivyleaf violet

Mountain pepper

sedge

Cutting grass

clubsedge

Southern rush

Tall rush

woodrush

Forest flaxlily

Turquoise berry

bird-orchid

Prickly wheatgrass

e

wallabygrass

Reed bentgrass

bentgrass

Common plumegrass

Tumbling blowgrass

Weeping grass

Gunns snowgrass

<i>Poa sp.</i>	tussockgrass
Pteridophyta	
BLECHNACEAE	
<i>Blechnum penna-marina subsp. alpina</i>	Alpine waterfern
DENNSTAEDTIACEAE	
<i>Pteridium esculentum subsp. esculentum</i>	Bracken
DRYOPTERIDACEAE	
<i>Polystichum proliferum</i>	Mother shieldfern
LYCOPODIACEAE	
<i>Lycopodium fastigiatum</i>	Mountain clubmoss