

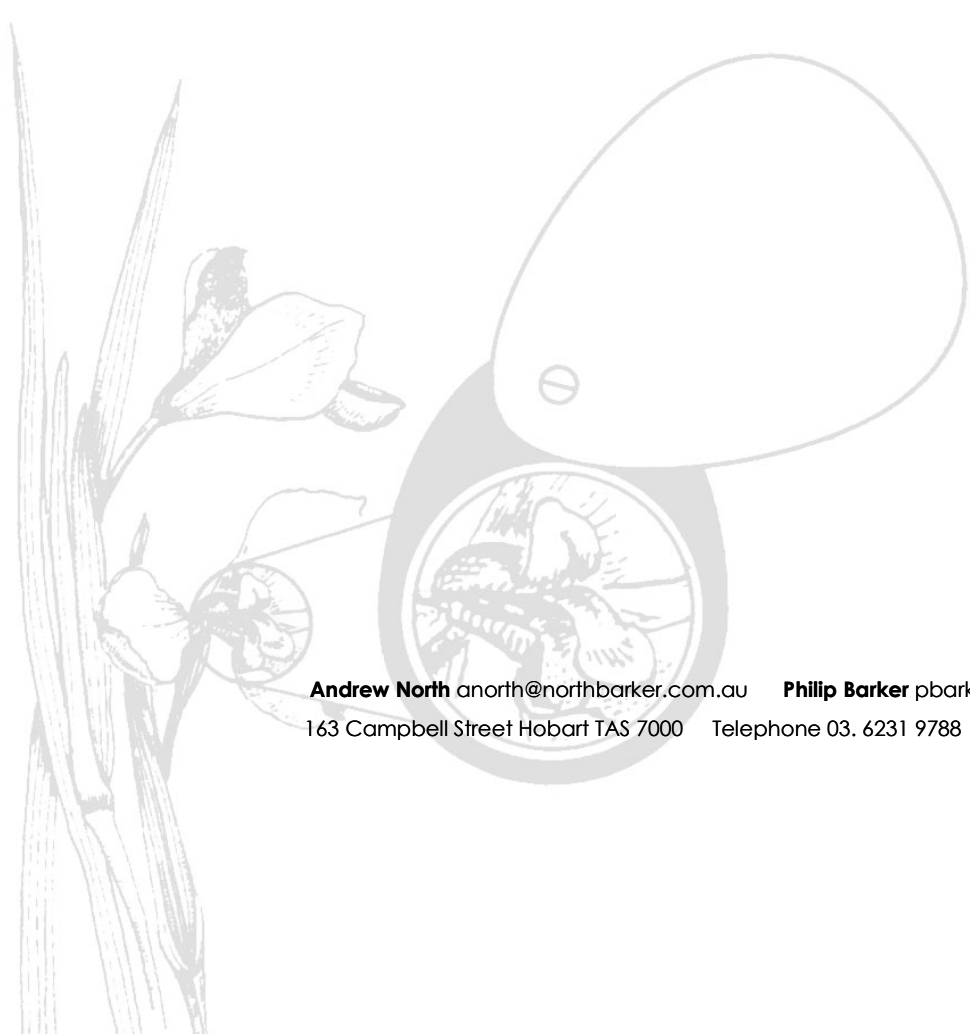


Venture Minerals drill test sites, Mt Lindsay

Natural Values Determination

9th April 2021

For Venture Minerals (PAS066)



Andrew North anorth@northbarker.com.au **Philip Barker** pbarker@northbarker.com.au
163 Campbell Street Hobart TAS 7000 Telephone 03. 6231 9788 Facsimile 03. 6231 9877

Date of Field Survey: 14th - 15th December 2020 and 9th-10th March 2021.

Field Survey ¹, Report ² and Photos ³: Cody McCracken ¹²³ and Phil Barker ².

Summary:

The following sites are proposed for consideration in an exploration drilling program.

- *Salmons5*
- *Salmons1*
- *Southeast2*
- *CAL*
- *CAL Drillers Camp Alternative*
- *Southeast1*
- *CAL Drillers Camp*
- *Salmons 2*
- *SerpRidge1*
- *Harmen1 and drillers camp*
- *Eastern1*
- *Limestone1*
- *Limestone2*

Vegetation

Five native vegetation communities are present across the site. No are threatened vegetation types and all are well reserved. The communities are Tasveg mapping units:

Nothofagus rainforest - RMT,

Phyllocladus rainforest - RMS,

Wet Eucalyptus obliqua over rainforest - WOR,

Dry Eucalyptus nitida forest - DNI and

Acacia melanoxylon forest on rises - NAR

Flora

The threatened (rare) *Micrantheum serpentinum* is present at Serp Ridge 1. This species should be avoided to the extent possible.

Fauna

There are no significant fauna values present but there are large habitat trees present at Harman 1 drillers camp and Limestone 1. Disturbance within 20 m radius of these trees should be limited to 120 m² to protect the root zones.

Weeds

Gorse is present at Salmon 2. This should be removed before works begin and a weed management and hygiene plan should be developed and implemented across all sites.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

No implications under this Act.

Tasmanian *Threatened Species Protection Act 1995*

A Permit is required if disturbance of *Micrantheum serpentinum* is anticipated.

Tasmanian *Weed Management Act 1995*

As zone B species within the West Coast Council, the proponent must prevent spread of Gorse due to works.

1. Project Details

Background: This report has been prepared by an Ecologist from North Barker Ecosystem Services to inform on proposed drill test sites put forward by Venture Minerals. The drill test sites are contained within Venture Minerals existing prospecting leases, proximal to the Mt Lindsay deposits Figure 1.

Venture Minerals owns the Mt Lindsay Tin-Tungsten mine, including all the surrounding prospects. Recently, Venture has focussed efforts at Mt Lindsay on identifying additional high-grade tin/tungsten targets near the Mt Lindsay Deposits, as well as targets prospective for copper and nickel mineralization. The exploration work is part of a broader strategy focussed on identifying high grade mineralization within trucking distance of the existing deposit that has the potential to further strengthen the economics of the Mt Lindsay Project.

Each of the drill sites have been surveyed within a circumference of 25m from the GPS location given by Venture minerals. The 25m boundary allows for any site-specific changes when emplacing drill rigs on site and for any error associated with GPS marked locations.

Methods: Plant species composition of the potential impact footprint was surveyed using an area search based on the Timed Meander Search Procedure¹. Vegetation was classified according to TASVEG 4.0 units, with boundaries determined in the field and with the aid of aerial imagery.

The Tasmanian Natural Values Atlas database was searched for records of threatened species and vegetation types within a 5 km radius. The possibility of threatened values known from within this radius occurring within the impact area has been considered in the interpretation of results.

Limitations: The field survey was undertaken in December and March. Values that are seasonal may have been overlooked or absent; the potential for this is considered where relevant in the discussion. The quality of fauna habitat, including the presence of tree hollows, was assessed from ground level only.

¹ Goff *et al.* 1982

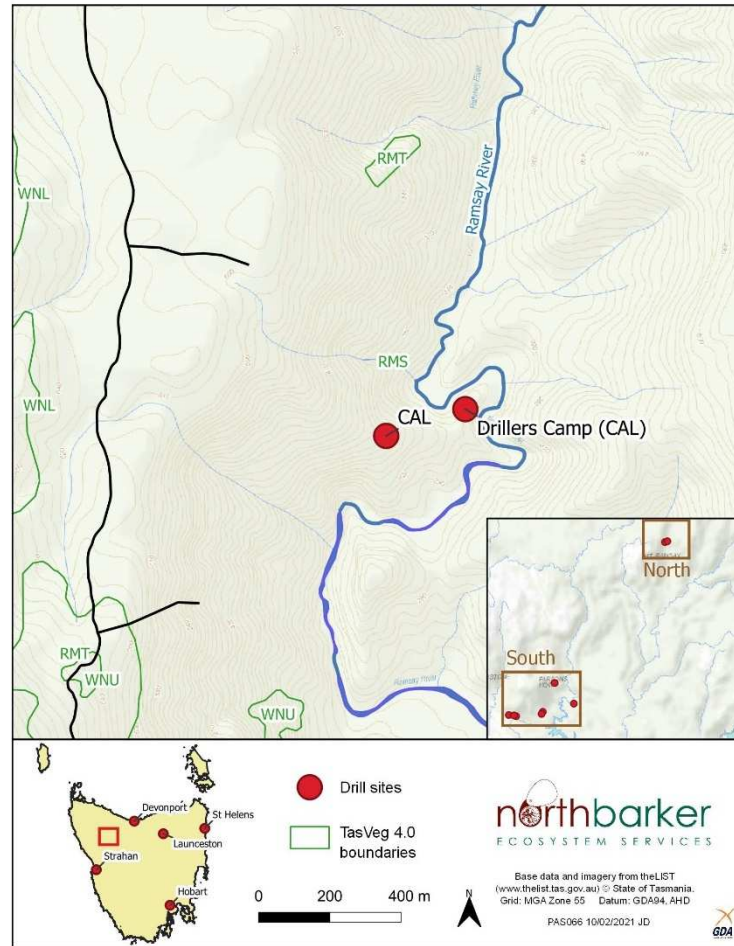


Figure 1 a. The northern drill sites

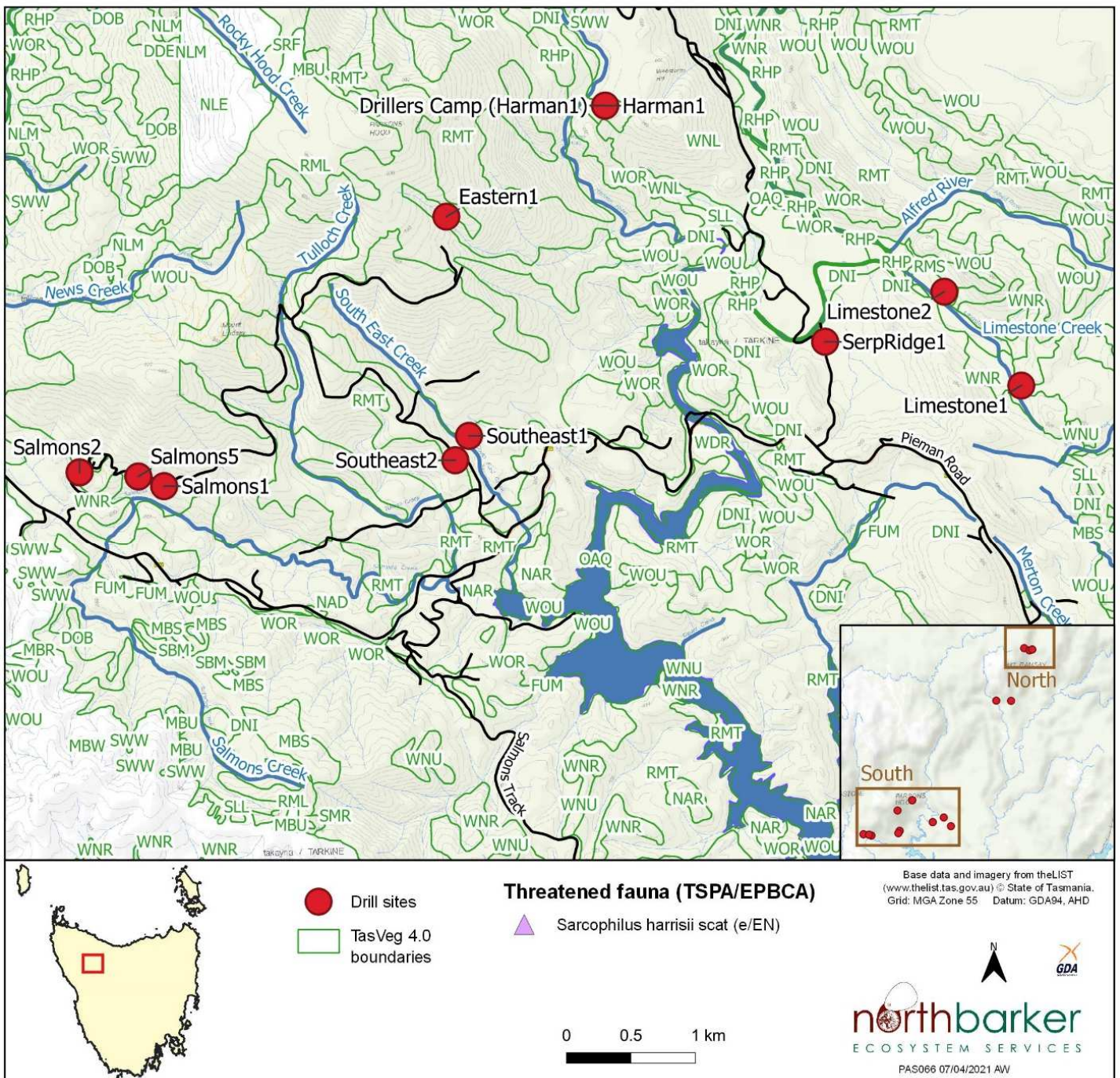


Figure 1b. The southern drill sites

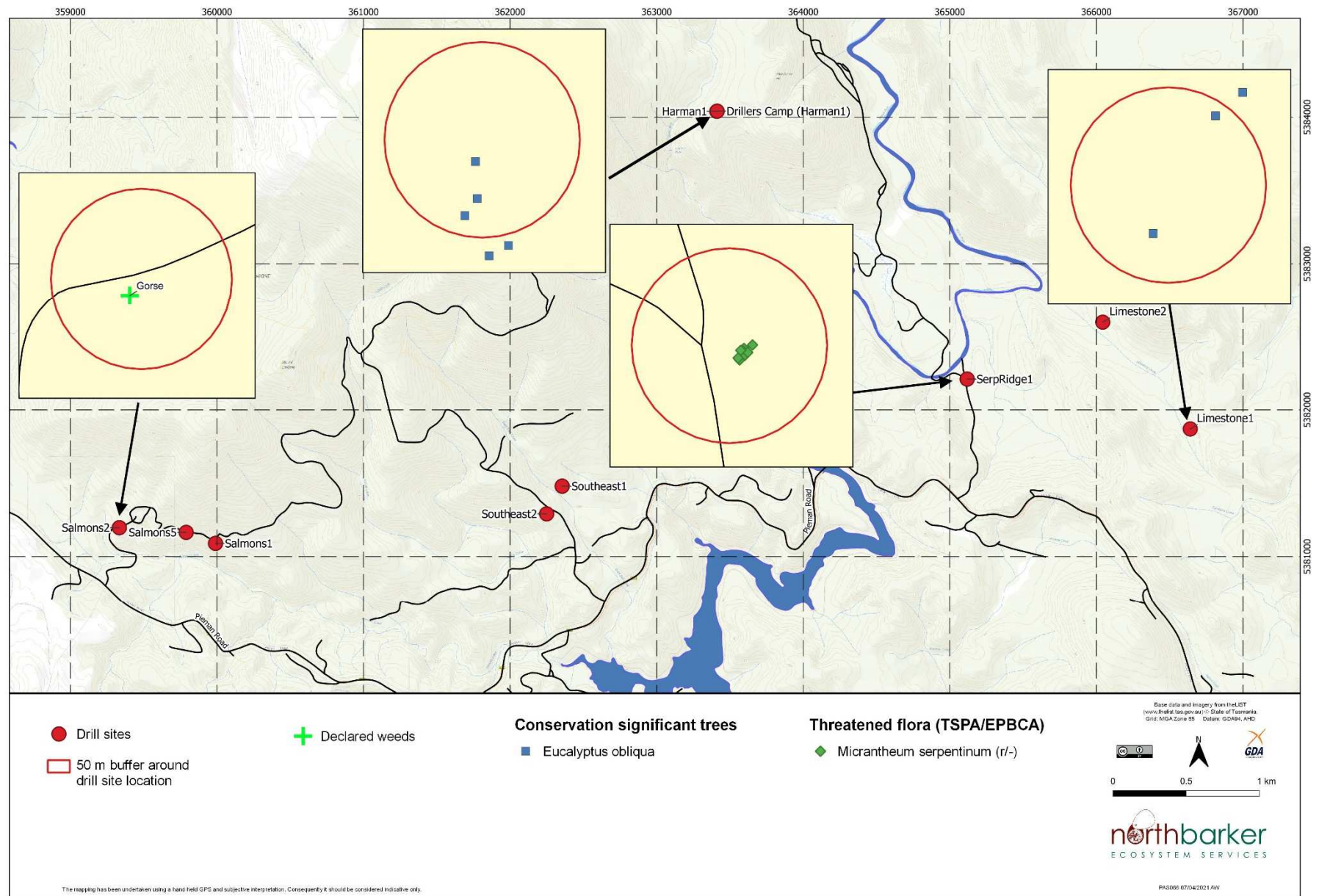


Figure 2. Weeds, threatened flora and habitat trees at 3 sites

2. Site Values

Overall Site Characteristics

Sites are in two groupings across the south-eastern and eastern extents of the Meredith Range Regional Reserve, Western Tasmania. Geologically, the area lies within the contact metamorphic aureole of the Meredith Granite and contains a mix of very complex Cambrian and Pre-Cambrian lithologies. Vegetation across much of the sites is dominated by rainforest communities, with intersections by some wet eucalyptus forest and dry eucalyptus forests on serpentine related lithologies.

Pieman Road runs east-west at the southern extent of the study area, providing the closest easy vehicle access through to the southern sites. Rough 4WD access tracks lead off the Pieman Road, providing access to many of the southern sites, with some requiring easy reconnaissance on foot and others requiring longer and more arduous walking to access the drill pad locations. The northern sites are currently accessed via helicopter via the Mt Ramsay helipad. A very steep walk descends towards the Ramsey River below, where both drill pad and intended drillers camps are situated towards the bottom of the valley.

Vegetation Characteristics

68 species of plant were identified in field surveys undertaken. Sites contained a relatively low diversity, due to the domination of rainforest communities such as *Nothofagus-Atherosperma* Rainforest and the small sample areas (25m circumference). An exception to this was the site SerpRidge1, situated on a mafic/serpentine rich substrate, with a *Eucalyptus nitida* dry forest woodland community.

The distribution of sites with weeds, threatened flora and habitat trees are illustrated on Figure 2.

Vegetation Communities

NOTHOFAGUS-PHYLLOCLADUS SHORT RAINFOREST (RMS)

Sites included:

- Southeast1
- CAL Drillers Camp

RMS is associated with lower lying sections of rainforest, with particular association to riparian areas. RMT grades to RMS, with some overlapping species at both Southeast1 and CAL Drillers Camp, due to their proximity to the border with RMT. Both sites grade between smaller areas of thamnic, with most areas dominated by implicate rainforest structure, with the height and composition of the community also likely influenced by past fire history.

The canopy trees are up to 15m tall, with a dominance of *Phyllocladus aspleniifolius*, mixed with other rainforest species including; *Nothofagus cunninghamii* (myrtle), (celerytop pine) and *Eucryphia lucida* (leatherwood).

Small trees/shrubs are moderately diverse and included *Anodopetalum biglandulosum* as the dominating shrub layer, mixed with *Anopterus glandulosus* and *Cenarrhenes nitida*. The large sedge *Gahnia grandis* (cutting grass) and ground fern *Blechnum wattsii* (hard waterfern) were the most common species in the understorey.

This community is well reserved and not threatened.



Plate 1: Southeast1 drill pad location



Plate 2: CAL Drillers Camp

NOTHOFAGUS-ATHEROSPERMA RAINFOREST (RMT)

Sites included:

- *Salmons5*
- *Salmons1*
- *Southeast2*
- *CAL*
- *CAL Drillers Camp Alternative*
- *Limestone2*
- *Eastern1*

RMT is extensive across the north and south of the study area, its distribution being influenced by past disturbance history, i.e. it occurs in areas that have not been affected by fire or other disturbances. Structurally it ranges between thamnisc and callidendrous.

The canopy trees can be in excess of 30m tall with mature old growth *Nothofagus cunninghamii* being the dominant species. The secondary tree layer reaches heights of up to 25m, and common species include *Atherosperma moschatum*, *Phyllocladus aspleniifolius*, *Eucryphia lucida*, *Nothofagus cunninghamii* and the occasional *Acacia melanoxylon*. The shrub layer is of a low diversity and included species such as *Anodopetalum biglandulosum*, *Anopterus glandulosus*, *Cenarrhenes nitida*, *Coprosma quadrifida* and saplings of the canopy trees.

Dicksonia antarctica are present at several sites, as are several ground ferns including *Polystichum proliferum* and *Blechnum wattsi*, and a range of epiphytic ferns including *Hymenophyllum rarum*, *Grammitis billardiarei*, *Rumohra adiantiformis* and *Microsorium pustulatum* subsp. *pustulatum*.

This community is well reserved and not threatened.



Plate 3: Salmons5, approximate drill pad location.



Plate 4: Salmons1 RMT vegetation community



Plate 5: Southeast2 drill pad location



Plate 6: CAL RMT vegetation community



Plate 7: Cal Driller Camp Alt RMT vegetation community



Plate 8: Eastern1 drill pad location



Plate 9: Limestone2 drill pad location

EUCALYPTUS NITIDA DRY FOREST AND WOODLAND (DNI)

Sites Included:

- SerpRidge1

DNI is restricted to the SerpRidge1 site and holds a relatively diverse mix of dry eucalyptus woodland species. This site is influenced predominantly by its geology (mafic/serpentine) and fire history (relatively frequent) compared with surrounding areas. The site has been directly impacted by disturbance and has an open area, which has allowed for the proliferation of small shrubs.

The canopy species is dominated by sparse *Eucalyptus nitida* trees and tall shrubs of *Acacia mucronata*, *Banksia marginata*, *Leptospermum scoparium* and *Pittosporum bicolour*.

Shrubs are moderately diverse and include *Bauera rubioides*, *Coprosma nitida*, *Leptomeria drupacea*, *Lomatia polymorpha*, *Wrestringia rubiaefolia*, *Micrantheum serpentinum*, *Pultenaea juniperina*, *Trochocarpa cunninghamii*. The large sedge *Gahnia grandis* co-dominates the understory with *Lepidosperma elatius*.

This community is considered well reserved and not under threat.



Plate 10: SerpRidge1 vegetation community

ACACIA MELANOXYLON FOREST ON RISES (NAR)

Sites included:

- *Salmons2*

NAR is restricted to *Salmons2* and reflects the fire history. The drill pad location lies on an old disturbance site and is unlikely to impact on the vegetation within the 25m circumference. For the purpose of this report, the adjoining community has been commented on to provide flexibility in the case of changing the drill pad location.

The TASVEG 4.0 has the site mapped as RMT, however due to the dominance of *Acacia melanoxylon* in the overstory, the site has been identified as NAR in this report. The site is close to a transition of community to *Eucalyptus nitida* over rainforest (WNR), which in connection to the determination of NAR on the site, indicates a fire history within decades to several hundred years.

The canopy tree species are dominated by *Acacia melanoxylon*, with emergent *Atherosperma moschatum* subsp. *moschatum*, *Eucryphia lucida* and *Nothofagus cunninghamii*.

The shrub layer is relatively sparse, with *Aristotelia peduncularis*, *Bauera rubioides*, *Cenarrhenes nitida*, *Leptecophylla pogonocalyx* ssp. *pogonocalyx*, *Lomatia tinctoria*, *Tasmannia lanceolata* and *Trochocarpa gunnii*.

Ferns include *Histiopteris incisa* and *Pteridium esculentum* subsp. *Esculentum*.



Plate 11: Salmons2 drill pad location

EUCALYPTUS OBLIQUA FOREST OVER RAINFOREST (WOR)

Sites Included:

- *Harmen1 and drillers camp*
- *Limestone1*

WOR is found at Harmen1 and drillers camp and Limestone1, mapped as WOU with TASVEG 4.0. The sites have a mature overstory of *Eucalyptus obliqua* with DBH ranging from 0.9-2.2m within the site. The site is influence by a fire history within the past several hundred years, containing some transitioning species from wet forest to rainforest.

The emergent tree and tall shrub layer includes *Atherosperma moschatum* subsp. *moschatum*, *Phyllocladus aspleniifolius*, *Anodopetalum biglandulosum*, *Anopterus glandulosus*, *Leptospermum nitidum*, *Monotoca glauca*, *Nematolepis squamea* subsp. *Squamea* and *Pittosporum bicolor*.

The ground layer is dominated by *Dianella tasmanica* and *Gahnia grandis*.



Plate 12: Harmen1 and Driller Camp vegetation community



Plate 13: Limestone1 drill pad site

Threatened flora

Threatened flora recorded within the site is restricted to *Micrantheum serpentinum*, a straggly shrub in the Euphorbiaceae (spurge) family, restricted to ultramafics (Cambrian serpentinite) in Tasmania's northwest. The survey recorded 9 individual plants on the proposed drill pad site of SerpRidge1. The presence of *Micrantheum serpentinum* is likely due to previous disturbance on the site. Proximal to the disturbance site, but still within the survey area the scrub is very heavily dominated by *Bauera rubioides*, this is a guiding factor for the lack of *M. serpentinum* outside of the disturbance area.

Other threatened flora that has been observed within 500m of the site includes *Epacris glabella* and *Euphrasia amplidens*. Both of these species prefer the ultramafic substrates that exist on this site and are suitable to the vegetation community present in DNI. It is possible for these species to occur within the site, however it is unlikely, due to the size of the survey area being so small. It is likely that *Euphrasia amplidens* species would have been picked up within the survey undertaken due to the flowering period coinciding with the survey. *Epacris glabella* has a flowering period during spring, however considering the foliage is relatively distinctive and no other *Epacris* genus were found onsite, it is unlikely it was missed in the survey.



Plate 14: *Micrantheum serpentinum* at SerpRidge1

Table 1: Known threatened flora observations within 500 m of the proposal – SS = Tasmanian *Threatened Species Protection Act 1995*, NS = Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Epacris glabella</i>	smooth heath	e	EN	e	96	08-Mar-2016
<i>Euphrasia amplidens</i>	pieman eyebright	e		e	41	08-Mar-2016
<i>Micranthemum serpentinum</i>	western tridentbush	r		e	15	02-May-2012

Threatened Fauna and Fauna Habitat

The fauna habitat assessment established that one site poses a threat to potential habitat sites. Harman1 and Drillers Camp is in an area with large (0.9-1.9m DBH) *Eucalyptus obliqua* trees that can contain some primary foraging and some nesting habitat (medium priority) for Grey Goshawk². No nest sites were observed during the survey and no verified records exist within 500m of the sites, albeit that it is with the range of this species.

The scat of a small Tasmanian Devil (*Sarcophilus harrisii*) was recorded proximal to Salmons5 and Salmons1. No suitable dens or layups were identified within the 25m circumference of any of the sites, this does not demonstrably rule out the potential for dens to occur elsewhere in this extensive habitat.

Hollow-bearing trees with hollows of a suitable size for masked owls (>15 cm entrance diameter) – characterised as significant habitat for masked owls - occur in an occasional large tree within the Eucalyptus forest (WOR – Harman1 and Drillers Camp / Limestone1). Although the frequency of records on the west coast is low the presence of significant habitat requires investigation to determine if it supports a nest. The likelihood of a nest being present is low. The owl has not been recorded within 500m of the study area; however the site is flagged as core habitat according to the published ranges³, the Natural Values Atlas and EPBC protected matters report⁴.

² Forest Practices Authority 2010

³ Todd (2012) and FPA (2014)

⁴ DPIPW, nvr_5_17-Sep-2019; EPBC Protected Matters Report, 17/09/2019, Ref#PMST_W90P95



Plate 15: Tasmanian Devil Scat between sites Salmons5 and Salmons1



Plate 16: *Eucalyptus obliqua* at Limestone1 with DBH 2.2m

Table 2: Known threatened fauna observations within 500 m of the proposal, including threatened fauna based on range boundaries – SS = Tasmanian *Threatened Species Protection Act 1995*, NS = Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Oxyethira mienica</i>	caddis fly (ouse river)	r		e	1	04-Apr-2012
<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	e	9	11-Oct-2012

Unverified Records

No unverified records were found!

Threatened fauna within 500 metres (based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	1	0	0
<i>Prototroctes maraena</i>	australian grayling	v	VU	ae	1	0	0
<i>Ceyx azureus</i> subsp. <i>diemenensis</i>	Tasmanian azure kingfisher	e	EN	e	0	0	1
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		n	1	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	3	0	0
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (Tasmanian)	e	VU	e	1	0	1
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	0	1
<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	e	1	0	0
<i>Aquila audax</i> subsp. <i>fleayi</i>	tasmanian wedge-tailed eagle	e	EN	e	1	0	0

Weeds

One species listed as declared weeds under the Tasmanian *Weed Management Act 1999* were observed on site (Plate 13).

Gorse (*ulex europaeus*) was located within site Salmons2.



Plate 17: *Ulex europaeus* Gorse at Salmons2 (middle right)

3. Impact Assessment and Scope for Mitigation

Vegetation Communities

The proposal will have no impact to threatened vegetation communities listed under the NCA.

TASVEG community and extent in study area	current Ha	Reservation ha / %	Pre 1750 / current ha	Reservation ha / %	Status (JANIS)
	TAS	TAS	West Coast	West Coast	
Tall Myrtle Rainforest (RMT)	436,367	380,736 87 %	266,786	248,394 93 %	Adequately reserved
Short Myrtle Rainforest (RMS)	205,025	156,734 76 %	130,605	109,532 83.9 %	Adequately reserved
<i>Eucalyptus obliqua</i> forest with broad leaf shrubs (WOR) Tasveg (WOU)	441,000	141,400 24.4 %	53,300	33,900 61.9 %	Adequately reserved
<i>Eucalyptus nitida</i> dry forest (DNI)	58,000	44,000 79%	22,000	19,900 90%	Adequately reserved
<i>Acacia melanoxylon</i> on Rises (NAR)	19,500	9,500 49%	6,400	4,800 75%	Adequately reserved

Threatened Flora Species

Micranthemum serpentinum – occurs at SerpRidge 1. The species should be avoided and protected from disturbance. If the species cannot be avoided then a Permit to take will be required under the Tasmanian Threatened species protection Act 1995.

Threatened Fauna Habitat and Trees

The large habitat trees at Harman one should be retained and protected from major root disturbance by limiting disturbance within 20 m of each tree to less than 120 m².

Weeds

Earthworks on site are likely to stimulate germination of the declared weed observed. The use of machinery and vehicles during drilling also brings an increased risk of spreading these weeds and introducing others. Some form of primary and secondary control should be implemented to prevent the proliferation, spread and/or introduction of weeds due to the proposal. It is recommended that works utilise washdown facilities to ensure machinery, tools and boots have been cleaned of soil prior to being brought to the site. Soil at Salmons2 should be contained on site to ensure the spread of gorse seeds does not occur.

4. Legislative Implications

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

No implication under this Act.

Tasmanian *Threatened Species Protection Act 1995*

A Permit is required is disturbance of *Micrantheum serpentinum* is anticipated.

Tasmanian *Weed Management Act 1995*

As zone B species within the West Coast Council, the proponent must prevent spread of Gorse due to works.

Appendix 1

Site Specific Vegetation reports:

Site: Harmen 1 and Drillers Camp

TASVEG 4.0 Community: WOR

Grid Reference:	363409E, 5383993N
Accuracy:	GPS (within 10 metres)
Recorder:	Cody McCracken
Date of Survey:	14 Dec 2020
Trees:	<i>Atherosperma moschatum</i> subsp. <i>moschatum</i> , <i>Eucalyptus obliqua</i> , <i>Phyllocladus aspleniifolius</i>
Tall Shrubs:	<i>Anodopetalum biglandulosum</i> , <i>Anopterus glandulosus</i> , <i>Leptospermum nitidum</i> , <i>Monotoca glauca</i> , <i>Nematolepis squamea</i> subsp. <i>squamea</i> , <i>Pittosporum bicolor</i>
Shrubs:	<i>Aristotelia peduncularis</i> , <i>Bauera rubioides</i> , <i>Cenarrhenes nitida</i> , <i>Leptecophylla pogonocalyx</i> ssp. <i>pogonocalyx</i> , <i>Lomatia tinctoria</i> , <i>Tasmannia lanceolata</i> , <i>Trochocarpa gunnii</i>
Herbs:	<i>Dianella tasmanica</i> , <i>Drymophila cyanocarpa</i>
Graminoids:	<i>Gahnia grandis</i>
Ferns:	<i>Hymenophyllum rarum</i>
Climbers:	<i>Billardiera longiflora</i>

Site: Serpentine Ridge 1

TASVEG 4.0 Community: DNI

Grid Reference:	365126E, 5382208N
Accuracy:	GPS (within 10 metres)
Recorder:	Cody McCracken
Date of Survey:	14 Dec 2020
Trees:	<i>Eucalyptus nitida</i>
Tall Shrubs:	<i>Acacia mucronata</i> , <i>Banksia marginata</i> , <i>Leptospermum scoparium</i> , <i>Pittosporum</i>
Shrubs:	<i>Bauera rubioides</i> , <i>Coprosma nitida</i> , <i>Leptomeria drupacea</i> , <i>Lomatia polymorpha</i> , <i>Wrestringia rubiaefolia</i> , <i>Micrantheum serpentinum</i> , <i>Pultenaea juniperina</i> , <i>Trochocarpa cunninghamii</i>
Low Shrubs:	<i>Pimelea humilis</i>
Herbs:	<i>Comesperma retusum</i> , <i>Hakea epiglottis</i> subsp. <i>epiglottis</i>
Graminoids:	<i>Gahnia grandis</i> , <i>Lepidosperma elatius</i>
Climbers:	<i>Cassytha pubescens</i>

Site: Salmons 2

TASVEG 4.0 Community: NAR

Grid Reference:	359333E, 5381182N
Accuracy:	GPS (within 10 metres)
Recorder:	Cody McCracken
Date of Survey:	14 Dec 2020
Trees:	<i>Acacia melanoxylon</i> , <i>Atherosperma moschatum</i> subsp. <i>moschatum</i> , <i>Eucalyptus nitida</i> , <i>Eucryphia lucida</i> , <i>Nothofagus cunninghamii</i> , <i>Phyllocladus aspleniifolius</i>
Tall Shrubs:	<i>Anodopetalum biglandulosum</i> , <i>Anopterus glandulosus</i> , <i>Leptospermum</i>
Shrubs:	<i>Coprosma quadrifida</i>
Herbs:	<i>Leptecophylla juniperina</i> subsp. <i>juniperina</i>
Graminoids:	<i>Gahnia grandis</i>
Ferns:	<i>Histiopteris incisa</i> , <i>Pteridium esculentum</i> subsp. <i>esculentum</i>

Weeds: *Ulex europaeus*

Site: Salmons 5

TASVEG 4.0 Community: RMT

Grid Reference: 359792E, 5381170N

Accuracy: GPS (within 10 metres)

Recorder: Cody McCracken

Date of Survey: 14 Dec 2020

Trees: *Acacia melanoxylon*, *Atherosperma moschatum* subsp. *moschatum*,
Eucryphia

Tall Shrubs: *lucida*, *Nothofagus cunninghamii*, *Phyllocladus aspleniifolius*
Anodopetalum biglandulosum, *Anopterus glandulosus*, *Prostanthera lasianthos* var. *lasianthos*

Shrubs: *Coprosma quadrifida*, *Gaultheria hispida*, *Tasmania lanceolata*

Graminoids: *Gahnia grandis*

Ferns: *Blechnum wattsii*, *Dicksonia antarctica*, *Histiopteris incisa*, *Microsorium pustulatum* subsp. *pustulatum*, *Polystichum proliferum*, *Rumohra adiantiformis*,
Sticherus

Climbers: *Clematis aristata*

Site: Salmons 1

TASVEG 4.0 Community: RMT

Grid Reference: 359986E, 5381090N

Accuracy: GPS (within 10 metres)

Recorder: Cody McCracken

Date of Survey: 14 Dec 2020

Trees: *Acacia melanoxylon*, *Atherosperma moschatum* subsp. *moschatum*,
Eucryphia lucida, *Nothofagus cunninghamii*, *Phyllocladus aspleniifolius*

Tall Shrubs: *Anodopetalum biglandulosum*, *Anopterus glandulosus*

Shrubs: *Coprosma quadrifida*

Herbs: *Pterostylis* sp.

Graminoids: *Gahnia grandis*

Ferns: *Dicksonia antarctica*, *Histiopteris incisa*, *Hymenophyllum rarum*, *Microsorium pustulatum* subsp. *pustulatum*, *Polystichum proliferum*, *Rumohra adiantiformis*

Site: Southeast 2

TASVEG 4.0 Community: RMT

Grid Reference: 362237E, 5381361N

Accuracy: GPS (within 10 metres)

Recorder: Cody McCracken

Date of Survey: 14 Dec 2020

Trees: *Acacia melanoxylon*, *Atherosperma moschatum* subsp. *moschatum*,
Eucryphia lucida, *Nothofagus cunninghamii*

Tall Shrubs: *Anodopetalum biglandulosum*, *Anopterus glandulosus*

Shrubs: *Coprosma quadrifida*

Graminoids: *Gahnia grandis*

Ferns: *Histiopteris incisa*, *Microsorium pustulatum* subsp. *pustulatum*, *Notogrammitis billardiarei*, *Polystichum proliferum*, *Rumohra adiantiformis*

Site: Southeast 1

TASVEG 4.0 Community: RMS

Grid Reference: 362358E, 5381483N

Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 14 Dec 2020
 Trees: *Acacia melanoxylon*, *Atherosperma moschatum* subsp. *moschatum*,
Eucryphia lucida, *Nothofagus cunninghamii*, *Phyllocladus aspleniifolius*
 Tall Shrubs: *Anodopetalum biglandulosum*, *Anopterus glandulosus*
 Shrubs: *Coprosma quadrifida*
 Graminoids: *Gahnia grandis*
 Ferns: *Blechnum wattsii*, *Dicksonia antarctica*, *Histiopteris incisa*, *Microsorium*
pustulatum subsp. *pustulatum*, *Rumohra adiantiformis*

Site: CAL**TASVEG 4.0 Community: RMT**

Grid Reference: 373227E, 5396575N
 Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 15 Dec 2020
 Trees: *Atherosperma moschatum* subsp. *moschatum*, *Nothofagus cunninghamii*
 Tall Shrubs: *Anopterus glandulosus*
 Shrubs: *Cenarrhenes nitida*, *Leptecophylla pogonocalyx* ssp. *pogonocalyx*
 Herbs: *Dryophila cyanocarpa*
 Graminoids: *Gahnia grandis*
 Ferns: *Blechnum wattsii*, *Hymenophyllum rarum*, *Microsorium pustulatum* subsp.
pustulatum, *Notogrammitis billardiarei*

Site: CAL Drillers Camp Alternative**TASVEG 4.0 Community: RMT**

Grid Reference: 373344E, 5396574N
 Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 15 Dec 2020
 Trees: *Atherosperma moschatum* subsp. *moschatum*, *Eucryphia lucida*, *Nothofagus*
cunninghamii
 Tall Shrubs: *Anopterus glandulosus*, *Nematolepis squamea*
 Shrubs: *Cenarrhenes nitida*, *Leptecophylla pogonocalyx* ssp. *pogonocalyx*
 Graminoids: *Gahnia grandis*
 Ferns: *Blechnum wattsii*, *Dicksonia antarctica*, *Hymenophyllum flabellatum*,
Hymenophyllum rarum, *Notogrammitis billardiarei*

Site: CAL Drillers Camp**TASVEG 4.0 Community: RMS**

Grid Reference: 373444E, 5396660N
 Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 15 Dec 2020
 Trees: *Atherosperma moschatum* subsp. *moschatum*, *Nothofagus cunninghamii*,
Phyllocladus aspleniifolius
 Tall Shrubs: *Anodopetalum biglandulosum*, *Anopterus glandulosus*
 Shrubs: *Cenarrhenes nitida*, *Trochocarpa cunninghamii*
 Graminoids: *Gahnia grandis*
 Ferns: *Blechnum wattsii*, *Hymenophyllum rarum*, *Notogrammitis billardiarei*

Site: Eastern1

TASVEG 4.0 Community: RMT

Grid Reference: 361852E, 5382280N
 Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 10 Mar 2021

Trees: *Atherosperma moschatum* subsp. *moschatum*, *Eucryphia lucida*, *Nothofagus cunninghamii*

Tall Shrubs: *Anopterus glandulosus*

Shrubs: *Aristotelia peduncularis*, *Tasmannia lanceolata*

Herbs: *Hydrocotyle hirta*

Ferns: *Blechnum penna-marina* subsp. *alpina*, *Blechnum wattsii*, *Dicksonia antarctica*,
Histiopteris incisa, *Hymenophyllum australe*, *Microsorium pustulatum* subsp. *pustulatum*, *Notogrammitis billardierei*, *Polystichum proliferum*, *Rumohra adiantiformis*, *Sticherus lobatus*

Weeds: *Trifolium* sp.

Site: Limestone 1

TASVEG 4.0 Community: WOR

Grid Reference: 366648E, 5381867N
 Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 9 Mar 2021

Trees: *Atherosperma moschatum* subsp. *moschatum*, *Eucalyptus nitida*, *Eucalyptus obliqua*, *Eucryphia lucida*, *Nothofagus cunninghamii*, *Phyllocladus aspleniifolius*

Tall Shrubs: *Anodopetalum biglandulosum*, *Monotoca glauca*, *Pomaderris apetala*,
Telopea truncata

Shrubs: *Cenarrhenes nitida*, *Coprosma quadrifida*, *Leptecophylla pogonocalyx* ssp. *pogonocalyx*, *Lomatia tinctoria*

Herbs: *Dianella tasmanica*, *Drymophila cyanocarpa*

Graminoids: *Gahnia grandis*

Ferns: *Dicksonia antarctica*, *Hymenophyllum australe*, *Hymenophyllum flabellatum*,
Hymenophyllum rarum, *Hypolepis rugosula*, *Microsorium pustulatum* subsp. *pustulatum*, *Notogrammitis billardierei*

Site: Limestone 2

TASVEG 4.0 Community: RMT

Grid Reference: 366040E, 5382595N
 Accuracy: GPS (within 10 metres)
 Recorder: Cody McCracken
 Date of Survey: 9 Mar 2021

Trees: *Acacia melanoxylon*, *Atherosperma moschatum* subsp. *moschatum*,
Eucryphia lucida, *Nothofagus cunninghamii*

Tall Shrubs: *Anodopetalum biglandulosum*, *Anopterus glandulosus*, *Monotoca glauca*

Shrubs: *Coprosma nitida*, *Coprosma quadrifida*

Graminoids:	<i>Gahnia grandis</i>
Ferns:	<i>Blechnum penna-marina</i> subsp. <i>alpina</i> , <i>Blechnum wattsii</i> , <i>Dicksonia antarctica</i> ,
	<i>Histiopteris incisa</i> , <i>Hymenophyllum australe</i> , <i>Hymenophyllum flabellatum</i> ,
	<i>Hymenophyllum rarum</i> , <i>Hypolepis rugosula</i> , <i>Microsorium pustulatum</i> subsp. <i>pustulatum</i> , <i>Notogrammitis garrettii</i> , <i>Polystichum proliferum</i>

Appendix 2

Species list - project: PAS066

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed WM Act	CR - critically endangered	e - endangered
en - endemic to Tasmania	EN - endangered	v - vulnerable
t - within Australia, occurs only in Tas.	VU - vulnerable	r - rare

Name	Common name	Status
DICOTYLEDONAE		
APIACEAE		
<i>Hydrocotyle hirta</i>	hairy pennywort	
ATHEROSPERMATAACEAE		
<i>Atherosperma moschatum</i> subsp. <i>moschatum</i>	sassafras	
CUNONIACEAE		
<i>Anodopetalum biglandulosum</i>	horizontal	en
<i>Bauera rubioides</i>	wiry bauera	
ELAEOCARPACEAE		
<i>Aristotelia peduncularis</i>	heartberry	en
ERICACEAE		
<i>Gaultheria hispida</i>	copperleaf snowberry	en
<i>Leptecophylla juniperina</i> subsp. <i>juniperina</i>	common pinkberry	t
<i>Leptecophylla pogonocalyx</i> ssp. <i>pogonocalyx</i>	pinkberry	en
<i>Monotoca glauca</i>	goldey wood	
<i>Trochocarpa cunninghamii</i>	straggling purpleberry	en
<i>Trochocarpa gunnii</i>	fragrant purpleberry	en
ESCALLONIACEAE		
<i>Anopterus glandulosus</i>	tasmanian laurel	en
EUCRYPHIACEAE		
<i>Eucryphia lucida</i>	leatherwood	en
EUPHORBIACEAE		
<i>Micrantheum serpentinum</i>	western tridentbush	en r

FABACEAE

<i>Acacia melanoxylon</i>	blackwood	
<i>Acacia mucronata</i>	variable sallow wattle	
<i>Pultenaea juniperina</i>	prickly beauty	
<i>Trifolium sp.</i>	clover	i
<i>Ulex europaeus</i>	gorse	d

FAGACEAE

<i>Nothofagus cunninghamii</i>	myrtle beech	
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HEMEROCALLIDACEAE

<i>Dianella tasmanica</i>	forest flaxlily	
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LAMIACEAE

<i>Prostanthera lasianthos</i> var. <i>lasianthos</i>	christmas mintbush	
<i>Westringia rubiaefolia</i>	sticky westringia	en

LAURACEAE

<i>Cassytha pubescens</i>	downy dodderlaurel	
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MYRTACEAE

<i>Eucalyptus nitida</i>	western peppermint	en
<i>Eucalyptus obliqua</i>	stringybark	
<i>Leptospermum lanigerum</i>	woolly teatree	
<i>Leptospermum nitidum</i>	shiny teatree	en
<i>Leptospermum scoparium</i>	common tea-tree	

PITTOSPORACEAE

<i>Billardiera longiflora</i>	purple appleberry	en
<i>Pittosporum bicolor</i>	cheesewood	

POLYGALACEAE

<i>Comesperma retusum</i>	mountain milkwort	
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PROTEACEAE

<i>Banksia marginata</i>	silver banksia	
<i>Cenarrhenes nitida</i>	native plum	en
<i>Hakea epiglottis</i> subsp. <i>epiglottis</i>	beaked needlebush	en
<i>Lomatia polymorpha</i>	mountain guitarplant	en
<i>Lomatia tinctoria</i>	guitarplant	en
<i>Telopea truncata</i>	tasmanian waratah	en

RANUNCULACEAE

<i>Clematis aristata</i>	mountain clematis	
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RHAMNACEAE

<i>Pomaderris apetala</i>	common dogwood	
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RUBIACEAE

<i>Coprosma nitida</i>	mountain currant	
<i>Coprosma quadrifida</i>	native currant	

RUTACEAE

<i>Nematolepis squamea</i>	satinwood	
<i>Nematolepis squamea</i> subsp. <i>squamea</i>	satinwood	

SANTALACEAE*Leptomeria drupacea*

erect currantbush

THYMELAEACEAE*Pimelea humilis*

dwarf riceflower

WINTERACEAE*Tasmannia lanceolata*

mountain pepper

GYMNOSPERMAE**PHYLLOCLADACEAE***Phyllocladus aspleniifolius*

celerytop pine

en

MONOCOTYLEDONAE**CYPERACEAE***Gahnia grandis*

cutting grass

Lepidosperma elatius

tall sword sedge

LUZURIAGACEAE*Drymophila cyanocarpa*

turquoise berry

ORCHIDACEAE*Pterostylis* sp.

greenhood

PTERIDOPHYTA**ASPIDIACEAE***Polystichum proliferum*

mother shieldfern

Rumohra adiantiformis

leathery shieldfern

BLECHNACEAE*Blechnum penna-marina* subsp. *alpina*

alpine waterfern

Blechnum wattsii

hard waterfern

DENNSTAEDTIACEAE*Histiopteris incisa*

batwing fern

Hypolepis rugosula

ruddy groundfern

Pteridium esculentum subsp. *esculentum*

bracken

DICKSONIACEAE*Dicksonia antarctica*

soft treefern

GLEICHENIACEAE*Sticherus lobatus*

spreading fanfern

Sticherus tener

silky fanfern

GRAMMITIDACEAE*Notogrammitis billardi*

common fingerfern

Notogrammitis garrettii

sandstone fingerfern

en

HYMENOPHYLLACEAE*Hymenophyllum australe*

southern filmyfern

Hymenophyllum flabellatum

shiny filmyfern

Hymenophyllum rarum

narrow filmyfern

POLYPODIACEAE

Microsorium pustulatum subsp. *pustulatum*

kangaroo fern